The essential guide of Automation & Control

2012

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Schneider Electric

The go to guide

for the most efficient selection

Make the most of your energy

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Innovative and simple products for all Autom

Interfaces & I/O

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AS-Interface
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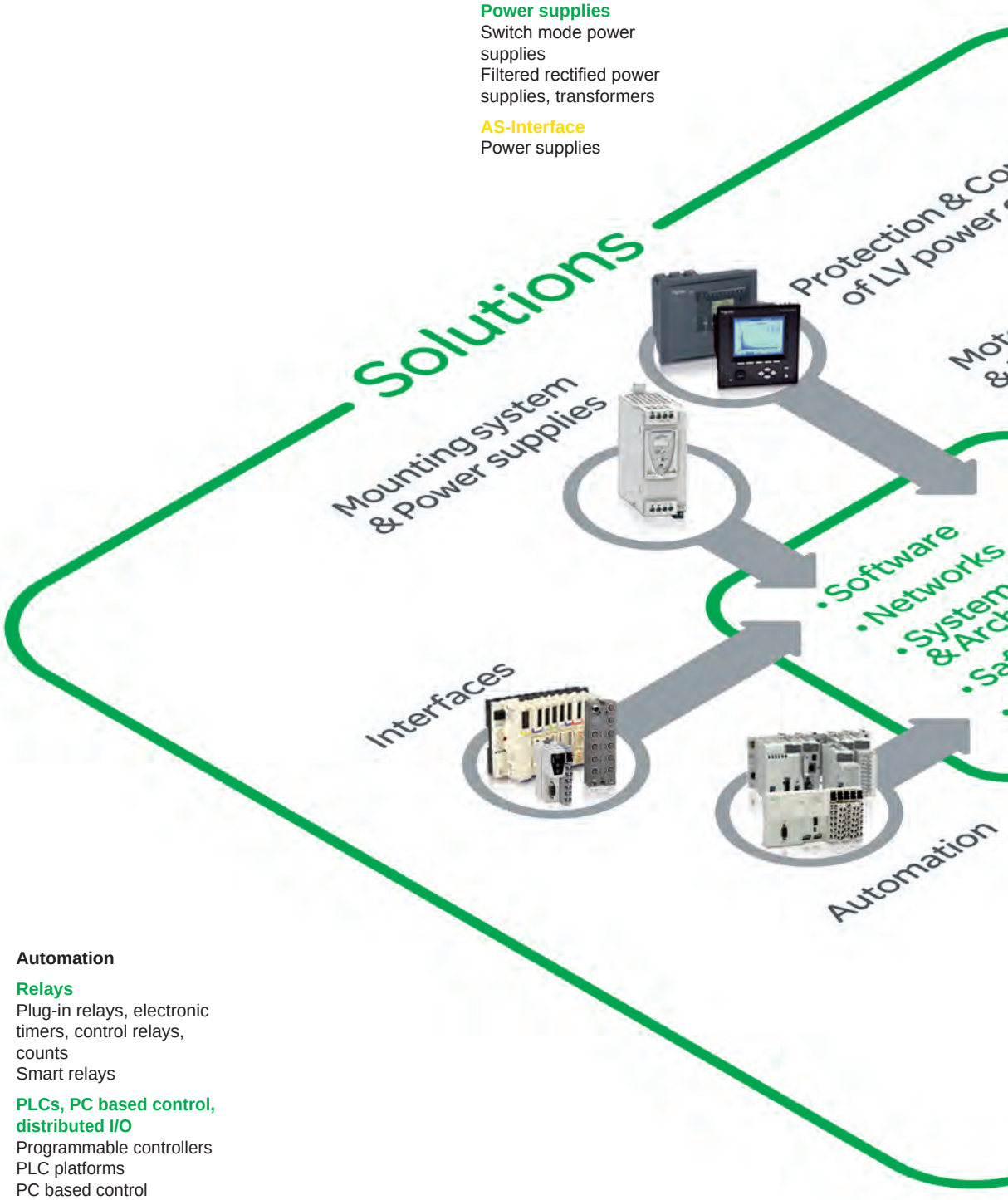
Software to design and install AS-Interface system, safety monitors and controllers on AS-Interface programming software

Power supplies

Power supplies
Switch mode power supplies
Filtered rectified power supplies, transformers

AS-Interface
Power supplies



Automation

Relays
Plug-in relays, electronic timers, control relays, counts
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PLCs, PC based control, distributed I/O
Programmable controllers
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PC based control
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ation and Control functions

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Soft starters
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Software
Setup and Programming software

Motor control

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Contactors
Circuit breakers, fuse carriers
Thermal relays
Combinations, motor controllers

Mounting solutions
Motor starter mounting kit

AS-Interface
Motor controllers, enclosures, variable speed drives

Machine safety
Switch disconnectors, thermal-magnetic motor circuit breakers, enclosed starters

Software
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Detection *

Sensors
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Proximity sensors
Photo-electric and ultrasonic sensors
Pressure switches
Rotary encoders

RFID
Inductive identification

Machine safety
Switches, light curtains, mats

Software
Safety mats configuration software

* For detection products, please refer to The Essential guide of Detection

Operator dialog

Control & signalling units
Control and signalling units, Cam switches, Beacons and indicator banks

Human machine interfaces
Operator interface terminals, industrial PCs, Web servers, HMI and SCADA PC-based software

Control stations, mounting solutions
Control and pendant stations, front panels mounting kits

AS-Interface
Control stations, keypads, beacons

Machine safety
Emergency stops, control stations, enabling switches, foot switches

Software
Operator terminal software

Software tools

Global software
Generation of application systems
Application control
Collaborative development

Dedicated software
See Software in other functions

1 Operator Dialog

Harmony, simple and innovative solutions that solve all your problems

World leader in control and signalling components, Schneider Electric continues its policy of innovation within the Harmony ranges in order to perfect the efficiency of your dialogue solutions.

Invest with complete peace of mind!

The assurance of finding the solution for any application
An offer unrivalled in content and complementarity
Optimised cost saving solutions due to increased flexibility of the offers, enabling multiple combinations and full compatibility

The assurance of reliable components in any situation
Robust products that comply to the highest quality standards

The assurance of saving valuable time
Simple selection and quick installation for all Harmony components

Contents

1 Pushbuttons, switches and pilot light

2 Cam switches

3 Signalling solutions

4 Control stations

5 Joystick controllers

Pushbuttons, switches and pilot lights

- Pushbuttons, switches and pilot lights Ø 16 with plastic bezel, **Harmony XB6** ..... *1/2 to 1/4*
- LED pilot lights Ø 8 and 12 **Harmony XVL** *1/5*
- Pushbuttons, switches and pilot lights Ø 22 with metal bezel, **Harmony XB4** ..... *1/6 to 1/9*
- Pushbuttons, switches and pilot lights Ø 22 with plastic bezel, **Harmony XB5** ..... *1/10 to 1/12*
- Biometric switch, **Harmony XB5S** 1/11
- Control stations **Harmony XAL** *1/13*
- Monolithic pushbuttons, switches and pilot lights Ø 22 with plastic bezel, **Harmony XB7** ..... *1/14 and 1/15*
- Pushbuttons, switches and pilot lights Ø 30 with metal or plastic bezel, **Harmony 9001** ..... *1/16 to 1/19*
- Cam switches **Harmony Series K** ..... *1/20 and 1/21*

Signalling solutions

- Ø 40, 60, 100 mm monolithic tower lights **Harmony XVC** *1/22*
- Ø 45 mm beacons and tower lights, accessories **Harmony XVDLS / XVC** *1/23*
- Ø 70 mm modular tower lights (IP 66) **Harmony XVB** *1/24*
- Ø 70 mm modular tower lights (up to IP 54) **Harmony XVE** *1/25*
- Ø 45, 50 mm modular tower lights (up to IP 54) **Harmony XVP** *1/26*
- Modular tower lights accessories **Harmony XV** *1/27*
- Ø 84, 106, 120, 130 mm rotating mirrors **Harmony XVR** *1/28*
- Accessories for rotating mirror beacons **Harmony XVR** *1/29*
- Electronic alarms and multisound sirens **Harmony XVS** *1/29*

Components for hoisting applications

- Pendant control stations **Harmony XAC** ..... *1/30 and 1/31*
- Joystick controllers and controller stations & desks **Harmony XK / XJ** *(consult Customer Care Centre at 1-800-565-6699)*

Human/Machine Interfaces

- Contents *1/35*

Pushbuttons, switches and pilot lights Ø 16 with plastic bezel

Contact functions and light functions with integral LED

1

(1):

Voltage	Letter (●)
12…24 V AC/DC (15 mA)	B
48…120 V AC (25 mA)	G
230…240 V AC (25 mA)	M

Illuminated pushbuttons

Type of head			**Flush push**			
Shape of head			rectangular (2)			
Degree of protection			IP 65 / Nema 4, 4X, 13 / Class II			
Mounting (mm)	panel cut-out		Ø $16.2^{+0.2}_{0}$			
	mounting centres		24 x 18 with rectangular head, 18 x 18 with square or circular head			
Dimensions (mm)	W x H x D (below head)		24 x 18 x 50 with rectangular head, 18 x 18 x 50 with square or circular head			
Connection (3)			Tags for 2.8 x 0.5 Faston connectors or for soldering			
Type of push			**Spring return**			
			Complete products 12 … 24 V AC/DC	**Products for user assembly**		
References	white	NO	**XB6DW1B1B**	**ZB6E●1B** (1)	**ZB6Z1B**	**ZB6DW1**
		NO + NC	**XB6DW1B5B**	**ZB6E●1B** (1)	**ZB6Z5B**	**ZB6DW1**
	green	NO	**XB6DW3B1B**	**ZB6E●3B** (1)	**ZB6Z1B**	**ZB6DW3**
		NO + NC	**XB6DW3B5B**	**ZB6E●3B** (1)	**ZB6Z5B**	**ZB6DW3**
	red	NC	**XB6DW4B2B**	**ZB6E●4B** (1)	**ZB6Z2B**	**ZB6DW4**
		NO + NC	**XB6DW4B5B**	**ZB6E●4B** (1)	**ZB6Z5B**	**ZB6DW4**
	yellow	NO	–	**ZB6E●5B** (1)	**ZB6Z1B**	**ZB6DW5**
		NO + NC	**XB6DW5B5B**	**ZB6E●5B** (1)	**ZB6Z5B**	**ZB6DW5**
Type of push			**Latching**			
References	white	NO	–	**ZB6E●1B** (1)	**ZB6Z1B**	**ZB6DF1**
		NO + NC	**XB6DF1B5B**	**ZB6E●1B** (1)	**ZB6Z5B**	**ZB6DF1**
	green	NO	**XB6DF3B1B**	**ZB6E●3B** (1)	**ZB6Z1B**	**ZB6DF3**
		NO + NC	**XB6DF3B5B**	**ZB6E●3B** (1)	**ZB6Z5B**	**ZB6DF3**
	red	NC	**XB6DF4B2B**	**ZB6E●4B** (1)	**ZB6Z2B**	**ZB6DF4**
		NO + NC	**XB6DF4B5B**	**ZB6E●4B** (1)	**ZB6Z5B**	**ZB6DF4**
	yellow	NO	–	**ZB6E●5B** (1)	**ZB6Z1B**	**ZB6DF5**
		NO + NC	–	**ZB6E●5B** (1)	**ZB6Z5B**	**ZB6DF5**

Pilot lights

Type of head		**Smooth lens cap**		
Shape of head		rectangular (2)		
		Complete products 12 … 24 V AC/DC	**Products for user assembly**	
References	white	**XB6DV1BB**	**ZB6E●1B** (1)	**ZB6DV1**
	green	**XB6DV3BB**	**ZB6E●3B** (1)	**ZB6DV3**
	red	**XB6DV4BB**	**ZB6E●4B** (1)	**ZB6DV4**
	yellow	**XB6DV5BB**	**ZB6E●5B** (1)	**ZB6DV5**
	blue	–	**ZB6E●6B** (1)	**ZB6DV6**

(1) Basic reference, to be completed by the letter B, G or M indicating the required voltage. See voltage table above.

(2) For products with a square head, replace the letter **D** in the reference by the letter **C** (XB6**D**W1B1B becomes XB6**C**W1B1B).
For products with a circular head, replace the letter **D** in the reference by the letter **A** (XB6**D**W1B1B becomes XB6**A**W1B1B).

(3) Alternative connection: 1 x 0.5 pins for printed circuit boards.

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Other versions: **please consult our Customer Care Centre.**

Contact functions

Pushbuttons

Type of head			**Flush push**		
Shape of head			rectangular (1)		
Degree of protection			IP 65 / Nema 4, 4X, 13 / Class II		
Mounting (mm)	panel cut-out		Ø $16.2^{+0.2}_{0}$		
	mounting centres		24 x 18 with rectangular head, 18 x 18 with square or circular head		
Dimensions (mm)	W x H x D (below head)		24 x 18 x 50 with rectangular head, 18 x 18 x 50 with square or circular head		
Connection (2)			Tags for 2.8 x 0.5 Faston connectors or for soldering		
Type of push			**Spring return**		
			Complete products	**Products for user assembly**	
References	white	NO	**XB6DA11B**	**ZB6Z1B**	**ZB6DA1**
		NO + NC	**XB6DA15B**	**ZB6Z5B**	**ZB6DA1**
	black	NO	–	**ZB6Z1B**	**ZB6DA2**
		NO + NC	**XB6DA25B**	**ZB6Z5B**	**ZB6DA2**
	green	NO	**XB6DA31B**	**ZB6Z2B**	**ZB6DA3**
		NO + NC	**XB6DA35B**	**ZB6Z5B**	**ZB6DA3**
	red	NO	–	**ZB6Z1B**	**ZB6DA4**
		NO + NC	**XB6DA45B**	**ZB6Z5B**	**ZB6DA4**

(1) For products with a square head, replace the letter **D** in the reference by the letter **C** (XB6**D**A11B becomes XB6**C**A11B).

For products with a circular head, replace the letter **D** in the reference by the letter **A** (XB6**D**A11B becomes XB6**A**A11B).

(2) Alternative connection: 1 x 0.5 pins for printed circuit boards.

Ø 30 mushroom head Emergency stop pushbuttons (3)

Type of head			**Trigger action (EN/ISO 13850)**			
Shape of head			cylindrical			
Type of push			**Turn to release**			
			Complete products	**Products for user assembly**		
References	red	2 NC + 1 NO	**XB6AS8349B**	**ZB6E2B**	**ZB6Z5B**	**ZB6AS834**
Type of push			**Key release, Ronis 200**			
References	red	2 NC + 1 NO	**XB6AS9349B**	**ZB6E2B**	**ZB6Z5B**	**ZB6AS934**

(3) Emergency stop trigger action and mechanical latching pushbuttons conform to standards EN/IEC 60204-1 and EN/ISO 13850: to Machinery Directive 2006/42/EC and to standard EN/IEC 60947-5-5. Please consult your Regional Sales Office for a full explanation of these standards and directives.

Pushbuttons, switches and pilot lights Ø 16 with plastic bezel

Contact functions and light functions with integral LED

Selector switches and key switches

Type of head		**Black handle**				
Shape of head		rectangular (2)				
Degree of protection		IP 66 / Nema 4, 4X, 13 / Class II				
Mounting (mm)	panel cut-out	Ø $16.2^{+0.2}_{0}$				
	mounting centres	24 x 18 with rectangular head, 18 x 18 with square or circular head				
Dimensions (mm)	W x H x D (below head)	24 x 18 x 50 with rectangular head, 18 x 18 x 50 with square or circular head				
Connection (3)		Tags for 2.8 x 0.5 Faston connectors or for soldering				
Type of operator		**Black handle**				
		Complete products	**Products for user assembly**			
Number and type of positions		**2 positions** stay put 60°	**2 positions** stay put 60°		**2 positions** spring return to centre 45°	
References	NO	**XB6DD221B**	**ZB6Z1B**	**ZB6DD22**	**ZB6Z1B**	**ZB6DD24**
	NO + NC	**XB6DD225B**	**ZB6Z5B**	**ZB6DD22**	**ZB6Z5B**	**ZB6DD24**
Number and type of positions		**3 positions** stay put 60° 60°	**3 positions** stay put 60° 60°		**3 positions** spring return to centre 45° 45°	
References	NO	**XB6DD235B**	**ZB6Z5B**	**ZB6DD23**	**ZB6Z5B**	**ZB6DD25**

Type of operator		**Ronis key, n° 200**				
		Complete products	**Products for user assembly**			
Number and type of positions		**2 positions** stay put 70°	**2 positions** stay put 70°		**2 positions** spring return to centre 45°	
References	NO + NC	**XB6DGC5B**	**ZB6Z5B**	**ZB6DGC**	**ZB6Z5B**	**ZB6DGB**
Number and type of positions		**3 positions** stay put 70° 70°	**3 positions** stay put 70° 70°		**3 positions** spring return to centre 45° 45°	
References	NO + NC	**XB6DGH5B**	**ZB6Z5B**	**ZB6DGH**	**ZB6Z5B**	**ZB6DGS**

(1):

Voltage	Letter (●)
12…24 V AC/DC (15 mA)	B
48…120 V AC (25 mA)	G
230…240 V AC (25 mA)	M

Illuminated selector switches

Type of operator			**Coloured handle**				
	Products for user assembly						
Number and type of positions					**2 positions** stay put 60°	**3 positions** stay put 60° 60°	
References	white	NO + NC	**ZB6E●1B** (1)	**ZB6Z5B**	**ZB6DD02**	**ZB6DD03**	**ZB6YK1**
	green	NO + NC	**ZB6E●3B** (1)	**ZB6Z5B**	**ZB6DD02**	**ZB6DD03**	**ZB6YK3**
	red	NO + NC	**ZB6E●4B** (1)	**ZB6Z5B**	**ZB6DD02**	**ZB6DD03**	**ZB6YK4**

(1) Basic reference, to be completed by the letter B, G or M indicating the required voltage. See voltage table above.

(2) For products with a square head, replace the letter **D** in the reference by the letter **C** (XB6**D**D221B becomes XB6**C**D221B).
For products with a circular head, replace the letter **D** in the reference by the letter **A** (XB6**D**D221B becomes XB6**A**D221B).

(3) Alternative connection: 1 x 0.5 pins for printed circuit boards.

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Other versions: **please consult our Customer Care Centre.**

LED pilot lights Ø 8 and 12

(1):

Voltage	Number (●)
5 V (25 mA)	1
12 V (18 mA)	2
24 V (18 mA)	3
48 V (10 mA)	4

LED pilot lights		With black bezel	With integral lens cap	
Type of head		Protruding LED, Ø 8 mm	Covered LED, Ø 8 mm	Covered LED, Ø 12 mm
Degree of protection		IP 40, IP 65 with seal (2)		
Mounting (mm)	panel cut-out	Ø 8.2 mm	Ø 8.2 mm	Ø 12.2 mm
	mounting centres	12.5 x 12.5 mm	10.5 x 10.5 mm	16.5 x 16.5 mm
Dimensions (mm)	Ø x Depth (below head)	Ø 12 x 32	Ø 10 x 34	Ø 16 x 45
Connection		Tags (3)	Tags (3)	Threaded connectors
References (1)	green	**XVLA1●3**	**XVLA2●3**	**XVLA3●3**
	red	**XVLA1●4**	**XVLA2●4**	**XVLA3●4**
	yellow	**XVLA1●5**	**XVLA2●5**	**XVLA3●5**
Tightening key		For Ø 8 mm pilot lights		For Ø 12 mm pilot lights
References		**XVLX08**		**XVLX12**

(1) Basic reference, to be completed by the number 1, 2, 3 or 4 indicating the required voltage. See voltage table above.

(2) For an IP 65 degree of protection, include the seals: XVLZ911 for pilot lights XVLA1●● and XVLA2●●; XVLZ912 for pilot lights XVLA3●●.

(3) Tags for 2.8 x 0.5 Faston connectors or for soldering.

Sub-assemblies & accessories for Ø 16 plastic bezel control and signalling units

Sub-assemblies		Bodies for pushbuttons and selector switches			Bodies for pilot lights			
Rated operational characteristics, AC-15: Ue = 240 V and Ie = 1.5 A or Ue = 120 V and Ie = 3 A Positive operation of contacts conforming to IEC/EN 60947-5-1: NC contacts with positive opening operation, positive opening force 20 N					Consumption 15 mA 12…24 V AC/DC 25 mA 48…120 V AC 25 mA 230…240 V AC			
		Type of contact	Fixing collar + contacts	Contacts	Pilot light bodies	12 … 24 V	48 … 120 V	230 … 240 V
References		NO	**ZB6Z1B**	**ZB6E1B**	White	**ZB6EB1B**	**ZB6EG1B**	**ZB6EM1B**
		NC	**ZB6Z2B**	**ZB6E2B**	Green	**ZB6EB3B**	**ZB6EG3B**	**ZB6EM3B**
		2 NO	**ZB6Z3B**	–	Red	**ZB6EB4B**	**ZB6EG4B**	**ZB6EM4B**
		2 NC	**ZB6Z4B**	–	Yellow	**ZB6EB5B**	**ZB6EG5B**	**ZB6EM5B**
		NO + NC	**ZB6Z5B**	–	Blue	**ZB6EB6B**	**ZB6EG6B**	**ZB6EM6B**

Accessories							
Legend holders		**24 x 28 mm** (8 x 21 mm legend)			**24 x 36 mm** (16 x 21 mm legend)		
Blank legend	Background colour	without legend	yellow or white	black or red	without legend	yellow or white	black or red
References (10)*		**ZB6YD20**	**ZB6YD21**	**ZB6YD22**	**ZB6YD30**	**ZB6YD31**	**ZB6YD32**
Blank legends for legend holders		**8 x 21 mm** (24 x 28 mm legend holder)			**16 x 21 mm** (24 x 36 mm legend holder)		
	Background colour	–	yellow or white	black or red	–	yellow or white	black or red
References (20)*		–	**ZB6Y1001**	**ZB6Y2001**	–	**ZB6Y4001**	**ZB6Y3001**
Ø 45 mm yellow legend for mushroom head Emergency stop pushbutton							
	Marking	Blank, for engraving		EMERGENCY STOP		ARRET D'URGENCE	
References		**ZB6Y7001**		**ZB6Y7330**		**ZB6Y7130**	
	Body/fixing collar	**Plate**		**Tightening tool**		**Dismantling tool**	
		anti-rotation		and slackening, for fixing nut		for removal of contact blocks	
References	ZB6Y009 **(Sold in lots of 10)***	**ZB6Y003** (Sold in lots of 10)		**ZB6Y905** (Sold in lots of 2)		**ZB6Y018** (Sold in lots of 5)	
	Protective shutter for pushbuttons and switches			**Connector**		**Blanking plug**	
	for rectangular heads	for circular and square heads		Faston, female		IP 65	
References	ZB6YD001	**ZB6YA001**		**ZB6Y004** (Sold in lots of 100)		**ZB6Y005** (Sold in lots of 10)	

Pushbuttons, switches and pilot lights Ø 22 with metal bezel

Contact functions

1

Pushbuttons, spring return								
Type of head				**Chromium plated circular bezel**				
Degree of protection				IP 66 / Nema 4X, 13 / Class I				
Mounting (mm)	panel cut-out			Ø 22.5 (22.4 $^{+0.4}_{0}$ recommended)				
	mounting centres			30 (horizontal) x 40 (vertical)				
Depth (mm)	below head			43				
Connection (1)				Screw clamp terminals				
Type of push				**Flush**			**Flush, booted**	
Unmarked			**Products**	**Complete**	**For user assembly**		**Complete**	**For user assembly**
References	black	●	NO	**XB4BA21**	**ZB4BZ101**	**ZB4BA2**	**XB4BP21**	**ZB4BZ101** **ZB4BPA2**
	green	●	NO	**XB4BA31**	**ZB4BZ101**	**ZB4BA3**	**XB4BP31**	**ZB4BZ101** **ZB4BPA3**
	red	●	NC	**XB4BA42**	**ZB4BZ102**	**ZB4BA4**	**XB4BP42**	**ZB4BZ102** **ZB4BPA4**
	yellow	●	NO	**XB4BA51**	**ZB4BZ101**	**ZB4BA5**	**XB4BP51**	**ZB4BZ101** **ZB4BPA5**
	blue	●	NO	**XB4BA61**	**ZB4BZ101**	**ZB4BA6**	**XB4BP61**	**ZB4BZ101** **ZB4BPA6**
Type of push				**Flush**				
With international marking			**Products**	**Complete**	**For user assembly**			
References	green		NO	**XB4BA3311**	**ZB4BZ101**	**ZB4BA331**	–	– –
	red		NC	**XB4BA4322**	**ZB4BZ102**	**ZB4BA432**	–	– –
	white		NO	**XB4BA3341**	**ZB4BZ101**	**ZB4BA334**	–	– –
	black		NO	**XB4BA3351**	**ZB4BZ101**	**ZB4BA335**	–	– –
Type of push				**Projecting**			**Mushroom head, Ø 40 mm**	
Unmarked			**Products**	**Complete**	**For user assembly**		**Complete**	**For user assembly**
References	black	●	NO	–	–	–	**XB4BC21**	**ZB4BZ101** **ZB4BC2**
	red	●	NC	**XB4BL42**	**ZB4BZ102**	**ZB4BL4**	–	– –
Type of push				**Double-headed pushbuttons**			**Triple-headed pushbuttons**	
Degree of protection				IP 66 - IP 69K			IP 66 - IP 69K	
With international marking			**Products**	**Complete** (A)	**For user assembly**		**Complete** (B)	**For user assembly**
References	(A)		NO + NC	**XB4BL73415**	**ZB4BZ105**	**ZB4BL7341**	–	– –
	(B)		NO + NC + NO	–	–	–	**XB4BA711237**	**ZB4BZ103 + ZBE102** **ZB4BA71123**

(1) Alternative connections: plug-in connector, Faston connectors (6.35 and 2 x 2.8).

Ø 40 mm mushroom head Emergency stop pushbuttons (2)						
				Trigger action (EN/ISO 13850)		
Type of push				**Push-pull NO + NC**		
Unmarked			**Products**	**Complete**	**For user assembly**	
References	red	●	NO + NC	**XB4BT845**	**ZB4BZ105**	**ZB4BT84**
Type of push				**Turn to release NO + NC**		
References	red	●	NO + NC	**XB4BS8445**	**ZB4BZ105**	**ZB4BS844**
Type of push				**Key release NO + NC**		
References	red	●	NO + NC	**XB4BS9445**	**ZB4BZ105**	**ZB4BS944**

(2) Emergency stop trigger action and mechanical latching pushbuttons conform to standards EN/IEC 60204-1 and EN/ISO 13850, to Machinery Directive 2006/42/EC and to standard EN/IEC 60947-5-5. Please consult your Regional Sales Office for a full explanation of these standards and directives.

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Other versions: **please consult our Customer Care Centre.**

Contact functions

Selector switches and key switches

Type of head		**Chromium plated circular bezel**
Degree of protection		IP 66 / Nema 4X, 13 / Class I
Mounting (mm)	panel cut-out	Ø 22.5 ($22.4^{+0.4}_{0}$ recommended)
	mounting centres	30 (horizontal) x 40 (vertical)
Depth (mm)	below head	43
Connection (1)		Screw clamp terminals

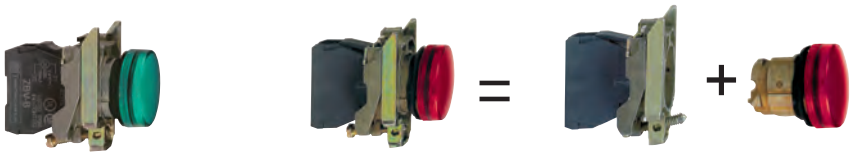
Type of operator			Handle					
		Products	**Complete**	**For user assembly**		**Complete**	**For user assembly**	
Number and type of positions			**2 positions** stay put	**2 positions** stay put		**2 positions** spring return to left	**2 positions** spring return to left	
References	black ●	NO	**XB4BD21**	**ZB4BZ101**	**ZB4BD2**	**XB4BD41**	**ZB4BZ101**	**ZB4BD4**
Number and type of positions			**3 positions** stay put	**3 positions** stay put		**3 positions** spring return to centre	**3 positions** spring return to centre	
References	black ●	NO + NO	**XB4BD33**	**ZB4BZ103**	**ZB4BD3**	**XB4BD53**	**ZB4BZ103**	**ZB4BD5**

Type of operator			Key, n° 455					
		Products	**Complete**	**For user assembly**		**Complete**	**For user assembly**	
Number and type of positions (2)			**2 positions** stay put	**2 positions** stay put		**2 positions** stay put	**2 positions** stay put	
References	black ●	NO	**XB4BG21**	**ZB4BZ101**	**ZB4BG2**	**XB4BG41**	**ZB4BZ101**	**ZB4BG4**
Number and type of positions			**2 positions** spring return to left	**2 positions** spring return to left		**3 positions** stay put	**3 positions** stay put	
References	black ●	NO	**XB4BG61**	**ZB4BZ101**	**ZB4BG6**	–	–	–
	black ●	NO + NO	–	–	–	**XB4BG33**	**ZB4BZ103**	**ZB4BG3**

Pushbuttons, switches and pilot lights Ø 22 with metal bezel

Light functions

1

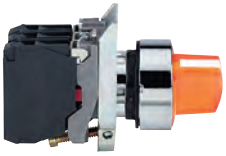


Pilot lights

Type of head		**Circular bezel** **Smooth lens cap**					
Degree of protection		IP 66 / Nema 4X, 13 / Class I					
Mounting (mm)	panel cut-out	Ø 22.5 (22.4 $^{+0.4}_{0}$ recommended)					
	mounting centres	30 (horizontal) x 40 (vertical)					
Depth	below head	43					
Connection (1)		Screw clamp terminals					
Light source		Integral LED			Direct supply for BA 9s bulb (not included)		
	Products	**Complete**			**Complete**	**For user assembly**	
Supply voltage		24 V AC/DC	110…120 V AC	230…240 V AC	250 V max., 2.4 W max.		
References	white	**XB4BVB1**	**XB4BVG1**	**XB4BVM1**	**XB4BV61**	**ZB4BV6**	**ZB4BV01**
	green	**XB4BVB3**	**XB4BVG3**	**XB4BVM3**	**XB4BV63**	**ZB4BV6**	**ZB4BV03**
	red	**XB4BVB4**	**XB4BVG4**	**XB4BVM4**	**XB4BV64**	**ZB4BV6**	**ZB4BV04**
	yellow	**XB4BVB5**	**XB4BVG5**	**XB4BVM5**	**XB4BV65**	**ZB4BV6**	**ZB4BV05**
	blue	**XB4BVB6**	**XB4BVG6**	**XB4BVM6**	–	–	–

Illuminated pushbuttons and selector switches

Type			**Flush push, spring return, illuminated pushbuttons**					
Light source			Integral LED			Direct supply for BA 9s bulb (not included)		
	Products		**Complete**			**Complete**	**For user assembly**	
Supply voltage			24 V AC/DC	110…120 V AC	230…240 V AC	250 V max., 2.4 W max.		
References	white	NO + NC	**XB4BW31B5**	**XB4BW31G5**	**XB4BW31M5**	**XB4BW3165**	**ZB4BW065**	**ZB4BW31**
	green	NO + NC	**XB4BW33B5**	**XB4BW33G5**	**XB4BW33M5**	**XB4BW3365**	**ZB4BW065**	**ZB4BW33**
	red	NO + NC	**XB4BW34B5**	**XB4BW34G5**	**XB4BW34M5**	**XB4BW3465**	**ZB4BW065**	**ZB4BW34**
	orange	NO + NC	**XB4BW35B5**	**XB4BW35G5**	**XB4BW35M5**	**XB4BW3565**	**ZB4BW065**	**ZB4BW35**
	blue	NO + NC	**XB4BW36B5**	**XB4BW36G5**	**XB4BW36M5**	–	–	–



Type			**Double-headed pushbuttons with LED pilot light** (1 flush green push, 1 projecting red push)			**Illuminated selector switches** (2 position stay put)		
Degree of protection			IP 66 - IP 69K			IP 66		
Light source			Integral LED			Integral LED		
	Products		**Complete**			**Complete**		
Supply voltage			24 V AC/DC	110…120 V AC	230…240 V AC	24 V AC/DC	110…120 V AC	230…240 V AC
References	green	NO + NC	–	–	–	**XB4BK123B5**	**XB4BK123G5**	**XB4BK123M5**
	red	NO + NC	–	–	–	**XB4BK124B5**	**XB4BK124G5**	**XB4BK124M5**
	orange	NO + NC	–	–	–	**XB4BK125B5**	**XB4BK125G5**	**XB4BK125M5**
	White	NO + NC	**XB4BW73731B5**	**XB4BW73731G5**	**XB4BW73731M5**	–	–	–

(1) Alternative connections: plug-in connector, Faston connectors (6.35 and 2 x 2.8), spring clamp terminal.

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Other versions: **please consult our Customer Care Centre.**

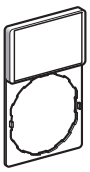
Separate components and accessories

Electrical blocks (1) (2)

		Single contact blocks		Light blocks with integral LED				Light block, direct supply
Rated operational characteristics		AC-15, 240 V - 3 A		Consumption 18 mA	24 V AC/DC			
Positive operation of contacts conforming to IEC/EN 60947-5-1		NC contacts with positive opening operation		14 mA	120 V AC			
				14 mA	240 V AC			
		Screw clamp terminal	Spring clamp terminal	To combine with heads for integral LED				For BA 9s bulb (not included) 250 V max., 2.4 W max.
					24 V AC/DC	110…120 V AC	230…240 V AC	
References (Sold in lots of 5)	NO	**ZBE101**	**ZBE1015**	white	**ZBVB1**	**ZBVG1**	**ZBVM1**	**ZBV6**
	NC	**ZBE102**	**ZBE1025**	green	**ZBVB3**	**ZBVG3**	**ZBVM3**	Colour provided by lens
				red	**ZBVB4**	**ZBVG4**	**ZBVM4**	
				orange	**ZBVB5**	**ZBVG5**	**ZBVM5**	
				blue	**ZBVB6**	**ZBVG6**	**ZBVM6**	

Diecast metal enclosures (Zinc alloy, usable depth 49 mm)

		1 vertical row				2 vertical rows		
Number of cut-outs	Front face dimensions	1	2	3	4	2	4	6
References	**80 x 80 mm**	**XAPM1201H2**	–	–	–	**XAPM1202H2**	–	–
	80 x 130 mm	–	**XAPM2202H2**	**XAPM2203H2**	–	–	**XAPM2204H2**	–
	80 x 175 mm	–	–	**XAPM3203H2**	**XAPM3204H2**	–	–	**XAPM3206H2**



Accessories (2)

Legend holders, 30 x 40 mm, for 8 x 27 mm legends

References (Sold in lots of 10)	Marking	Background colour: black or red								white or yellow
	Blank	**ZBY2101**								**ZBY4101**
	International	0 (red background)	**ZBY2931**	I	**ZBY2147**	AUTO	**ZBY2115**	STOP	**ZBY2304**	–
	English	OFF	**ZBY2312**	ON	**ZBY2311**	START	**ZBY2303**	–		–
	French	ARRET (red b/grnd)	**ZBY2104**	ARRET-MARCHE	**ZBY2166**	MARCHE	**ZBY2103**	–		–
	German	AUS	**ZBY2204**	AUS-EIN	**ZBY2266**	EIN	**ZBY2203**	–		–
	Spanish	PARADA (red b/grnd)	**ZBY2404**	PARADA-MARCHA	**ZBY2466**	MARCHA	**ZBY2403**	–		–

Legend holders, 30 x 50 mm, for 18 x 27 mm legends

Background colour		black or red	white or yellow
References (Sold in lots of 10)	Blank	**ZBY6101**	**ZBY6102**

Ø 60 mm legend for mushroom head Emergency stop pushbutton

Background colour	yellow				
Marking	Blank	EMERGENCY STOP	ARRET D'URGENCE	NOT HALT	PARADA DE EMERGENCIA
References	**ZBY9140**	**ZBY9330**	**ZBY9130**	**ZBY9230**	**ZBY9430**

(1) Alternative connections: plug-in connector, Faston connectors (6.35 and 2 x 2.8), spring clamp terminal.

(2) Electrical blocks and accessories also for use with Harmony XB5plastic range

Pushbuttons, switches and pilot lights Ø 22 with plastic bezel

Contact functions

1

Pushbuttons, spring return								
Type of head			**Circular bezel**					
Degree of protection			IP 66 / Nema 4X, 13 / Class II					
Mounting (mm)	panel cut-out		Ø 22.5 (22.4 $^{+0.4}_{0}$ recommended)					
	mounting centres		30 (horizontal) x 40 (vertical)					
Depth (mm)	below head		43					
Connection (1)			Screw clamp terminals					
Type of push			**Flush**			**Flush, booted**		
Unmarked		**Products**	**Complete**	**For user assembly**		**Complete**	**For user assembly**	
References	black	NO	**XB5AA21**	**ZB5AZ101**	**ZB5AA2**	**XB5AP21**	**ZB5AZ101**	**ZB5APA2**
	green	NO	**XB5AA31**	**ZB5AZ101**	**ZB5AA3**	**XB5AP31**	**ZB5AZ101**	**ZB5APA3**
	red	NC	**XB5AA42**	**ZB5AZ102**	**ZB5AA4**	**XB5AP42**	**ZB5AZ102**	**ZB5APA4**
	yellow	NO	**XB5AA51**	**ZB5AZ101**	**ZB5AA5**	**XB5AP51**	**ZB5AZ101**	**ZB5APA5**
	blue	NO	**XB5AA61**	**ZB5AZ101**	**ZB5AA6**	**XB5AP61**	**ZB5AZ101**	**ZB5APA6**
Type of push			**Flush**					
With international marking		**Products**	**Complete**	**For user assembly**		**Complete**	**For user assembly**	
References	green	NO	**XB5AA3311**	**ZB5AZ101**	**ZB5AA331**	–	–	–
	red	NC	**XB5AA4322**	**ZB5AZ102**	**ZB5AA432**	–	–	–
	white	NO	**XB5AA3341**	**ZB5AZ101**	**ZB5AA334**	–	–	–
	black	NO	**XB5AA3351**	**ZB5AZ101**	**ZB5AA335**	–	–	–
Type of push			**Projecting**			**Mushroom head, Ø 40 mm**		
Unmarked		**Products**	**Complete**	**For user assembly**		**Complete**	**For user assembly**	
References	black	NO	–	–	–	**XB5AC21**	**ZB5AZ101**	**ZB5AC2**
	red	NC	**XB5AL42**	**ZB5AZ102**	**ZB5AL4**	–	–	–
Type of push			**Double-headed pushbuttons**			**Triple-headed pushbuttons**		
Degree of protection			IP 66 - IP 69K			IP 66 - IP 69K		
With international marking		**Products**	**Complete** (A)	**For user assembly**		**Complete** (B)	**For user assembly**	
References	(A)	NO + NC	**XB5AL73415**	**ZB5AZ105**	**ZB5AL7341**	–	–	–
	(B)	NO + NC + NO	–	–	–	**XB5AA711237**	**ZB5AZ103 + ZBE102**	**ZB5AA71123**

(1) Alternative connections: plug-in connector, Faston connectors (6.35 and 2 x 2.8).

Ø 40 mm mushroom head Emergency stop pushbuttons (2)					
			Trigger action (EN/ISO 13850)		
Type of push			**Push-pull NO + NC**		
Unmarked		**Products**	**Complete**	**For user assembly**	
References	red	NO + NC	**XB5AT845**	**ZB5AZ105**	**ZB5AT84**
Type of push			**Turn to release NO + NC**		
References	red	NO + NC	**XB5AS8445**	**ZB5AZ105**	**ZB5AS844**
Type of push			**Key release NO + NC**		
References	red	NO + NC	**XB5AS9445**	**ZB5AZ105**	**ZB5AS944**

(2) Emergency stop trigger action and mechanical latching pushbuttons conform to standards EN/IEC 60204-1 and EN/ISO 13850: to Machinery Directive 2006/42/EC and to standard EN/IEC 60947-5-5. Please consult your Regional Sales Office for a full explanation of these standards and directives.

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Other versions: **please consult our Customer Care Centre.**

Contact functions

Selector switches and key switches

Type of head			**Circular bezel**			
Degree of protec-			IP 66 / Nema 4X, 13 / Class II			
Mounting (mm)	panel cut-out		Ø 22.5 (22.4 $^{+0.4}_{0}$ recommended)			
	mounting centres		30 (horizontal) x 40 (vertical)			
Depth (mm)	below head		43			
Connection (1)			Screw clamp terminals			
Type of operator			**Handle**			
		Products	**Complete**	**For user assembly**	**Complete**	**For user assembly**
Number and type of positions			**2 positions** stay put	**2 positions** stay put	**2 positions** spring return to left	**2 positions** spring return to left
References	black	NO	**XB5AD21**	**ZB5AZ101** **ZB5AD2**	**XB5AD41**	**ZB5AZ101** **ZB5AD4**
Number and type of positions			**3 positions** stay put	**3 positions** stay put	**3 positions** spring return to centre	**3 positions** spring return to centre
References	black	NO + NO	**XB5AD33**	**ZB5AZ103** **ZB5AD3**	**XB5AD53**	**ZB5AZ103** **ZB5AD5**
Type of operator			**Key, n° 455**			
Number and type of positions			**2 positions** stay put	**2 positions** stay put	**2 positions** stay put	**2 positions** stay put
References	black	NO	**XB5AG21**	**ZB5AZ101** **ZB5AG2**	**XB5AG41**	**ZB5AZ101** **ZB5AG4**

(2) The symbol ⚷ indicates key withdrawal position.

Biometric switch

Degree of protection	IP65			
Dimension WxHxD (mm)	69,3 x 54 x 78,5 (total depth : front + rear)			
Mounting (mm)	Ø 22.5			
Depth (mm)	39,7			
Supply voltage	24 VDC			
Output	PNP - monostable		PNP - bistable	
Connection	2m cable	M12 connector	2m cable	M12 connector
References	**XB5S1B2L2**	**XB5S1B2M12**	**XB5S2B2L2**	**XB5S2B2M12**

	Body/fixing collar	Fixing nut	Bezel tool	Plate
	for electrical block (contact or light)	for head	for tightening fixing nut ZB5AZ901	anti-rotation
References	**ZB5AZ009** (Sold in lots of 10)	**ZB5AZ901** (Sold in lots of 10)	**ZB5AZ905**	**ZB5AZ902**

(1) Alternative connections: plug-in connector, Faston connectors (6.35 and 2 x 2.8), spring clamp terminal

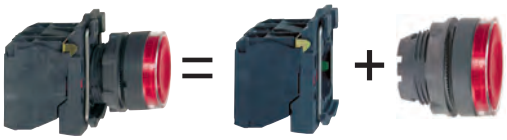
(2) Refer to page 9 for Electrical blocks and accessories used with Harmony XB5plastic range

Pushbuttons, switches and pilot lights Ø 22 with plastic bezel

Light functions

Pilot lights

Type of head		**Circular bezel** **Smooth lens cap**					
Degree of protec-		IP 66 / Nema 4X, 13 / Class II					
Mounting (mm)	panel cut-out	Ø 22.5 (22.4 $^{+0.4}_{0}$ recommended)					
	mounting centres	30 (horizontal) x 40 (vertical)					
Depth	below head	43					
Connection (1)		Screw clamp terminals					
Light source		Integral LED			Direct supply for BA 9s bulb (not included)		
	Products	**Complete**			**Complete**	**For user assembly**	
Supply voltage		24 V AC/DC	110…120 V AC	230…240 V AC	250 V max., 2.4 W max.		
References	white	**XB5AVB1**	**XB5AVG1**	**XB5AVM1**	**XB5AV61**	**ZB5AV6**	**ZB5AV01**
	green	**XB5AVB3**	**XB5AVG3**	**XB5AVM3**	**XB5AV63**	**ZB5AV6**	**ZB5AV03**
	red	**XB5AVB4**	**XB5AVG4**	**XB5AVM4**	**XB5AV64**	**ZB5AV6**	**ZB5AV04**
	orange	**XB5AVB5**	**XB5AVG5**	**XB5AVM5**	**XB5AV65**	**ZB5AV6**	**ZB5AV05**
	blue	**XB5AVB6**	**XB5AVG6**	**XB5AVM6**	–	–	–



Illuminated pushbuttons and selector switches

Type		**Flush push, spring return, illuminated pushbuttons**					
Light source		Integral LED			Direct supply for BA 9s bulb (not included)		
	Products	**Complete**			**Complete**	**For user assembly**	
Supply voltage		24 V AC/DC	110…120 V AC	230…240 V AC	250 V max., 2.4 W max.		
References	white NO + NC	**XB5AW31B5**	**XB5AW31G5**	**XB5AW31M5**	**XB5AW3165**	**ZB5AW065**	**ZB5AW31**
	green NO + NC	**XB5AW33B5**	**XB5AW33G5**	**XB5AW33M5**	**XB5AW3365**	**ZB5AW065**	**ZB5AW33**
	red NO + NC	**XB5AW34B5**	**XB5AW34G5**	**XB5AW34M5**	**XB5AW3465**	**ZB5AW065**	**ZB5AW34**
	orange NO + NC	**XB5AW35B5**	**XB5AW35G5**	**XB5AW35M5**	**XB5AW3565**	**ZB5AW065**	**ZB5AW35**
	blue NO + NC	**XB5AW36B5**	**XB5AW36G5**	**XB5AW36M5**	–	–	–

Type		**Double-headed pushbuttons with LED pilot light** (1 flush green push, 1 projecting red push)			**Illuminated selector switches** (2 position stay put)		
Degree of protection		IP 66 - IP 69K			IP 66		
Light source		Integral LED			Integral LED		
	Products	**Complete**			**Complete**		
Supply voltage		24 V AC/DC	110…120 V AC	230…240 V AC	24 V AC/DC	110…120 V AC	230…240 V AC
References	green NO + NC	–	–	–	**XB5AK123B5**	**XB5AK123G5**	**XB5AK123M5**
	red NO + NC	–	–	–	**XB5AK124B5**	**XB5AK124G5**	**XB5AK124M5**
	orange NO + NC	–	–	–	**XB5AK125B5**	**XB5AK125G5**	**XB5AK125M5**
	white NO + NC	**XB5AW73731B5**	**XB5AW73731G5**	**XB5AW73731M5**	–	–	–

(1) Alternative connections: plug-in connector, Faston connectors (6.35 and 2 x 2.8), spring clamp terminal.

Separate components and accessories: see previous page.

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Other versions: **please consult our Customer Care Centre.**

Control stations

For XB5pushbuttons, switches and pilot lights Ø 22 with plastic bezel

(1):

Number of cut-outs	Number (●)
1	1
2	2
3	3
4	4
5	5

Complete stations with 1 pushbutton, selector switch or key switch
(light grey RAL 7035 base with dark grey RAL 7016 lid)

Degree of protection			IP 65 / Nema 4X and 13 / Class II			
Dimensions (mm)	W x H x D		68 x 68 x 113 max. (with key release Ø 40 mushroom head pushbutton)			
Fixing (mm)			2 x Ø 4.3 on 54 mm centres			
Function			**1 Start or Stop function**		**1 Start-Stop function**	
		Marking	On spring return push		On legend holder and legend below head	
Number and type of pushbutton/selector switch/key switch			1 flush green p/b	1 projecting red p/b	1 2 position stay put selector switch or key switch	
					Black handle	Key n° 455 (key withdrawal LH pos.)
References	NO	**I**	**XALD102H7**	–	–	–
		O - I	–	–	**XALD134H7**	**XALD144H7**
		O	–	**XALD115H7**	–	–

(1) **Empty enclosures:**
Basic reference: **XALK0●H7**, replace the ● by the number of cut-outs required (see cut-out table above)

Function		**Emergency stop (2)** (light grey RAL 7035 base with yellow RAL 1012 lid)	
Number and type of mushroom head pushbutton		1 red Ø 40 head, turn to release	1 red Ø 40 head, key release
Latching mechanism		Trigger action (EN/ISO 13850)	Trigger action (EN/ISO 13850)
References	NC	**XALK178H7**	**XALK188H7**
	NC + NC	**XALK178FH7**	**XALK188FH7**
	NO + NC	**XALK178EH7**	**XALK188EH7**
	NC + NC + NO	**XALK178GH7**	**XALK188GH7**

(2) Emergency stop trigger action and mechanical latching pushbuttons conform to standards EN/IEC 60204-1 and EN/ISO 13850, to Machinery Directive 2006/42/EC and to standard EN/IEC 60947-5-5. Please consult your Regional Sales Office for a full explanation of these standards and directives.

(1) **Empty enclosures:**
Basic reference: **XALD0●H7**, replace the ● by the number of cut-outs required (see cut-out table above)

Complete stations with 2 and 3 pushbuttons or 2 pushbuttons + 1 pilot light
(light grey RAL 7035 base with dark grey RAL 7016 lid)

Dimensions (mm)	W x H x D		2-way control stations: 68 x 106 x 62; 3-way control stations: 68 x 136 x 87				
Fixing (mm)			2-way control stations: 2 x Ø 4.3 on 54 x 68 centres; 3-way control stations: 2 x Ø 4.3 on 54 x 98 centres				
Function			**Start-Stop functions**		**2 functions**	**3 functions**	
		Marking	On spring return push				
Number and type of pushbutton/pilot light			1 flush green p/b 1 flush red p/b	1 flush green pushbutton 1 flush red pushbutton 1 red pilot light with integral LED	1 flush white p/b 1 flush black p/b	1 flush white p/b 1 flush red p/b 1 flush black p/b	1 flush white p/b 1 Ø 30 red mushroom head p/b 1 flush black p/b
				24 V AC/DC			
References	NO + NC	**I - O**	**XALD213H7**	**XALD363BH7**	–	–	–
		Start - Stop	**XALD215H7**	–	–	–	–
	NO + NO	⇧⇩	–	–	**XALD222H7**	–	–
	NO + NC + NO	⇧○⇩	–	–	–	**XALD324H7**	**XALD328H7**

Accessories	**Standard contact blocks**		**Light blocks with integral LED, colour red**	
Description	NO contact	NC contact	24 V AC/DC	230 V AC
References	**ZENL1111**	**ZENL1121**	**ZALVB4**	**ZALVM4**

Pushbuttons, switches and pilot lights Ø 22 with plastic bezel - Monolithic

Contact functions

Pushbuttons

Type of head			**Flush or projecting push** circular	
Degree of protection			IP 65, class II	
Mounting (mm)	panel cut-out		Ø 22.4 (0 +0.1)	
	mounting centres		30 (horizontal) x 40 (vertical)	
Dimensions (mm)	Ø x Depth (below head)		Ø 29 x 41.5 (Ø 40 x 41.5 for Emergency stop)	
Connection			Screw clamp terminals, 1 x 0.34 mm² to 1 x 1.5 mm²	
Type of push			**Flush, spring return**	**Flush, push and latching**
References (Sold in lots of 10)	white	NO	**XB7NA11**	–
		NO + NC	**XB7NA15**	–
	black	NO	**XB7NA21**	**XB7NH21**
		NO + NC	**XB7NA25**	**XB7NH25**
	green	NO	**XB7NA31**	**XB7NH31**
		NO + NC	**XB7NA35**	**XB7NH35**
	red	NC	**XB7NA42**	–
		NO + NC	**XB7NA45**	–
	yellow	NO	**XB7NA81**	–
Type of push			**Flush, spring return**	**Projecting, spring return**
References	green	NO	**XB7NA3131**	–
	red	NC	–	**XB7EL4232**
	white	NO	**XB7NA11341**	–
	black	NO	**XB7NA21341**	–
		NO + NC	**XB7NA25341**	–

Selector switches and key switches

Type of operator		**Black handle**		**Ronis key, n° 455**	
Number and type of positions		**2 positions** stay put	**3 positions** stay put	**2 positions** stay put	**3 positions** stay put
References (Sold in lots of 10)	NO	**XB7ND21**	–	**XB7NG21**	–
	NO + NC	**XB7ND25**	–	–	–
	2 NO	–	**XB7ND33**	–	**XB7NG33**

Ø 40 mushroom head pushbuttons (1)

Type of push			**Turn to release**	**Key release, Ronis 455**
References (Sold in lots of 10)	red	NC	**XB7ES542P**	**XB7ES142P**
	red	NO + NC	**XB7ES545P**	**XB7ES145P**

(1) Mushroom head switching off mechanical latching pushbuttons conform to standard IEC 60364-5-53 and EN/IEC 60947-5-5. For mushroom trigger action and mechanical latching head Emergency stop pushbuttons conforming to standard EN/IEC 60204-1 and EN/ISO 13850, to Machinery directive 2006/42/EC and standard EN/IEC 60947-5-5, use an Emergency stop type XB5A●8●●● or XB5AS9●●● from the Harmony® range. See page 2/10.

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Other versions: **please consult our Customer Care Centre.**

Contact functions and light functions

(1):

Supply voltage for integral LED light source only	Letter (●)
24 V AC/DC	B
120 V AC	G
230 V AC	M

Illuminated pushbuttons

Type of head			**Projecting push** circular	
Degree of protection			IP 65, class II	
Mounting (mm)	**panel cut-out**		Ø 22.4 (0 +0.1)	
	mounting centres		30 (horizontal) x 40 (vertical)	
Dimensions (mm)	Ø x Depth (below head)		Ø 29 x 41.5, (Ø 40 x 41.5 for Emergency stop)	
Connection			Screw clamp terminals, 1 x 0.34 mm² to 1 x 1.5 mm²	
Light source			Integral LED	BA 9s base fitting Incandescent bulb direct supply (bulb not included)
Type of push			**Spring return**	
References (Sold in lots of 10)	green	NO	**XB7NW33●1** (1)	**XB7NW3361**
	red	NO	**XB7NW34●1** (1)	**XB7NW3461**
		NC	**XB7NW34●2** (1)	–
	orange	NO	**XB7NW35●1** (1)	–
	blue	NO	**XB7NW36●1** (1)	–
	clear	NO	**XB7NW37●1** (1)	–
	yellow	NO	**XB7NW38●1** (1)	**XB7NW3561**
Type of push			**Push and latching**	
References (Sold in lots of 10)	green	NO	**XB7NH03●1** (1)	**XB7NH0361**
	red	NO	**XB7NH04●1** (1)	**XB7NH0461**
		NC	**XB7NH04●2** (1)	–
	yellow	NO	**XB7NH08●1 (1)**	**XB7NH0861**

Pilot lights (2)

Light source			Integral LED	Ba 9s base fitting incandescent bulb direct supply (bulb not included)	Incandescent bulb direct through resistor (bulb included)
Supply voltage			24VAC/DC or 120VAC or 230…240VAC	6 or 24 V DC, or 130 V AC	230 V AC
References (Sold in lots of 10)	clear		**XB7EV07●** (1)	**XB7EV67**	**XB7EV77**
	green		**XB7EV03●** (1)	**XB7EV63**	**XB7EV73**
	red		**XB7EV04●** (1)	**XB7EV64**	**XB7EV74**
	yellow		**XB7EV05●** (1)	**XB7EV65**	**XB7EV75**
	blue		**XB7EV06●** (1)	**XB7EV66**	**XB7EV76**
	orange		**XB7EV08●** (1)	**XB7EV68**	**XB7EV78**

Incandescent bulbs, long life			
BA 9s base fitting, Ø 11 mm max., length 28 mm max.			
	6 V (1.2 W)	24 V (2 W)	130 V (2.4 W)
References	**DL1CB006**	**DL1CE024**	**DL1CE130**

(1) Basic reference, to be completed by the letter B, G or M indicating the required voltage. See voltage table above.

(2) Alternative connection: 1 x 6.35 and 2 x 2.8 mm Faston connectors.

Pushbuttons, switches and pilot lights Ø 30 with metal bezel

Contact functions

Pushbuttons, spring return

Type of push		Flush	Projecting	Projecting (high guard)
Colour of push	●●●●●●●	Multi-colour (set of 7 clip-in coloured caps)		
Degree of protection		IP 66 / Nema 1, 2, 3, 3R, 4, 6, 12 and 13 / Class II		
Mounting (mm)	panel cut-out	Ø 31		
	mounting centres	57.2 x 44.5 (with legend 9001KN2●●), 57.2 x 50.8 (with legend 9001KN3●●)		
Depth below head (mm)		42		
Connection		Screw clamp terminals		
References	CO	**9001KR1UH13**	**9001KR3UH13**	**9001KR2UH13**
	NO	**9001KR1UH5**	**9001KR3UH5**	**9001KR2UH5**

Mushroom head pushbuttons, latching (1)			Emergency switching off		Emergency stop
Type of push			Push-pull		Turn-to-Release, trigger action
			Ø 41 mushroom head	Ø 35 mushroom head	Ø 40 red mushroom head
Degree of protection			IP 66 / Nema 1, 2, 3, 3R, 4, 6, 12 and 13 / Class II		IP 66 / Nema 1, 2, 3, 3R, 4, 6, 12 and 13 / Class III
Mounting (mm)	panel cut-out		Ø 31		
	mounting centres		57.2 x 44.5 (with legend 9001KN2●●), 57.2 x 50.8 (with legend 9001KN3●●)		57,2 x 44,5 (without legend plate), 100 x 100 ((with legend plate 9001KN8330) (2)
Depth below head (mm)			42		60
Connection			Screw clamp terminals		
References	●	–	–	–	**9001KR16**
		CO	**9001KR9R94H13**	**9001KR9R20H13**	–
		NC	**9001KR9RH6**	**9001KR9R20H6**	–
		2NO + 2NC	–	–	**9001KR16H2**
		NO	–	–	**9001KR16H13**

(1) Mushroom head switching off mechanical latching pushbuttons conform to standard IEC 60364-5-53 and EN/IEC 60947-5-5. Mushroom trigger action and mechanical latching head Emergency stop pushbuttons conforming to standard EN/IEC 60204-1 and EN/ISO 13850, to Machinery directive 2006/42/EC and standard EN/IEC 60947-5-5.
(2) For yellow circular Emergency Stop legend plates: see page 2/19

Selector switches and key switches

Type of operator		Long black handle				Key, n° 455
	positions (2)	3 - spring return	2 - stay put	2 - spring return	3 - stay put	2 - stay put
Number and type of positions						
Degree of protection		IP 66 / Nema 1, 2, 3, 3R, 4, 6, 12 and 13 / Class II				
Mounting (mm)	panel cut-out	Ø 31				
	mounting centres	57.2 x 44.5 (with legend 9001KN2●●), 57.2 x 50.8 (with legend 9001KN3●●)				
Depth below head (mm)		42				
Connection		Screw clamp terminals				
References	NO	–	**9001KS11FBH5**	**9001KS34FBH5**	–	–
	CO	**9001KS53FBH1**	–	–	**9001KS43FBH1**	**9001KS11K1RH1**

(2) The symbol ⚷ indicates key withdrawal position.

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Other versions: **please consult our Customer Care Centre.**

Light functions

Pilot lights

Type of head		Smooth lens cap			
Degree of protection		IP 66 / Nema 1, 2, 3, 3R, 4, 6, 12 and 13 / Class II			
Mounting (mm)	panel cut-out	Ø 31			
	mounting centres	57.2 x 44.5 (with legend 9001KN2●●), 57.2 x 50.8 (with legend 9001KN3●●)			
Depth below head (mm)		42			
Connection		Screw clamp terminals			
Type of light block		With high luminosity LED (included)			Incandescent BA 9s bulb (included)
		24 V AC/DC	48 V AC/DC	120 V AC/DC	230 V AC
References	green	**9001KP35LGG9**	**9001KP36LGG9**	**9001KP38LGG9**	**9001KP7G9**
	red	**9001KP35LRR9**	**9001KP36LRR9**	**9001KP38LRR9**	**9001KP7R9**
	yellow	**9001KP35LYA9**	**9001KP36LYA9**	**9001KP38LYA9**	**9001KP7A9**

Illuminated pushbuttons, spring return

Type of head			Spring return flush push			
Degree of protection			IP 66 / Nema 1, 2, 3, 3R, 4, 6, 12 and 13 / Class II			
Mounting (mm)	panel cut-out		Ø 31			
	mounting centres		57.2 x 44.5 (with legend 9001KN2●●), 57.2 x 50.8 (with legend 9001KN3●●)			
Depth below head (mm)			42			
Connection			Screw clamp terminals			
Type of light block			With high luminosity LED (included)			Incandescent BA 9s bulb (included)
			24 V AC/DC	48 V AC/DC	120 V AC/DC	230 V AC
References	green	CO	**9001K3L35LGGH13**	**9001K3L36LGGH13**	**9001K3L38LGGH13**	**9001K2L7RH13**
	red	CO	**9001K3L35LRRH13**	**9001K3L36LRRH13**	**9001K3L38LRRH13**	**9001K2L7GH13**
	yellow	CO	**9001K3L35LYAH13**	**9001K3L36LYAH13**	**9001K3L38LYAH13**	**9001K2L7AH13**

Illuminated Ø 41 mushroom head pushbuttons, latching, high luminosity LED

Degree of protection			IP 66 / Nema 1, 2, 3, 3R, 4, 6, 12 and 13 / Class II			
Mounting (mm)	panel cut-out		Ø 31			
	mounting centres		57.2 x 44.5 (with legend 9001KN2●●), 57.2 x 50.8 (with legend 9001KN3●●)			
Depth below head (mm)			42			
Connection			Screw clamp terminals			
Type of light block			With high luminosity LED (included)			Incandescent BA 9s bulb (included)
			24 V AC/DC	48 V AC/DC	120 V AC/DC	230 V AC/DC
Type of head			2 position, push-pull			
References	red	CO	**9001KR9P35RH13**	**9001KR9P36RH13**	**9001KR9P38RH13**	**9001KR9P7RH13**
Type of head			3 position, push-pull (pull: spring return, centre: stay put, push: spring return)			
References	red	NC + NC late break	**9001KR8P35RH25**	**9001KR8P36RH25**	**9001KR8P38RH25**	**9001KR8P7RH25**

Pushbuttons, switches and pilot lights Ø 30 with plastic bezel

Contact functions and light functions

Pushbuttons, spring return

Type of push		Flush	Projecting	Projecting (high guard)
Colour of push		Multi-colour (set of 7 clip-in coloured caps)		
Degree of protection		IP 66 / Nema 1, 2, 3, 3R, 4, 4X, 12 and 13 / Class II		
Mounting (mm)	panel cut-out	Ø 31		
	mounting centres	57.2 x 44.5 (with legend 9001KN2●●), 57.2 x 50.8 (with legend 9001KN3●●)		
Depth below head (mm)		42		
Connection		Screw clamp terminals		
References	CO	**9001SKR1UH13**	**9001SKR3UH13**	**9001SKR2UH13**
	NO	**9001SKR1UH5**	**9001SKR3UH5**	**9001SKR2UH5**

Type		Selector switches			Mushroom head pushbuttons (1) Emergency stop
Type of operator		Long black handle			Turn-to-Release, trigger action
	positions	2 - stay put	2 - spring return	3 - stay put	Ø 40 red mushroom head
Number and type of positions					
Degree of protection		IP 66 / Nema 1, 2, 3, 3R, 4, 4X, 12 and 13 / Class II			IP 66 / Nema 1, 2, 3, 3R, 4, 4X, 6, 12 and 13 / Class III
Mounting (mm)	panel cut-out	Ø 31			
	mounting centres	57.2 x 44.5 (with legend 9001KN2●●), 57.2 x 50.8 (with legend 9001KN3●●)			57,2 x 44,5 (without legend plate), 100 x 100 ((with legend plate 9001KN8330) (2)
Depth below head (mm)		42			60
Connection		Screw clamp terminals			
References	–	–	–	–	**9001SKR16**
	NO	**9001SKS11FBH5**	**9001SKS34FBH5**	–	**9001SKR16H13**
	CO	–	–	**9001SKS43FBH1**	–
	2NO + 2NC	–	–	–	**9001SKR16H2**

(1) Mushroom trigger action and mechanical latching head Emergency stop pushbuttons conforming to standard EN/IEC 60204-1 and EN/ISO 13850, to Machinery directive 2006/42/EC and standard EN/IEC 60947-5-5.
(2) For yellow circular Emergency Stop legend plates: see page 2/19

Pilot lights

Type of head		Smooth lens cap			
Degree of protection		IP 66 / Nema 1, 2, 3, 3R, 4, 4X, 12 and 13 / Class II			
Mounting (mm)	panel cut-out	Ø 31			
	mounting centres	57.2 x 44.5 (with legend 9001KN2●●), 57.2 x 50.8 (with legend 9001KN3●●)			
Depth below head (mm)		42			
Connection		Screw clamp terminals			
Type of light block		With high luminosity LED (included)			Incandescent BA 9s bulb (included)
		24 V AC/DC	48 V AC/DC	120 V AC/DC	230 V AC
References	green ●	**9001SKP35LGG9**	**9001SKP36LGG9**	**9001SKP38LGG9**	**9001SKP7G9**
	red ●	**9001SKP35LRR9**	**9001SKP36LRR9**	**9001SKP38LRR9**	**9001SKP7R9**
	yellow ●	**9001SKP35LYA9**	**9001SKP36LYA9**	**9001SKP38LYA9**	**9001SKP7A9**

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Other versions: **please consult our Customer Care Centre.**

Accessories

Contact blocks with protected terminals

Type of contact		Single contact blocks
Connection		Screw clamp terminals
References	CO	**9001KA1**
	NO	**9001KA2**
	NC	**9001KA3**
	CO, late break	**9001KA4**
	NC, late break	**9001KA5**
	NO, early make	**9001KA6**

Enclosures

Type	Number of Ø 30 mm cut-outs	NEMA ratings	Reference
Aluminium	1	1, 3, 4, 6, 12, 13	**9001KY1**
	2	1, 3, 4, 6, 12, 13	**9001KY2**
	3	1, 3, 4, 6, 12, 13	**9001KY3**
	4	1, 3, 4, 6, 12, 13	**9001KY4**
Stainless steel	1	1, 3, 4, 4X, 13	**9001KYSS1**
	2	1, 3, 4, 4X, 13	**9001KYSS2**
	3	1, 3, 4, 4X, 13	**9001KYSS3**

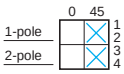
Legends

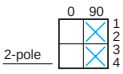
		44 x 43 mm	57 x 57 mm	Ø 60	Ø 90
Type		Aluminium	Plastic	Plastic	
	Colour of legend	black background	white background	Yellow background	
Marking	Blank	**9001KN200**	**9001KN100WP**	**9001KN9100**	**9001KN8100**
	START	**9001KN201**	**9001KN101WP**	–	–
	STOP (red background)	**9001KN202**	**9001KN102RP**	–	–
	FORWARD	**9001KN206**	**9001KN106WP**	–	–
	REVERSE	**9001KN207**	**9001KN107WP**	–	–
	RESET	**9001KN223**	**9001KN123WP**	–	
	PULL TO START/ PUSH TO STOP	**9001KN379**	**9001KN179WP**	–	–
	EMERGENCY STOP	–	–	**9001KN9330**	**9001KN8330**
	ARRET D'URGENCE	–	–	**9001KN9330F**	**9001KN8330F**
	PARADA DE EMERGENCIA	–	–	**9001KN9330S**	**9001KN8330S**

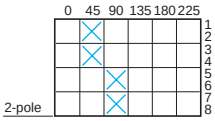
Cam switches
12 and 20 A ratings

1

positions (°)



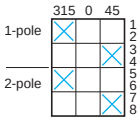


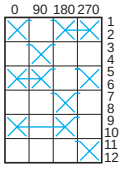


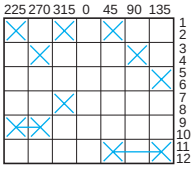
Cam switches, K1 / K2 series

Function		Switches		ON-OFF switches		Stepping switches	
		45° switching angle		90° switching angle		with “0” position	
Degree of protection	front face	IP 65 (1)		IP 65 (1)		IP 65 (1)	
Conventional thermal current (Ith)		**12 A**	**20 A**	**12 A**	**20 A**	**12 A**	**20 A**
Rated insulation voltage (Ui) conforming to IEC60947-1		690 V		690 V		690 V	
Number of positions		2		2		2 + “0” position	
Number of poles		2		2		2	
Dimensions of front plate (mm)		45 x 45		45 x 45		45 x 45	
Front mounting method	Multifixing plate, 45 x 45 mm	**K1B002ALH**	**K2B 002ALH**	**K1B1002HLH**	**K2B 1002HLH**	**K1D012QLH**	**K2D012QLH**
	Plastic mounting plate for Ø 22 mm hole	**K1B002ACH**	**K2B 002ACH**	**K1B1002HCH**	**K2B 1002HCH**	**K1D012QCH**	**K2D012QCH**

positions (°)







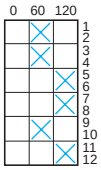
Cam switches, K1 / K2 series

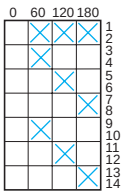
Function		Changeover switches		Ammeter switches		Voltmeter switches	
Degree of protection	front face	IP 65 (1)		IP 65 (1)		IP 65 (1)	
Conventional thermal current (Ith)		**12 A**	**20 A**	**12 A**	**20 A**	**12 A**	**20 A**
Rated insulation voltage (Ui) conforming to IEC60947-1		690 V		690 V		690 V	
Number of positions		2 + “0” position		3 + “0” position (3 circuits + “0” position)		6 + “0” position (measurements between 3 phases & N + “0” pos.)	
Number of poles		2		4		7	
Dimensions of front plate (mm)		45 x 45		45 x 45		45 x 45	
Front mounting method	Multifixing plate, 45 x 45 mm	**K1D002ULH**	**K2D002ULH**	**K1F003MLH**	to be compiled *	**K1F027MLH**	to be compiled *
	Plastic mounting plate for Ø 22 mm hole	**K1D002UCH**	**K2D002UCH**	**K1F003MCH**	to be compiled *	**K1F027MCH**	to be compiled *

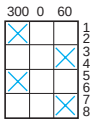
(1) With seal KZ73 for switch with Multifixing plate, with seal KZ65 for Ø 22 mm hole mounting switches. Seal to be ordered separately.

(*) Please consult your Schneider Electric agency.

positions (°)







Cam switches with key operated lock, K1 series

Function		Stepping switches		Run switches		Changeover switches + “0” pos.	
Degree of protection	front face	IP 65		IP 65		IP 65	
Conventional thermal current (Ith)		**12 A**		**12 A**		**12 A**	
Rated insulation voltage (Ui) conforming to IEC60947-1		690 V		690 V		690 V	
Number of positions		2 + “0” position		3 + “0” position		2 + “0” position	
Number of poles		3		2		2	
Dimensions of front plate (mm)		55 x 100		55 x 100		55 x 100	
Colour of handle		red	black	red	black	red	black
Front mounting method	Ø 22 mm hole + Ø 43.5 mm hole	**K1F022QZ2**	**K1F022QZ4**	**K1G043RZ2**	**K1G043RZ4**	**K1D002UZ2**	**K1D002UZ4**

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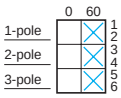
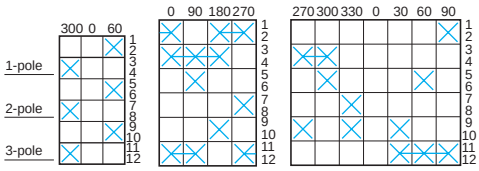
Other versions: **please consult our Customer Care Centre.**

10 to 150 A ratings

positions (°)





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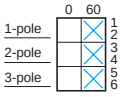
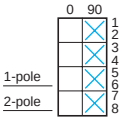
Cam switches, K10series							
Function	**Switches** 60° switching angle			**Changeover switches** with "0" position		**Ammeter switches**	**Voltmeter switches**
Degree of protection front face	IP 65			IP 65		IP 65	IP 65
Conventional thermal current (Ith)	**10 A**			**10 A**		**10 A**	**10 A**
Rated insulation voltage (Ui) conforming to IEC60947-1	440 V			440 V		440 V	440 V
Number of positions	2			2 + "0" position		3 + "0" pos. (1)	6 + "0" pos. (2)
Number of poles	1	2	3	2	3	3	3
Dimensions of front plate (mm)	30 x 30			30 x 30		30 x 30	30 x 30
Front mounting method By Ø 16 mm or 22 mm hole	**K10A001ACH**	**K10B002ACH**	**K10C003ACH**	**K10D002UCH**	**K10F003UCH**	**K10F003MCH**	**K10F027MCH**

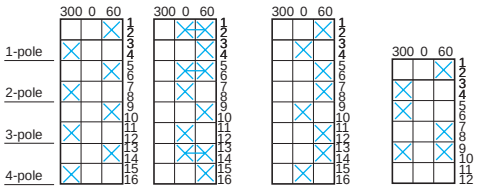
(1) (3 circuits + "0" position).

(2) (Measurements between 3 phases and N + "0" position).

positions (°)







Cam switches, K30series							
Function	**Switches**	**Switches** ON-OFF		**Changeover** with "0" position	**Starting** star-delta	**Starting** 2-speed	**Reversing**
Degree of protection front face	IP 40	IP 40		IP 40	IP 40	IP 40	IP 40
Conventional thermal current (Ith)	**32 A**	**32 A**		**32 A**	**32 A**	**32 A**	**32 A**
Rated insulation voltage (Ui) conforming to IEC60947-1	690 V	690 V		690 V	690 V	690 V	690 V
Number of positions	2	2		3	3	3	3
Number of poles	3	3	4	4	3	3	3
Dimensions of front plate (mm)	64 x 64	64 x 64		64 x 64	64 x 64	64 x 64	64 x 64
Front mounting method Multifixing	**K30C003AP** (3)	**K30C003HP** (3)	**K30D004HP** (3)	**K30H004UP** (3)	**K30H001YP** (3)	**K30H004PP** (3)	**K30E003WP** (3)

(3) To order switches with other thermal current ratings (50, 63, 115, 150 A): replace the number 30 in the reference by 50, 63, 115 or 150 respectively.

Example: a switch with a 32 A current rating, for example K30C003AP, becomes K50 C003AP for a current rating of 50 A.

Accessories for cam switches K1/K2

Rubber seals			
for IP 65 degree of protection For use with heads	with 45 x 45 mm front plate Ø 22 mm hole or 4 hole front mtg.	with 60 x 60 mm front plate Ø 22 mm hole or 4 hole front mtg.	with 45 x 45 mm front plate multifixing
References (Sold in lots of 5)	**KZ65**	**KZ66**	**KZ73**

Monolithic tower lights

Ø 40, Ø 60, Ø 100 mm, complete, pre-wired tower lights

Ø 40 mm / Up to IP54

Complete, pre-wired tower lights		Steady light			Steady / Flashing light (1)	
Light source (included)		LEDs			LEDs	
Base mount		Base mounting	Support tube mounting, 17 mm		Support tube mounting, 17 mm	
Buzzer		Without buzzer			With buzzer + flashing light	
Degree of protection		up to IP54			up to IP54	
Voltage		24V AC/DC	24V AC/DC	100-240V AC	24V AC/DC	100 - 240V AC
References (2)	Red	**XVC4B1K**	**XVC4B1**	**XVC4M1**	**XVC4B15S**	**XVC4M15S**
	Red / orange	**XVC4B2K**	**XVC4B2**	**XVC4M2**	**XVC4B25S**	**XVC4M25S**
	Red / Orange / green	**XVC4B3K**	**XVC4B3**	**XVC4M3**	**XVC4B35S**	**XVC4M35S**
	red / orange / green / blue	**XVC4B4K**	**XVC4B4**	**XVC4M4**	**XVC4B45S**	**XVC4M45S**
	red / orange / green / blue / Clear	**XVC4B5K**	**XVC4B5**	**XVC4M5**	**XVC4B55S**	**XVC4M55S**

Ø 60 mm / Up to IP54

Complete, pre-wired tower lights		Steady light			Steady / Flashing light (1)		
Light source (included)		LEDs			LEDs		
Base mount		Base mounting	Support tube mounting, 22 mm		Support tube mounting, 22 mm		Base mounting
Buzzer		Without buzzer			With buzzer + flashing light		
Degree of protection		up to IP54			up to IP54		
Voltage		24V AC/DC	24V AC/DC	100-240V AC	24V AC/DC	100 - 240V AC	
References (2)	Red	**XVC6B1K**	**XVC6B1**	**XVC6M1** (3)	**XVC6B15S** (3)	**XVC6M15S**	**XVC6M15SK**
	Red / orange	**XVC6B2K**	**XVC6B2**	**XVC6M2** (3)	**XVC6B25S** (3)	**XVC6M25S**	**XVC6M25SK**
	Red / Orange / green	**XVC6B3K**	**XVC6B3**	**XVC6M3** (3)	**XVC6B35S** (3)	**XVC6M35S**	**XVC6M35SK**
	red / orange / green / blue	**XVC6B4K**	**XVC6B4**	**XVC6M4** (3)	**XVC6B45S** (3)	**XVC6M45S**	**XVC6M45SK**
	red / orange / green / blue / Clear	**XVC6B5K**	**XVC6B5**	**XVC6M5** (3)	**XVC6B55S** (3)	**XVC6M55S**	**XVC6M55SK**

(3) To order products for base mounting, add the letter **K** to the end of the reference (ex. XVC6M1**K**)

Ø 100 mm / Up to IP54

Complete, pre-wired tower lights		Steady / Flashing light (1)					
Light source (included)		LEDs					
Base mount		Base mounting					
Buzzer		Without buzzer		With buzzer + flashing light			
Degree of protection		up to IP54		up to IP54			
Voltage		24V DC	100-240V AC	24V DC	100-240V AC	24V DC	100 - 240V AC
References (2)	Red	**XVC1B1K**	**XVC1M1K**	**XVC1B1SK**	**XVC1M1SK**	**XVC1B1HK**	**XVC1M1HK**
	Red / orange	**XVC1B2K**	**XVC1M2K**	**XVC1B2SK**	**XVC1M2SK**	**XVC1B2HK**	**XVC1M2HK**
	Red / Orange / green	**XVC1B3K**	**XVC1M3K**	**XVC1B3SK**	**XVC1M3SK**	**XVC1B3HK**	**XVC1M3HK**
	red / orange / green / blue	**XVC1B4K**	**XVC1M4K**	**XVC1B4SK**	**XVC1M4SK**	-	-
	red / orange / green / blue / Clear	**XVC1B5K**	**XVC1M5K**	**XVC1B5SK**	**XVC1M5SK**	-	-

(1) Flashing function can be simply selected/programmed by wiring

(2) The colours are listed in the same order as the mounting order of the illuminated units (from top to bottom)

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Other versions: **please consult our Customer Care Centre.**

Ø 45 mm / IP40

Illuminated beacons XVDLS		Steady light	Flashing light
Light source		Incandescent BA 15d bulb, 5 W max. (not included)	"Flash" discharge tube, 0.5 J
Degree of protection		IP 40	
References (1)	24…230 V AC/DC	**XVDLS3●**	–
	24 V AC/DC	–	**XVDLS6B●**
	120 V AC	–	**XVDLS6G●**
	230 V AC	–	**XVDLS6M●**

(1) To obtain the complete reference, replace the ● by the number designating the colour as follow: 3 = green , 4 = red , 5 = orange, 6 = blue, 7 = clear, 8 = yellow.

Accessories

XVDLS

Incandescent bulbs, with BA 15d base	Beacons XVDLS		
Description	24 V, 4 W	120 V, 5 W	230 V, 5 W
References	**DL1BEBS**	**DL1BEGS**	**DL1BEMS**

XVC4 / XVC6

Mounting accessories		Tower lights Ø 40 mm, XVC4			Tower lights Ø 60 mm, XVC6		
Description		Support tube mounting			Support tube mounting	Base mounting	Support tube mounting
Diameter (mm)		Ø 90	Ø 84	–	Ø 100	Ø 84	–
For use with		–	–	–	XVC6●●and XVC6●●5S	XVC6●●K and XVC6●●5SK	XVC6B●and XVC6B●●5S, XVC6M●and XVC6M●5S
Height to be added (mm)		32	24,5	82	30	21,6	82
References	Metal fixing plate	**XVCZ11**	–	–	**XVCZ02**	**XVCZ12**	–
	Plastic fixing plate	–	**XVCZ01**	–	–	–	–
	Wall mounting bracket	–	–	**XVCZ31**	–	–	**XVCZ32**

XVC1

Mounting accessories		Tower lights Ø 100 mm, XVC1			
Description		Vertical support			
Diameter (mm)		Ø 140	Ø 140	–	–
For use with		XVC1●●K and XVC1●●SK	XVC1●●HK (with siren)	XVC1●●K and XVC1●●SK	XVC1●●HK (with siren)
Height to be added (mm)		300	306	–	–
References	Metal fixing plate (2)	**XVCZ13**	**XVCZ14**	–	–
	Metal fixing bracket	–	–	**XVCZ23**	**XVCZ24**

(2) Chromium plated-steel extension tube

Modular tower lights
Ø 70 mm, for customer assembly

Ø 70 mm / Up to IP66

Illuminated beacons XVBL		Steady light		Flashing light	
Light source		Incandescent BA 15d bulb, 10 W max. (not included)	Protected BA 15d LED (included)	Protected BA 15d LED (included)	"Flash" discharge tube 5 J (2)
Degree of protection		IP 66			
References (1)	12…250 V AC/DC	**XVBL3●**	–	–	–
	24 V AC/DC	–	**XVBL0B●**	**XVBL1B●**	**XVBL6B●**
	120 V AC	–	**XVBL0G●**	**XVBL1G●**	**XVBL6G●**
	230 V AC	–	**XVBL0M●**	**XVBL1M●**	**XVBL6M●**

Ø 70 mm / Up to IP66

Tower lights XVBC comprising 2 to 5 signalling units (3)		Base units	Steady light		Flashing light	"Flash" light	Audible units (90 db at 1 m)
Light source		–	Incandescent BA 15d bulb, 10 W max. (not included)	Integral protected LED	Integral protected LED	"Flash" discharge tube 5 J (2)	–
Degree of protection		IP 66					
Base unit references	with cover	**XVBC21** (4)	–	–	–	–	–
	without cover	**XVBC07** (5)	–	–	–	–	–
References (2)	12… 230 V AC/DC	–	**XVBC3●**	–	–	–	–
	24 V AC/DC	–	–	**XVBC2B●**	**XVBC5B●**	**XVBC6B●**	–
	120 V AC	–	–	**XVBC2G●**	**XVBC5G●**	**XVBC6G●**	–
	230 V AC	–	–	**XVBC2M●**	**XVBC5M●**	**XVBC6M●**	–
Audible unit references	12…48 V AC/DC	–	–	–	–	–	**XVBC9B**
unidirectional	120…230 V AC	–	–	–	–	–	**XVBC9M**

(1) To obtain the complete reference, replace the● by the number designating the colour as follow: 3 = green , 4 = red , 5 = orange, 6 = blue, 7 = clear, 8 = yellow.

(2) To order a lens unit with a **10 J** discharge tube, replace the number 6 by 8 in the reference (example: XVBL**6**B● becomes XVBL**8**B●).

(3) A tower light comprises: 1 base unit + 1 to 5 signalling units maximum.

(4) For connection on AS-Interface, order base unit XVBC21A (side cable entry) or XVBC21B (bottom cable entry with M12 connector on flying lead).

(5) For indicator banks with "flash" discharge tube unit.

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Other versions: **please consult our Customer Care Centre.**

Modular tower lights
Ø 70 mm, for customer assembly

Ø 70 mm / Up to IP54

Illuminated beacons XVEL		Steady light		Flashing light
Light source		Incandescent BA 15d bulb, 5 W max. (not included)	Integral LED	"Flash" discharge tube, 1 J
Degree of protection		IP 42/IP 54 (with sealing kit)		
References (1)	24… 240 V AC/DC	**XVEL3●**	–	
	24 V AC/DC	–	**XVEL2B●**	**XVEL6B●**
	120 V AC	–	**XVEL2G●**	**XVEL6G●**
	230 V AC	–	**XVEL2M●**	**XVEL6M●**

Ø 70 mm / Up to IP54

Indicator banks XVEC comprising 2 to 5 signalling units (2)		Base units	Steady light		Flashing light	"Flash" light	Audible units (85 db at 1 m)
Light source		–	Incandescent BA 15d bulb, 5 W max. (not included)	Integral LED	Integral LED	"Flash" discharge tube 1 J	–
Degree of protection		IP 42/IP 54 (with sealing kit)					
Base unit references	IP 42	**XVEC21**	–	–	–	–	–
	IP 54	**XVEC21P**	–	–	–	–	–
Lens unit references (1)	24…230 V AC/DC	–	**XVEC3●**	–			
	24 V AC/DC	–	–	**XVEC2B●**	**XVEC5B●**	**XVEC6B●**	**XVEC9B**
	120 V AC	–	–	**XVEC2G●**	**XVEC5G●**	**XVEC6G●**	**XVEC9G**
	230 V AC	–	–	**XVEC2M●**	**XVEC5M●**	**XVEC6M●**	**XVEC9M**

(1) To obtain the complete reference, replace the● by the number designating the colour as follow: 3 = green , 4 = red , 5 = orange, 6 = blue, 7 = clear, 8 = yellow.

(2) A tower light comprises: 1 base unit + 1 to 5 signalling units maximum.

Modular tower lights
Ø 50 mm for customer assembly

Ø 50 mm / IP65

Tower lights XVP comprising 2 to 5 signalling units (4), black clamping ring (5)		Base unit	Steady or flashing light signalling	"Flash" light signalling		Audible units (55…85 dB at 1 m)
Light source		–	Incandescent BA 15d bulb, 7 W max. (not included)	"Flash" discharge tube 0.3 J	"Flash" discharge tube 0.6 J	–
Degree of protection		IP 65				
Base unit	with cover	**XVPC21**	–	–	–	–
References (6)	250 V max.	–	**XVPC3●**	–	–	–
	24 V AC/DC (flash) - 24 V DC (buzzer)	–	–	**XVPC6B●**	–	**XVPC09B**
	120 V AC	–	–	–	**XVPC6G●**	**XVPC09G**
	230 V AC	–	–	–	**XVPC6M●**	**XVPC09M**

(4) A tower light comprises: 1 base unit + 1 to 5 signalling units maximum.

(5) To order products with a cream clamping ring, add the letter **W** to the end of the reference (example: base unit + green lens unit: XVPC21**W** + XVPC33**W** etc.).

(6) To obtain the complete reference, replace the● by the number designating the colour as follow: 3 = green , 4 = red , 5 = orange, 6 = blue, 7 = clear, 8 = yellow.

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Other versions: **please consult our Customer Care Centre.**

Modular tower lights accessories
For XVB, XVP, XVE

Bulbs		Beacons and tower lights XVB / XVP (1)			
Type of light source		Incandescent BA 15d base 7 W	Incandescent BA 15d base 10 W **(not XVP)**	LED (2) BA 15d base	Flashing LED (2) BA 15d base
References	12 V	**DL1BEJ**	**DL1BLJ**	–	–
	24 V	**DL1BEB**	**DL1BLB**	**DL1BDB●**	**DL1BKB●**
	48 V	**DL1BEE**	**DL1BLE**	–	–
	120 V	**DL1BEG**	**DL1BLG**	**DL1BDG●**	**DL1BKG●**
	230 V	**DL1BEM**	**DL1BLM**	**DL1BDM●**	**DL1BKM●**

(1) Tower lights XVP can be fitted with 5 W incandescent bulbs: see beacons XVDLS / XVE.

(2) To obtain the complete reference, replace the ● by the number designating the colour as follow: 1 = white, 3 = green , 4 = red , 5 = orange, 6 = blue, 8 = yellow.

Bulbs		Tower lights XVM / XVE			
Type of light source		Incandescent BA 15d base 5 W	LED (3) BA 15d base	Flashing LED (3) BA 15d base	"Flash" discharge tube, 0.8 Joule BA 15d base
References	24 V	**DL1EDBS**	**DL2EDB●**	**DL1EKB●**	**DL6BB**
	120 V	**DL1EDGS**	**DL2EDG●**	**DL1EKG●**	**DL6BG**
	230 V	**DL1EDMS**	**DL2EDM●**	**DL1EKM●**	**DL6BM**

(3) To obtain the complete reference, replace the ● by the number designating the colour as follows: 1 = white, 3 = green , 4 = red , 6 = blue, 8 = orange.

Mounting accessories		Beacons and tower lights XVB / XVE		Tower lights XVP	
Description		Aluminium tube with integral black plastic fixing base	Plastic tube with integral black plastic fixing base	Aluminium tube with integral black plastic fixing base	Aluminium tube with steel fixing bracket
Diameter (mm)		Ø 25	Ø 25	Ø 20	Ø 20
Support tubes	60 mm	**XVEZ13**	–	–	–
	100 mm	–	–	–	**XVPC02T**
	112 mm	–	–	**XVPC02** (4)	–
	120 mm	**XVBZ02**	–	–	–
	140 mm	–	**XVDC02**	–	–
	250 mm	–	–	–	**XVPC03T**
	260 mm	–	–	**XVPC03** (4)	–
	400 mm	–	–	–	**XVPC04T**
	410 mm	–	–	**XVPC04** (4)	–
	420 mm	**XVBZ03**	–	–	–
	820 mm	**XVBZ04**	–	–	–
Fixing plates,	for vertical support	**XVBC12**		**XVPC12** (4)	
	for horizontal support	**XVBZ01**		–	

(4) To order an aluminium support tube with integral cream fixing base, add the letter **W** to the end of the reference (example: XVPC02**W**).

1

Ø 84 / 106 mm

Complete, pre-wired rotating mirror beacons		Ø 84 mm		Ø 106 mm	
Light source (included)		" Super bright " LEDs			
Base mount		3 x Ø 05			
Buzzer		Without buzzer			
Degree of protection		IP23 (IP 65 with accessories)		IP23 (IP 65 with accessories)	
Voltage		12V AC/DC	12V AC/DC	12V AC/DC	12V AC/DC
References	Red	**XVR08J04**	**XVR08B04**	**XVR10J04**	**XVR10B04**
	Orange	**XVR08J05**	**XVR08B05**	**XVR10J05**	**XVR10B05**
	Green	**XVR08J03**	**XVR08B03**	**XVR10J03**	**XVR10B03**
	Blue	**XVR08J06**	**XVR08B06**	**XVR10J06**	**XVR10B06**

Ø 120 mm

Complete, pre-wired rotating mirror beacons		Ø 120 mm			
Light source (included)		" Super bright " LEDs			
Base mount		3 x M5			
Buzzer		Without buzzer		With buzzer	
Degree of protection		IP23			
Voltage		12V AC/DC	24V AC/DC	12V AC/DC	24V AC/DC
References	Red	**XVR12J04**	**XVR12B04**	**XVR12J04S**	**XVR12B04S**
	Orange	**XVR12J05**	**XVR12B05**	**XVR12J05S**	**XVR12B05S**
	Green	**XVR12J03**	**XVR12B03**	**XVR12J03S**	**XVR12B03S**
	Blue	**XVR12J06**	**XVR12B06**	**XVR12J06S**	**XVR12B06S**

Ø 130 mm

Complete, pre-wired rotating mirror beacons		Ø 130 mm				
Light source (included)		" Super bright " LEDs				
Base mount		3 x Ø 09				
Buzzer		Without buzzer				
Degree of protection		IP66 - Resistant to vibration		IP66 and IP67		
Voltage		12V DC	24V DC	24V AC/DC	120V AC	230V AC
References	Red	**XVR13J04**	**XVR13B04**	**XVR13B04L**	**XVR13G04L**	**XVR13M04L**
	Orange	**XVR13J05**	**XVR13B05**	**XVR13B05L**	**XVR13G05L**	**XVR13M05L**

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Other versions: **please consult our Customer Care Centre.**

Rotating mirror beacons accessories and sound solutions

Accessories for rotating mirror beacons

Accesories for rotating mirrors		Reflecting prism	Rubber base	Metal angle bracket	Metal fixing plate
To be used for/with		–	Increasing the IP	Horizontal support	Horizontal support
Height (mm)		–	–	–	300
References	Ø 84 mm	**XVRZR1**	**XVRZ081**	**XVCZ23**	–
	Ø 106 mm	**XVRZR2**	**XVRZ082**	**XVCZ23**	**XVCZ13**
	Ø 120 mm	**XVRZR3**	–	**XVCZ23**	**XVCZ13**
	Ø 130 mm	**XVRZR3**	–	**XVR012L**	–

Electronic alarms and multisound sirens

Sirens and electronic alarms		Sirens	Multisound sirens pre-wired	Electronic alarms Panel Mount DIN72		Electronic alarms Panel Mount DIN96	
Sound level		106 dB	105 dB	90 dB		96 dB	
Tones		2	43	16		16	
Channels		–	8	4		4	
Degree of protection		IP 65	IP53	IP 54		IP 54	
Colors		White	White	Black	White	Black	White
References	12/24V AC/DC	**XVS10BMW**	–	**XVS72BMB●**	**XVS72BMW●**	**XVS96BMB●**	**XVS96BMW●**
	12/24V DC	–	**XVS14BMW**	–	–	–	–
	120V AC	**XVS10GMW**	**XVS14GMW**	–	–	–	–
	230V AC	**XVS10MMW**	**XVS14MMW**	–	–	–	–

(1) To obtain a complete reference, replace the ● by the letter as follow: **P** = PNP, **N** = NPN (ex. XVS72BMB**P**)

Pendant control stations for control circuits

Ready to use

Type XACA "Pistol grip"

Degree of protection		IP 65 / Nema 4, 4X / Class II			
Rated operational characteristics		AC 15 (240 V 3 A), DC 13			
Conventional thermal current	Ithe	10 A			
Connection		Screw clamp terminals, 1 x 2.5 mm² or 2 x 1.5 mm²			
For control of		**single-speed motors**		**2-speed motors**	
Dimensions (mm)	W x H x D	52 x 295 x 71 (x 85 with ZA2BS834)		52 x 295 x 71 (x 85 with ZA2BS834)	
Number of operators	mechanically interlocked	**2**		**2**	
	Emergency stop	without	ZA2BS834	without	ZA2BS834
References		**XACA201**	**XACA2014**	**XACA207**	**XACA2074**

Type XACA

For control of single-speed motors					
Dimensions (mm)	W x H x D	80 x 314 x 70 (x 90 with ZA2BS834)		80 x 440 x 70 (x 90 with ZA2BS844)	
Number of operators	mechanically interlocked between pairs	**2**		**4**	
	Emergency stop	without	ZA2BS834	without	ZA2BS844
References		**XACA271H7**	**XACA2714H7**	**XACA471H7**	**XACA4714H7**

For control of single-speed motors				+ I / O	
Dimensions (mm)	W x H x D	80 x 500 x 70 (x 90 with ZA2BS844)		80 x 560 x 70	
Number of operators	mechanically interlocked between pairs	**6**		**8**	
	Emergency stop	without	ZA2BS844	without	
References		**XACA671H7**	**XACA6714H7**	**XACA871H7**	

Empty enclosures type XACA

Number of ways	2	3	4	5	6	8	12
References	**XACA02H7**	**XACA03H7**	**XACA04H7**	**XACA05H7**	**XACA06H7**	**XACA08H7**	**XACA12H7**

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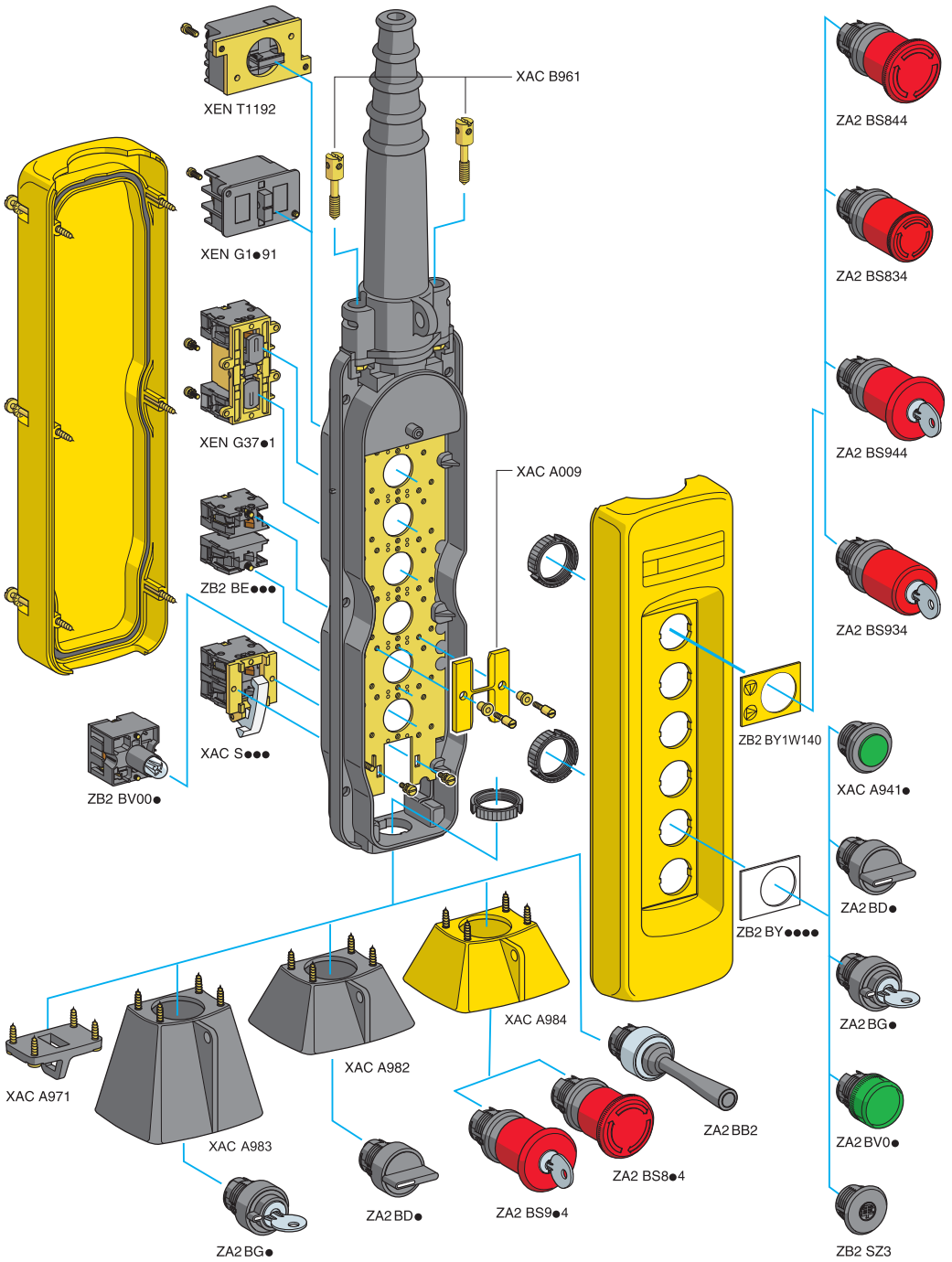
Other versions: **please consult our Customer Care Centre.**

Separate components (for mounting in enclosures XACA)



Mushroom head, latching, trigger action (1)		
turn to release	Ø 40	ZA2BS844
	Ø 30	ZA2BS834

Mushroom head, latching, trigger action (1)		
key release	Ø 40	ZA2BS944
	Ø 30	ZA2BS934

Booted operators		
white		XACA9411
black		XACA9412

Selector switch		
	2 pos. stay put	ZA2BD2
	3 pos. stay put	ZA2BD3

Key switch		
key n° 455	2 pos. stay put	ZA2BG4
	3 pos. stay put	ZA2BG5

Pilot light heads		
white		ZA2BV01
green		ZA2BV03
red		ZA2BV04
yellow		ZA2BV05
Pilot light bodies		
direct supply		ZB2BV006
direct supply, through resistor		ZB2BV007

Blanking plug	
with seal and fixing nut	ZB2SZ3

Isolating switch, slow break, for front mounting	
Emergency stop NC+NC+NC with positive opening operation	XENT1192

Double blocks latching, slow break	
Single-speed NO+NO	XENG3781
Single-speed NO+NC	XENG3791

Contact blocks (for mounting in enclosure base)	
NO	XACS101
NC+NO	XACS105

Contacts blocks for XACA941●	
Single-speed NC+NO	XENG1491
2-speed NC+NO+NO	XENG1191

Contact blocks	
Single-speed NO	ZB2BE101
Single-speed NC	ZB2BE102

Protective guard (for base mounted units)	
For selector switch	XACA982/983
For emergency stop pushbutton	XACA984

Legends, 30 x 40 mm	With symbols conforming to NF E 52-124							With text	
References	ZB2BY4901	ZB2BY4903	ZB2BY4907	ZB2BY4909	ZB2BY4913	ZB2BY4915	ZB2BY4930	ZB2BY2303	ZB2BY2304
References	ZB2BY2904	ZB2BY2906	ZB2BY2910	ZB2BY2912	ZB2BY2916	ZB2BY2918	ZB2BY2931	blank white or yellow background	ZB2BY1W140

(1) Trigger action mechanically latching Emergency stop pushbuttons conform to standards EN/IEC 60204-32, EN/ISO 13850, Machinery directive 2006/42/EC and standard EN/IEC 60947-5-5.

ZOOM

Vijeo Designer

Thanks to its intuitive design, Vijeo Designer - the single configuration software tool for Schneider Electric's entire HMI range - can process all your operator dialogue projects quickly and easily.

Magelis STO small graphic terminal configured by Vijeo Designer

The smallest-ever touch screen terminal

Magelis STO range is enlarged **with the support of Zelio and Ethernet protocols.**

Tool-free installation
- Terminals are mounted easily onto your enclosure using spring clips.

Exceptionally clear display
- Two monochrome versions are available in three colours - green/orange/red or white/pink/red - for enhanced readability. Several levels of grey, numerous character fonts and Vijeo Designer's extensive object library all help to provide exceedingly high-quality graphic animations.

One international software tool
- Available in more than 15 languages, all Vijeo Designer elements are available directly from the demonstration software via a simple download.

Ease of maintenance
- No batteries required, backlit by LEDs
- Removable power connector
- USB memory stick for application downloads

Communication capability
- Standard RJ45 serial port with Modbus, Zelio link, Ethernet protocols and other commercially-available third-party protocols
- 2 USB ports: 1 mini B port for downloading and 1 standard A port for USB memory stick and USB peripherals

For further informations, see page 1/36

Other versions: **please consult our Customer Care Centre.**

Industrial PC new generation : Magelis Box PC , Magelis Panel PC

Modular Design
- Box and Panel based on latest components, software bundles, scalable and consistent range, on demand configured iPC service

Certified for automation
- UL508, Haz. Loc, ATEX, Marine. Rugged, long term availability

Ready for integration in IT structure
- Main microsoft OS including Windows 7, Large data storage & connectivity, Multi-tasking capabilities

Optimized
- Optimum 10” and 15” Panel PC certified for automation

The new offer of Magelis iPC consists of :
- 4x Box PC (+ 1x 15” DC Display)
  - 1, 2, 5 slots and 2 performance levels
- 12x Panel PC
  - 10”, 15” (same cut-out as legacy), and 19”
  - 0, 2 slots and 3 performance levels

For further information, see page 1/44 to 1/47

Human/Machine Interfaces

Magelis, a complete offer of Human Machine Interfaces to meet your needs in a wide range of applications.

All in One	**Small Panels**	**Magelis STO/STU, XBT N**
	Advanced Panels	**Magelis XBT GT/GK/GTW/GH**
	HMI Controllers	**Magelis XBTGC**
	PC Panels	**Magelis Panel PC**
BOX	**PC BOX**	**Magelis Box PC**
Display	**Industrial Display**	**Magelis *i*Display**
Configuration Softwares	**Vijeo Designer Lite**	
	Vijeo Designer	

Other versions: **please consult our Customer Care Centre.**

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Human/Machine Interfaces

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For Magelis STO/STU, XBT GT, GK, GTW, GH, Panel PC, BOX PC

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Small Panels

Magelis STO/STU with graphic screen

Type		Characteristics				
Display	LCD screen size / Resolution	3.4" / monochrome (200 X 80 pixels)				
	Type	Green, orange, red	White, pink, red	Green, orange, red		
Functions	Representation of variables	Alphanumeric, bitmap, bargraph, gauge, button, light, clock, flashing light, keypad				
	Curves / Alarm logs	Yes, with log / Yes, incorporated				
Communication	Serial link	1 RJ45 (RS 232 - RS 485)		1 Terminal Block RS232		
	Networks	–	–	–	Ethernet	Ethernet
Downloadable protocols		Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Simatic), Uni-TE, Modbus, Modbus TCP		Zelio		
Development software		Vijeo Designer VJD●●●TG●V●●M (on Windows XP, Vista and 7) or Vijeo Designer Limited Edition				
Dimensions W x D x H (mm)		116,5 x 38,5 x 77,5				
Compatibility with PLCs		«Twido, Modicon TSX Micro, Modicon Premium, Modicon Quantum, Modicon M340»		Zelio		
«Compact Flash» card slot		No				
USB port		1 Host type A + 1 Device type miniB				
Built-in Ethernet TCP/IP		No			Yes	
Supply voltage		24 VDC				
References		**HMISTO511**	**HMISTO512**	**HMISTO501**	**HMISTO531**	**HMISTO532**

Type		Characteristics	
Display	LCD screen size / Resolution	3.5" / QVGA (320 X 240 pixels)	5.7" / QVGA (320 X 240 pixels)
	Type	TFT 65 536 colours	
Functions	Representation of variables	Alphanumeric, bitmap, bargraph, gauge, button, light, clock, flashing light, keypad	
	Curves / Alarm logs	Yes, with log / Yes, incorporated	
Communication	Serial link	1 RJ45 (RS 232 - RS 485)	
	Networks	Ethernet, IEEE 802.3, 10/100 BASE-T, RJ45	
Downloadable protocols		Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Simatic), Uni-TE, Modbus, Modbus TCP	
Development software		Vijeo Designer VJD●●●TG●V●●M (on Windows XP, Vista and 7) or Vijeo Designer Limited Edition	
Dimensions W x D x H (mm)		Front: 98 x 16 x 81	Front: 163 x 17.5 x 129.5
		Rear : 118 x 30 x 98	
Compatibility with PLCs		Twido, Modicon TSX Micro, Modicon Premium, Modicon Quantum, Modicon M340	
«Compact Flash» card slot		No	
USB port		1 Host type A + 1 Device type miniB	
Built-in Ethernet TCP/IP		Yes	Yes
Supply voltage		24 VDC	
References		**HMISTU655**	**HMISTU855**

Schneider Electric

Other versions: **please consult our Customer Care Centre.**

Small Panel

Magelis XBT N
with matrix, semi-graphic screen (1)

Type		Characteristics			
Display	**Capacity**	2 lines, 20 characters	1 to 4 lines, 5 to 20 characters		
	Type	Back-lit LCD green			Back-lit LCD 3 colours green, orange, red
Data entry		Via keypad with 8 keys (4 customizable keys)			
Function	Representation of variables	Alphanumeric	Alphanumeric, bargraph, curves, button and light		
	Alarm log	No	Yes	Yes	Yes
Communication	Serial link	1 RJ45 (RS 232 - RS 485)		1 Sub-D25 (RS 232 - RS 485) + 1 miniDin RS232 (2)	
Downloadable protocols		Uni-TE, Modbus Master		Uni-TE, Modbus Master, Siemens, Rockwell,Omron, Mitsubishi, Zelio (2)	
Development software		Vijeo Designer Lite (on Windows XP and Vista)			
Dimensions W x D x H (mm)		132 x 37 x 74			
Compatibility with PLCs		Twido, Modicon TSX Micro, Modicon Premium, Modicon M340		Twido, Modicon TSX Micro, Modicon Premium, Modicon Quantum, Modicon Momentum, Modicon M340, Zelio (2)	
Supply voltages		5 VDC or PLC power supply		24 VDC	
References		**XBTN200**	**XBTN400**	**XBTN410**	**XBTN401**

(1) Except XBTN200: alphanumeric screen.
(2) For XBTN401 only

Magelis XBT N
with matrix, semi-graphic screen, dedicated

Type		Characteristics
Display	**Capacity**	1 to 4 lines, 5 to 20 characters
	Type	Back-lit LCD green
Data entry		Via keypad with 8 keys
Function	Representation of variables	Alphanumeric, bargraph, curves, button and light
	Alarm log	Yes
Communication	Serial link	1 Sub-D25
Downloadable protocols		Modbus
Development software		Vijeo Designer Lite (on Windows XP and Vista)
Dimensions W x D x H (mm)		132 x 37 x 74
Compatibility with PLCs		Motor starter Tesys Model U
Supply voltages		24 VDC
References		**XBTNU400**

Advanced Panel

Magelis XBT GT with 3.8” touchscreen

Type		Characteristics		
Display	LCD screen size / Resolution	3.8” / QVGA		
	Type	STN monochrome, amber or red		TFT 256 colour
Functions	Representation of variables	Alphanumeric, bitmap, bargraph, gauge, button, light, clock, flashing light, keypad		
	Curves / Alarm logs	Yes, with log / Yes, incorporated		
Communication	Serial link	1 RJ45 (RS 232 - RS 485)		
	Networks	–	Ethernet, IEEE 802.3 10/100 BASE-T, RJ45	
Downloadable protocols		Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Simatic) Uni-TE, Modbus, Modbus TCP		
Development software		Vijeo Designer VJD●●●TG●V●●M (on Windows XP, Vista and 7)		
Dimensions W x D x H (mm)		118 × 30 × 98		
Compatibility with PLCs		Twido, Modicon TSX Micro, Modicon Premium, Modicon Quantum, Modicon M340		
«Compact Flash» card slot		No		
USB port Host type A		1	1	1
Built-in Ethernet TCP/IP		No	Yes	
Supply voltage		24 VDC		
References		**XBTGT1105**	**XBTGT1135**	**XBTGT1335**

Magelis XBT GT with 5.7” touchscreen

Type		Characteristics						
Display	LCD screen size / Resolution	5.7” / QVGA						5.7” / VGA
	Type	STN Monochrome Blue backlighting	STN Monochrome Black and White backlighting		STN, colour 4096 colours	TFT, colour 65536 colours	TFT, colour 65536 colours High brightness backlighting	
Functions	Representation of variables	Alphanumeric, bitmap, bargraph, gauge, button, light, clock, flashing light, keypad						
	Curves / Alarm logs	Yes, with log / Yes, incorporated						
Communication	Serial link	1 Sub-D9 (RS 232/RS 422 - RS 485) + 1 RJ45 (RS 485)						
	Networks	–		Ethernet, IEEE 802.3 10/100 BASE-T, RJ45	–	Ethernet, IEEE 802.3 10/100 BASE-T, RJ45	Ethernet 10/100 BASE-T	Ethernet, IEEE 802.3 10/100 BASE-T, RJ45
Downloadable protocols		Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Simatic) Uni-TE, Modbus, Modbus TCP/IP						
Development software		Vijeo Designer VJD●●●TG●V●●M (on Windows XP, Vista and 7)						
Dimensions W x D x H (mm)		167.5 x 60 x 135						
Compatibility with PLCs		Twido, Modicon TSX Micro, Modicon Premium, Modicon Quantum, Modicon M340, Modicon Momentum						
«Compact Flash» card slot		No	Yes					
USB port Host type A		1						2
Video in		No						
Built-in Ethernet TCP/IP		No	No	Yes	No	Yes	Yes	Yes
Supply voltage		24 VDC						
References		**XBTGT2110**	**XBTGT2120**	**XBTGT2130**	**XBTGT2220**	**XBTGT2330**	**XBTGT2930**	**XBTGT2430**

Other versions: **please consult our Customer Care Centre.**

Advanced Panel

Magelis XBT GT with 7.5” and 10.4” touchscreen

Type		Characteristics						
Display	LCD screen size / Resolution	7.5” / VGA			10.4” / VGA			10,4” / SVGA
	Type (colour)	STN	TFT	TFT	STN	TFT	TFT	TFT
	Number of colours	4096	65536	65536	4096	65536	65536	65536
Functions	Representation of variables	Alphanumeric, bitmap, bargraph, gauge, button, light, clock, flashing light, keypad						
	Curves / Alarm logs	Yes, with log / Yes, incorporated						
Communication	Serial link	1 Sub-D9 (RS 232/RS 422 - RS 485) + 1 RJ45 (RS 485)						
	Networks	Ethernet, IEEE 802.3 10/100 BASE-T, RJ 45						
Downloadable protocols		Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Simatic) Uni-TE, Modbus, Modbus TCP/IP						
Development software		Vijeo Designer VJD●●●TG●V●●M (on Windows XP, Vista and 7)						
Dimensions W x D x H (mm)		215 x 60 x 170			313 x 56 x 239	271 x 57 x 213		
Compatibility with PLCs		Twido, Modicon TSX Micro, Modicon Premium, Modicon Quantum, Modicon M340						
«Compact Flash» card slot		Yes						
USB port Host type A		1	1	1	2	2	2	2
Video in		No	No	Yes	No	No	Yes	No
Built-in Ethernet TCP/IP		Yes						
Supply voltage		24 VDC						
References		**XBTGT4230**	**XBTGT4330**	**XBTGT4340**	**XBTGT5230**	**XBTGT5330**	**XBTGT5340**	**XBTGT5430**

Magelis XBT GT with 12.1” and 15” touchscreen

Type		Characteristics		
Display	LCD screen size / Resolution	12,1” / SVGA		15” / XGA
	Type (colour)	TFT	TFT	TFT
	Number of colours	65536	65536	65536
Functions	Representation of variables	Alphanumeric, bitmap, bargraph, gauge, button, light, clock, flashing light, keypad		
	Curves / Alarm logs	Yes, with log / Yes, incorporated		
Communication	Serial link	1 Sub-D9 (RS 232/RS 422 - RS 485) + 1 RJ45 (RS 485)		
	Networks	Ethernet, IEEE 802.3 10/100 BASE-T, RJ 45BASE-T, RJ 45		
Downloadable protocols		Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Simatic) Uni-TE, Modbus, Modbus TCP/IP		
Development software		Vijeo Designer VJD●●●TG●V●●M (on Windows XP, Vista and 7)		
Dimensions W x D x H (mm)		313 x 56 x 239		395 x 60 x 294
Compatibility with PLCs		Twido, Modicon TSX Micro, Modicon Premium, Modicon Quantum, Modicon M340		
«Compact Flash» card slot		Yes		
USB port Host type A		2		
Video in		No	Yes	Yes
Built-in Ethernet TCP/IP		Yes		
Supply voltage		24 VDC		
References		**XBTGT6330**	**XBTGT6340**	**XBTGT7340**

Advanced Panel

Magelis XBT GK with touchscreen and keypad

Type		Characteristics		
Display	Screen size / Resolution	5.7" / QVGA		10.4" / VGA
	Type	STN monochrome black and white	TFT Colour 65536 colours	
Data entry	Soft function keys with LED	14		18
	Static function keys with LED	10 + legends		12 + legends
	Service keys / Alphanumeric keys	8 / 12		
	Touchscreen and industrial pointer	Yes		
Functions	Representation of variables	Alphanumeric, bitmap, bargraph, gauge, button, light, clock, flashing light, keypad		
	Curves	Yes, with log		
	Alarm logs	Yes		
Communication	Serial link	1 Sub-D9 (RS 232/RS 422 - RS 485) + 1 RJ45 (RS 485)		
	Networks	–	Ethernet, IEEE 802.3 10/100 BASE-T, RJ 45	
Downloadable protocols		Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Simatic) Uni-TE, Modbus, Modbus TCP/IP		
Development software		Vijeo Designer VJD●●●TG●V●●M (on Windows XP, Vista and 7)		
«Compact Flash» card slot		Yes		
Dimensions W x D x H (mm)		220.3 x 88 x 265	296 x 91 x 332	197 x 92.6 x 147
Compatibility with PLCs		Twido, Modicon TSX Micro, Modicon Premium, Modicon Quantum, Modicon M340		
USB port		1	1	2
Video in		No	No	No
Built-in Ethernet TCP/IP		No	Yes	
Supply voltage		24 VDC		
References		**XBTGK2120**	**XBTGK2330**	**XBTGK5330**

Magelis XBT GTW with 8.4", 12", 15" touchscreen

Type	Characteristics		
Pre-installed Software	OS: Windows XP Embedded, Internet Explorer, Office & Acrobat Reader, .NET, Vijeo Designer Run Time unlimited		
	–	Vijeo Citect Web Client	
Touchscreen	8.4" LCD TFT	12" LCD TFT	15" LCD TFT
Resolution	SVGA 800 x 600	SVGA 800 x 600	XGA 1024 x 768
Font panel ports	–	1 x USB	1 x USB
Processor	Celeron M @ 600 MHz	Celeron M @ 1GHz	Celeron M@1GHz
RAM	512MB ► 1024MB	512MB ► 1024MB	1024MB
Storage	CF 2GB expandable to 4GB	CF 2GB expandable to 4GB	CF 4GB
Extension	–	1 x PCMCIA slot (for 1 type II card)	1 PCMCIA slot (for 1 type III card or 2 type I cards)
Ethernet ports	2 (10/100/1G + 10/100)	2 (10/100/1G + 10/100)	2 (10/100/1G + 10/100)
Ports I/O	4 x USB, 2 x RS232	4 x USB, 1 x RS232	4 x USB, 2 x RS232
Power supply	24 VDC	24 VDC	24 VDC
Dimension	230 x 65 x 177	313 x 60 x 239	395 x 65 x 294
References	**XBTGTW450**	**XBTGTW652**	**HMIGTW7353**

Other versions: **please consult our Customer Care Centre.**

Advanced Panel

Magelis XBT GH with 5.7” touchscreen

Type + Screen		Characteristics
Display	screen size / Resolution	5,7” / VGA
	Type (colour)	TFT
	Number of colours	65 536
Data entry	Function keys	11 + label
	Operaton key	1 with LED (validation touchscreen)
Safety components	Key Switch	Yes for ON/OFF
	3 positions Enable switch	Yes, OK signal in intermediate position only
	Emergency stop	Yes, red with 2 safe contacts and one auxiliary contact
Functions	Representation of variables	Alphanumeric, bitmap, bargraph, gauge, button, light, clock, flashing light, keypad
	Curves / Alarm historic	Yes, with log / Yes, incorporated
Connection		32-pins connector (communication, alimentation, I/O)
Downloadable protocols		Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Simatic) Uni-TE, Modbus, Modbus TCP/IP
Development software		Vijeo Designer VJD●●●TG●V●●M (on Windows XP, Vista and 7)
«Compact Flash» card slot		Yes
Dimensions W x D x H (mm)		224 x 174 x 87.1
USB port		1
Supply voltage		24 VDC
Reference		**XBT GH2460**

+ Cable interface	connection with junction box		
Type of connector	2 x 32-pins speed connectors		
Length	3 m	5 m	10 m
Reference	**XBTZGHL3**	**XBTZGHL5**	**XBTZGHL10**

+ Junction box		connection with PLCs
Communcation	Serial link	1 SubD9 (RS232 / RS422 - RS 425)
	Network	1 Ethernet RJ45 IEEE 802.3 10/100 T-BASE,
Connection	32 pins connector	Interface cable 3 or 10 m
	24 pins screw terminals blocks	For alimentation 24 VDC, state of I/O safety components
Reference		**XBTZGJBOX**

A large number of accessories (cables, memory cards, protective sheets, etc ...) is available for the Advanced panels range.

Certification marine* CE UL Class 1 Div 2 CSA PCT ME25 C-Tick Ex Catégorie 3 RoHS

HMI Controllers

Magelis XBT GC
Compact HMI Controller

Type		Characteristics		
Display	LCD screen size / Resolution	3,8" / QVGA	5,7" / QVGA	
	Type	STN monochrome, amber or red	STN monochrome, gray	STN 4096 colours
Functions	Representation of variables	Alphanumeric, bitmap, bargraph, gauge, button, light, clock, flashing light, keypad		
	Curves / Alarm logs	Yes, with log / Yes, incorporated		
	Control	5 languages IEC		
Communication	Serial link	–	1 Sub9 (RS 232/RS 422 - RS 485)	
	Networks	–	–	Ethernet, IEEE 802.3 10/100 BASE-T, RJ45
Downloadable protocols		Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Simatic) Uni-TE, Modbus, Modbus TCP		
Development software		SoMachine (on Windows XP and Vista)		
Dimensions W x D x H (mm)		130 x 76 x 104	207 x 76 x 157	
Compatibility with PLCs		Twido, Modicon TSX Micro, Modicon Premium, Modicon Quantum, Modicon M340		
«Compact Flash» card slot		No		
USB port Host type A		1	1	1
Built-in Ethernet TCP/IP		No	No	Yes
Integrated I/O		12I/6O 24 VDC	16I/16O 24 VDC	
Extensions		2 modules TM2 or CANopen module	3 modules TM2 or CANopen module	
Supply voltage		24 VDC		
References	Source Output	**XBTGC1100T**	**XBTGC2120T**	**XBTGC2230T**
	Sink Output	**XBTGC1100U**	**XBTGC2120U**	**XBTGC2230U**

Extensions

Type of module	CANopen Master
Characteristics	Class M10 limited 16 slaves, Standard DS301 V4.O2
References	**XBTZGCCAN**

Type of module	Digitals Inputs / Outputs						
Characteristics	8I 24 VDC Screw terminal	16I 24 VDC Screw terminal	16I 24 VDC HE10	32I 24 VDC HE10	8I 120 VAC Screw terminal	4I 24 VDC 4O Relays Screw terminal	16I 24 VDC 8O Relays Screw terminal
References	**TM2DDI8DT**	**TM2DDI16DT**	**TM2DDI16DK**	**TM2DDI32DK**	**TM2DAI8DT**	**TM2DMM8DRT**	**TM2DMM24DRF**

Type of module		Digitals Inputs / Outputs				
Characteristics		8O Transistor 24 VDC Screw terminal	16O Transistor 24 VDC HE10	32O Transistor 24 VDC HE10	8O Relays 230 VAC 30 VDC Screw terminal	16O Relays 230 VAC 30 VDC Screw terminal
References	Source Output	**TM2DD08TT**	**TM2DD016TK**	**TM2DD032TK**	**TM2DRA8RT**	**TM2DRA16RT**
	Sink Output	**TM2DD08UT**	**TM2DD016UK**	**TM2DD032UK**	–	–

Type of module	Analog Inputs / Outputs					
Characteristics	2I Current/Voltage	2I Thermocouple	4I Current/Voltage Temperature	8I Current/Voltage	8I Temperature	8I PTC
References	**TM2AMI2HT**	**TM2AMI2LT**	**TM2AMI4LT**	**TM2AMI8HT**	**TM2ARI8LRJ** **TM2ARI8LT**	**TM2ARI8HT**

Type of module	Analog Inputs / Outputs				
Characteristics	1O Current/Voltage	2O Voltage	2I Current/Voltage 1O Current/Voltage	2I Temperature 1O Current/Voltage	4I Current/Voltage 2O Current/Voltage
References	**TM2AMO1HT**	**TM2AVO2HT**	**TM2AMM3HT**	**TM2ALM3LT**	**TM2AMM6HT**

Schneider Electric

Other versions: **please consult our Customer Care Centre.**

HMI Controllers

Magelis XBTGT/GK with control function
Modular HMI Controller

Type		Characteristics	
Display	LCD screen size / Resolution	5.7” / QVGA to 10,4” / VGA	«5.7” (QVGA/VGA), 7.5” (VGA), 10.4” (VGA/SVGA), 12.1” (SVGA), 15” (XGA)»
	Type	STN monochrome or TFT color	STN monochrome, STN 4096 colors, TFT 65000 colors
Functions	Representation of variables	Alphanumeric, bitmap, bargraph, gauge, button, light, clock, flashing light, keypad	
	Curves / Alarm logs	Yes, with log / Yes, incorporated	
	Control	5 languages IEC	
Communication	Serial link	1 RJ45 (RS 485) + 1 Sub9 (RS 232/RS 422 - RS 485)	
	Networks	Ethernet, IEEE 802.3 10/100 BASE-T, RJ45 depending on model	
Downloadable protocols		Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Simatic), Uni-TE, Modbus, Modbus TCP	
Development software		SoMachine (under Windows XP and Vista)	
Dimensions W x D x H (mm)		Depending on model	
Compatibility with PLCs		Twido, Modicon TSX Micro, Modicon Premium, Modicon Quantum, Modicon M340	
«Compact Flash» card slot		Yes	
USB port		1 or 2	
Built-in Ethernet TCP/IP		Depending on model	
Built-in I/O		No	
Extensions		CANopen module mandatory	
Supply voltage		24 VDC	
References		**XBTGK2●/53** (1)	**XBTGT2●/4●/5●/63/73** (2)

(1) for detailled references, see p37
(2) for detailled references, see p35-36

Control extension

Type of module	CANopen Master
Characteristics	Class M10 limited 16 slaves, Standard DS301 V4.O2
Reference	**XBTZGCANM**

PC BOX

Magelis Box PC

	Box PC Universal				
CPU & RAM types	Atom N270 1,6 Ghz Fanless with DDR2 RAM				
PCI Slots	1 PCI			2 (1 PCI + 1 PCIe)	
Operating System	WES 2009	XP PRO SP3			
Storage	CF =< 4Gb (SLC)	Flash Disk =<32Go (SSD SLC)	HDD =<250Go	Flash Disk =<32Go (SSD SLC)	HDD =<250Go
Integrated DVD-RW	–			1	
Slide-in	1 for storage			1 for storage + 1 for DVD-RW (or for storage with adapter)	
Power supply	24V DC				
Integrated ports	2 Ethernet Gibabit, 5 USB, 2 RS232, 1 DVI				
Optional	Battery-backup*, additional RS232/485 port, additional DVI for Box PC 2 slots, redundant RAID HDD by PCI				
Overall dimensions (WxHxD in mm)	82x270x251			121x270x251	
Industrial Certifications	CE, UL508 industrial control, cUL, ANSI/ISA 12.12.01 for hazardous locations, Gost, C-Tick				
Marine certification	Germany Loyd with power filter		–	Germany Loyd with power filter	–
Vijeo Designer	Vijeo Designer Run Time demo. Unlimited licence to be ordered separatly (VJDSNRTMPC)				
1GB RAM	**HMIBUCND1E01**	**HMIBUFND1P01**	**HMIBUHND1P01**	**HMIBUFND2P01**	**HMIBUHDD2P01**
Vijeo Citect Full 500 I/0, 2Gb RAM	–	**HMIBUFND17F1**		**HMIBUFND2PF1**	–

Configured iPC service *Other configurations on request. Please consult our Customer Care Center.

	Box PC Performance			
CPU & RAM types	Core 2 Duo 2,26 Ghz Fan, with DDR3 RAM			
PCI Slots	2 (1 PCI + 1 PCIe)		5 (2 PCI + 3 PCIe)	
Operating System	Windows 7 64 bits Ultimate			
Storage	Flash Disk =<32Go (SSD SLC)	HDD =<250Go	Flash Disk =<32Go (SSD SLC)	HDD =<250Go
Integrated DVD-RW	1			
Slide-in	1 for storage + 1 for DVD-RW (or for storage with adapter)			
Power supply	24V DC			
Integrated ports	2 Ethernet Gibabit, 5 USB, 2 RS232, 1 DVI			
Optional	Battery-backup*, additional RS232/485 port, additional DVI, redundant RAID HDD by PCI			
Overall dimensions (WxHxD in mm)	121x270x251		217x270x251	
Industrial Certifications	CE, UL508 industrial control, cUL, ANSI/ISA 12.12.01 for hazardous locations, Gost, C-Tick			
Marine certification	–			
Vijeo Designer	Vijeo Designer Run Time demo. Unlimited licence to be ordered separatly (VJDSNRTMPC)			
2Gb RAM	**HMIBPFDD2701**	**HMIBPHDD2701**	**HMIBPFDD5701**	**HMIBPHDD5701**
Vijeo Citect Full 500 I/0, 4Gb RAM	**HMIBPFDD27F1**	–	**HMIBPFDD57F1**	–

Configured iPC service *Other configurations on request. Please consult our Customer Care Center.

Industrial Display

Magelis *i*Display with 15”, 19” touchscreen

		15” touch & keypad	15” touch	15” Touch DC	19” touch
Touchscreen		15” LCD TFT	15” LCD TFT	15” LCD TFT	19” LCD TFT
Resolution		XGA 1024x768	XGA 1024x768	XGA 1024x768	SXGA 1280x1024
Front side port		1 x USB	1 x USB	2 x USB	1 x USB
Video ports		1 x VGA & 1 x DVI	1 x VGA & 1 x DVI	2 x VGA & 1 x DVI	1 x VGA & 1 x DVI
Touchscreen ports		1 x USB & 1 x RS 232	1 x USB & 1 x RS 232	2 x USB & 1 x RS 232	1 x USB & 1 x RS 232
Certification		UL508, CSA	UL508, CSA	UL508, CSA	UL508, CSA
Dimensions W x D x H (mm)		483 x 65 x 365	395 x 60 x 294	395 x 60 x 294	460 x 65 x 390
References	AC	**MPCNB50NAN00N**	**MPCYT50NAN00N**	–	**MPCYT90NAN00N**
	DC	–	–	**HMIDID7DT0**	–

PC Panel

Magelis Panel PC 10”, 15”

	Optimum Panel PC 10”	Optimum Panel PC 15”
Touch screen	10” LCD TFT with LED, IP65	15” LCD TFT with LED, IP65
Resolution	SVGA 800x600, 16 Million colors	XGA 1024x768, 16 Million colors
CPU	Atom Z510 1,1 Ghz Fanless	
Operating System	WES 2009	
RAM	1 GB DDR2	
OS storage	CF 2Gb (SLC)	
User storage	SD card	
Power supply	24V DC	
Intergated ports	2 x Ethernet Gibabit, 1 USB front + 2, 1 RS232	
Overall dimensions (WxHxD in mm)	323x260x72	402x301x72
Industrial Certifications	CE, UL508 industrial control, cUL, ANSI/ISA 12.12.01 for hazardous locations, Gost, C-Tick,	
Marine certification		Germany Loyd with power filter
Software	Office & PDF readers, Internet browser, .Net 3.5, Vijeo Designer RT demo (Unlimited licence to be ordered separatly VJDSNRTMPC), Vijeo Citect web client	
Part number	**HMIPWC 5D0E01**	**HMIPWC 7D0E01**
Part Number GTW	**HMIGTW 5354**	**HMIGTW 7354**

	Panel PC Universal 15”				
Touch screen	15” LCD TFT with LED backlight, IP65, same cut-out than legacy				
Resolution	XGA 1024x768, 16 Million colors				
CPU & RAM types	Atom N270 1,6 Ghz Fanless with DDR2 RAM				
PCI Slots	–			2 (1 PCI + 1 PCIe)	
Operating System	WES 2009	XP PRO SP3			
Storage	CF =< 4Gb (SLC)	Flash Disk =<32Go (SSD SLC)	HDD =<250Go	Flash Disk =<32Go (SSD SLC)	HDD =<250Go
Integrated DVD-RW	–			1	
Slide-in	1 for storage			1 for storage + 1 for DVD-RW (or for storage with adapter)	
Integrated ports	2 Ethernet Gibabit, 1 front USB + 4 USB, 2 RS232, 1 DVI				
Optional	Battery-backup*, additional RS232/485 port*			+ redundant RAID HDD by PCI	
Overall dimensions (WxHxD in mm)	402x301x104			402x301x153	
Industrial Certifications	CE, UL508 industrial control, cUL, ANSI/ISA 12.12.01 for hazardous locations, Gost, C-Tick,				
Marine certification	Germany Loyd with power filter		–		
Vijeo Designer	Vijeo Designer Run Time demo. Unlimited licence to be ordered separatly (VJDSNRTMPC)				
1GB RAM - DC power supply	**HMIPUC7D0E01**	**HMIPUF7D0P01**	**HMIPUH7D0P01**	–	**HMIPUH7D2P01**
Vijeo Citect Lite 1200 I/0, 2Gb RAM - DC	–	**HMIPUF7D0PL1**	–	–	–
1Gb RAM - AC power supply	–	**HMIPUF7A0P01**	**HMIPUH7A0P01**	**HMIPUF7A2P01**	**HMIPUH7A2P01**
Vijeo Citect Full 500 I/0, 2Gb RAM - AC	–	–	–	**HMIPUF7A2PF1**	–
Configured iPC service	*Other configurations on request. Please consult our Customer Care Center.				

	Panel PC Performance 15”			
Touch screen	15” LCD TFT with LED backlight, IP65, same cut-out than legacy			
Resolution	XGA 1024x768, 16 Million colors			
CPU & RAM types	Core 2 Duo 2,26 Ghz Fan, with DDR3 RAM			
PCI Slots	–		2 (1 PCI + 1 PCIe)	
Operating System	Windows 7 64 bits Ultimate			
Storage	Flash Disk =<32Go (SSD SLC)	HDD =<250Go	Flash Disk =<32Go (SSD SLC)	HDD =<250Go
Integrated DVD-RW	–		1	
Slide-in	1 for storage		1 for storage + 1 for DVD-RW (or for storage with adapter)	
Integrated ports	2 Ethernet Gibabit, 1 front USB + 4 USB, 2 RS232, 1 DVI			
Optional	Battery-backup*, add. RS232/485 port*		+ redundant RAID HDD by PCI	
Overall dimensions (WxHxD in mm)	402x301x118		402x301x168	
Industrial Certifications	CE, UL508 industrial control, cUL, ANSI/ISA 12.12.01 for hazardous locations, Gost, C-Tick,			
Vijeo Designer	Vijeo Designer Run Time demo. Unlimited licence to be ordered separatly (VJDSNRTMPC)			
2Gb RAM - DC power supply	**HMIPPF7D0701**	**HMIPPH7D0701**	–	**HMIPPH7D2701**
2Gb RAM - Battery back-up interface - DC	–	–	–	**HMIPPH7B2701**
Vijeo Citect Full 500 I/0, 4Gb RAM - DC	**HMIPPF7D07F1**	–	–	–
2Gb RAM - AC power supply	–	**HMIPPH7D0701**	**HMIPPF7A2701**	**HMIPPH7A2701**
Vijeo Citect Full 500 I/0, 4Gb RAM - AC	–	–	**HMIPPF7A27F1**	–
Configured iPC service	*Other configurations on request. Please consult our Customer Care Center.			

Panel PC Universal 19”

19” LCD TFT with LED backlight, IP65				
SXGA 1280x1024, 16 Million colors				
Atom N270 1,6 Ghz Fanless with DDR2 RAM				
–			2 (1 PCI + 1 PCIe)	
WES 2009	XP PRO SP3			
CF =< 4Gb (SLC)	Flash Disk =<32Go (SSD SLC)	HDD =<250Go	Flash Disk =<32Go (SSD SLC)	HDD =<250Go
–			1	
1 for storage			1 for storage + 1 for DVD-RW (or for storage with adapter)	
2 Ethernet Gibabit, 1 front USB + 4 USB, 2 RS232, 1 DVI				
Battery-backup*, additional RS232/485 port*			+ redundant RAID HDD by PCI	
480x380x114			480x380x153	
CE, UL508 industrial control, cUL, ANSI/ISA 12.12.01 for hazardous locations, Gost, C-Tick,				
Germany Loyd with power filter		–		
Vijeo Designer Run Time demo. Unlimited licence to be ordered separatly (VJDSNRTMPC)				
HMIPUC9D0E01	**HMIPUF9D0P01**	**HMIPUH9D0P01**	–	**HMIPUH9D2P01**
–	**HMIPUF9D0PL1**	–	–	–
–	–	**HMIPUH9A0P01**	**HMIPUF9A2P01**	**HMIPUH9A2P01**
–	–	–	**HMIPUF9A2PF1**	–

*Other configurations on request. Please consult our Customer Care Center.

Panel PC Performance 19”

19” LCD TFT with LED backlight, IP65			
SXGA 1280x1024, 16 Million colors			
Core 2 Duo 2,26 Ghz Fan, with DDR3 RAM			
–		2 (1 PCI + 1 PCIe)	
Windows 7 64 bits Ultimate			
Flash Disk =<32Go (SSD SLC)	HDD =<250Go	Flash Disk =<32Go (SSD SLC)	HDD =<250Go
–		1	
1 for storage		1 for storage + 1 for DVD-RW (or for storage with adapter)	
2 Ethernet Gibabit, 1 front USB + 4 USB, 2 RS232, 1 DVI			
Battery-backup*, add. RS232/485 port*		+ redundant RAID HDD by PCI	
480x380x129		480x380x168	
CE, UL508 industrial control, cUL, ANSI/ISA 12.12.01 for hazardous locations, Gost, C-Tick,			
Vijeo Designer Run Time demo. Unlimited licence to be ordered separatly (VJDSNRTMPC)			
HMIPPF9D0701	**HMIPPH9D0701**	–	**HMIPPH9D2701**
–	–	–	–
HMIPPF9D07F1	–	–	–
–	**HMIPPH9A0701**	**HMIPPF9A2701**	**HMIPPH9A2701**
–	–	**HMIPPF9A27F1**	–

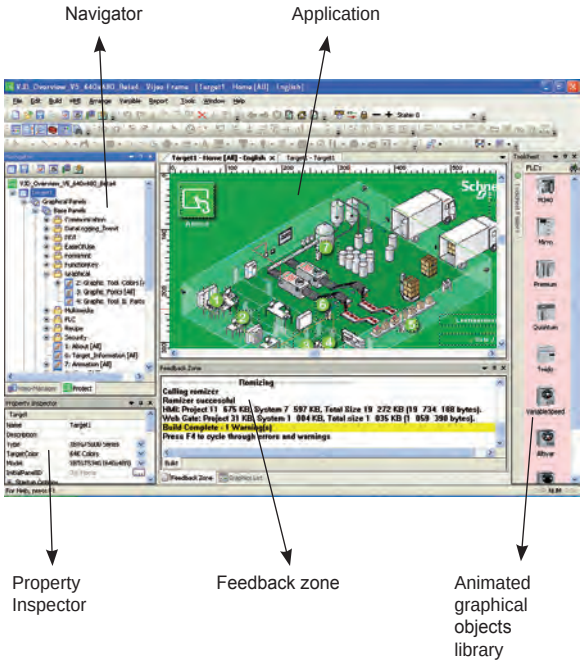
*Other configurations on request. Please consult our Customer Care Center.

Vijeo Designer

Configuration software

Magelis STO/STU, XBT GT, GK, GTW, GH
Magelis Box PC and Panel PC

1



Vijeo Designer configuration software enables creation of automated system control operator dialogue applications for Magelis STO/STU, XBT GT, GK, GTW, GH terminals, Box PC and Panel PC. It also enables management of the multimedia functions of XBT GTW and Smart & Compact **iPC** (video and audio) and offers users of Ethernet terminals and **iPC** remote access via a Web browser (WEB Gate function).

Configuration

Vijeo Designer configuration software enables fast, simple processing of operator dialogue projects thanks to its ergonomics, developed around 6 configurable windows.
It also offers comprehensive application management tools:
. Project creation; projects comprising one or several targets (terminal or **iPC**).
. Recipe editor (32 groups of 256 recipes of max. 1024 ingredients).
. User action list (eg. script) for application adaptability.
. Application variable cross-referencing.
. Vectorial graphic library for more attractive graphic screens.
. Application block diagram documentation.
. Simulation mode for simple design office application testing.
. High-performance graphic editor for simple block diagram creation (over 30 animated preconfigured generic objects).
. Support of layers and masks for faster development.
. Data sharing (up to 300 variables on 8 terminals).
. Management of 40 alphabets (including simplified Chinese, Korean, Arabic and Hebrew) with the opportunity to have 15 languages per application and dynamic change.
. Programmable controller database sharing (Unity Pro, PL7, Concept, TwidoSoft, ProWORX, ModSoft), process variables or operators actions
. Advanced traceability function (periodic, at event or on request).
. Project backup on terminal for simple maintenance.
. User-friendly data recovery tool.
. Support of standard USB peripherals (USB key up to 4 GB).
. Support of external USB keyboards and mice.
. Integration with Schneider Electric equipment (buffer diag., variables access, Unity DDT and unlocated variables.)
. Event-triggered e-mail funtion
. Over 35 third party protocols
. Multilingual software : English, French, German, Italian, Spanish, Portuguese and Simplified Chinese.
. Printing function

The Vijeo Designer Limited Edition, free access allows you to configure the Magelis STO/STU.

Industrial intelligence option: Intelligent Data Service

Intelligent Data Service (IDS) is an extension of Vijeo Designer for the PC (Magelis or standard PC) which supports the implementation of control solutions for one or a number of terminals (up to 8). This extension offers total traceability. Both process variables and operator actions are tracked so that the right decisions can be made at the right time (Industrial Business Intelligence).
Powerful Data can be collected from multiple terminals via Ethernet without impairing HMI reaction times.
Flexible Various storage methods are supported, CSV file can be read directly in MS Excel, recording in user-defined format in an SQL database or secure IDV (Intelligent Data Vault) files to ensure compatibility with the requirements of 21 CFR Part 11.

Intelligent Data Service Report Printing option

Intelligent Data Service (IDS) Report Printing is an extension of Intelligent Data Service for the PC (Magelis or Standard PC).
This extension allows you to create new reports “from scratch” and link them to IDS data.
In addition to editing functions, IDS Report Printing allows you to preview the report before printing, print it or save it to file on disk.

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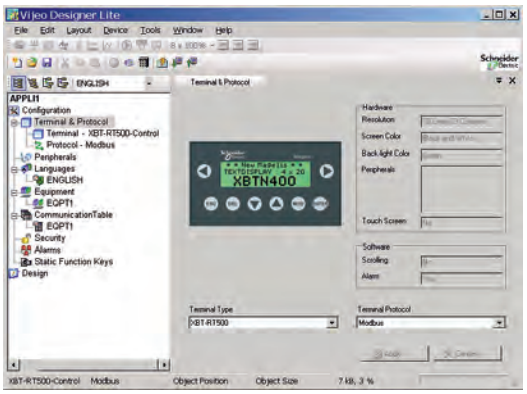
Other versions: **please consult our Customer Care Centre.**

Vijeo Designer Lite — Configuration software

Magelis XBT N



Vijeo Designer Lite configuration software enables the creation of simple operator dialogue applications on Magelis XBT N, Small Panel ranges.
It also enables transparent recovery of all applications produced using its predecessor: XBT L1000.
For simplified installation and improved consistency, Vijeo Designer Lite retains the main characteristics of Vijeo Designer software (ergonomics, interface ...) which has become the reference in the HMI field.

Configuration

Vijeo Designer Lite software enables fast and easy creation of different types of pages (application page, alarm pages, help pages...) and the installation of navigation between pages.
It offers:
- Character fonts Byzantine, simplified Chinese, Cyrillic, Japanese
- Project reports
- Application simulation on PC
- Six languages : English, French, German, Italian, Spanish and Chinese.

Selection guide for Vijeo Designer Lite

Number of licenses	Composition	References
Single (1)	Without cable With USB cable	VJDSNDTMSV●●M VJDSUDTMSV●●M

Software is delivered on CD-ROM and can be executed under Windows 2000, XP and Vista.
●● represents version number.

Selection guide for Vijeo Designer

Number of licences	Composition	References
Single (1)	No cable With USB cable	VJDSNDTGSV●●M VJDSUDTGSV●●M
Group (3)	No cable	VJDGNDTGSV●●M
Team (10)	No cable	VJDTNDTGSV●●M
Facility (Unlimited)	No cable	VJDFNDTGSV●●M

The software is supplied on DVD and runs under Windows® XP and Windows 7.
●● represent the version number.

Run Time on Magelis IPC

Single (1)	VJDSNRTMPC

Run Time Intelligent Data Service

Single (1)*	VJDSNTRCKV●●M

* Need a registered Run Time for Magelis IPC

Run Time Intelligent Data Service Report Printing

Single (1)*	VJDSNTRPR●●M

* Need a registered Run Time for Intelligent Data Service

Zelio

Designed for hard-wired logic control applications to complement PLCs when performing simple functions such as counting, measurement and control, the single-function products in the Zelio range of relays offer optimum results.
Designed for the management of simple automation systems, Zelio Logic smart relays provide a real alternative to solutions based on cabled logic or specific cards.

2

The challenges of industrial competitiveness mean that control systems are now present in all fields of application. To meet your requirements, Schneider Electric has a very comprehensive offer of automation products, for all sectors of activity.
Benefit from high performance, efficient and environmentally friendly products that are designed to reduce your energy costs and increase the safety of personnel and equipment.

Modicon

From the simplest machine to the smartest industrial process,Modicon automation platforms improve performance, quality and profitability for your installations.
Conforming to international standards and simple to set up, the Modicon range integrates seamlessly into any control system.

2 Automation

WARNING
This document is a selection of the top selling products.

Relays

Electromechanical plug-in relays, **Zelio Relay** ..... 2/2 to 2/4
Solid-state relays, **Zelio Relay** 2/5
Control and measurement relays, **Zelio Control** ..... 2/6 to 2/10
Counters, **Zelio Count** 2/11
Timing relays, **Zelio Time** ..... 2/12 to 2/13
Analog interface, **Zelio Analog** ..... 2/14 to 2/15

Controllers (PLC) for commercial machines

Smart relays, **Zelio Logic:** 10 to 40 I/O ..... 2/16 to 2/17
Programmable controllers, **Twido:** 10 to 100 I/O 1µs per Instruction ..... 2/18 to 2/19

Controllers (PLC & PAC) for industrial machines

Logic controllers, **Modicon M238** : 20 to 248 I/O, 0.3 µs per Instruction ..... 2/20 to 2/21
Logic controllers, **Modicon M258** : 42 to 2400 I/O, 0.022 µs per Instruction ..... 2/22 to 2/23
Motion controllers, **Modicon LMC058** : 42 to 2400 I/O, 4 synchronized Axis in 2ms 2/24
HMI controllers, **Magelis XBTGC** : 18 to 96 I/O 2/25
Drive controller, **Altivar IMC** : 1000 instructions in 942 µs Web Server, CANopen, PLCopen 2/26

Programmable Automation Controllers (PACs)

Mid range PLC **Modicon M340** : for industrial process and infrastructure ..... 2/28 to 2/37
Large PLC **Modicon Premium** : for discrete or process applications and high availability solutions ..... 2/38 to 2/45
Large PLC **Modicon Quantum** : for process applications & high availability solutions ..... 2/46 to 2/53

Software

Programming software, **Zelio Soft 2** 2/17
Programming software, **Twido Suite** 2/19
Machine programming software, **SoMachine** 2/27
Configuration software, **Unity Pro** ..... 2/54 to 2/55
Programming software, **PL7**, **Concept**, **ProWORX32** ..... 2/56 to 2/57
SCADA software, **Vijeo Citect** 2/58
Reporting software, **Vijeo Historian** 2/59

Electromechanical plug-in relays

Interface and miniature relays

2

Type of relay		Interface relays RSB			Miniature relays RXM			
Contact characteristics								
Thermal current Ith in A (temperature ≤ 55°C)		8	12	16	12	10	6	3
Number of contacts		2 “C/O”	1 “C/O”	1 “C/O”	2 “C/O”	3 “C/O”	4 “C/O”	4 “C/O”
Contact material		AgNi	AgNi	AgNi	AgNi	AgNi	AgNi	AgAu
Switching voltage, min. / max.		5 / 250 VAC/DC			12 / 250 VAC/DC			
Switching capacity, min. / max. (mA / VA)		5 / 2000	5 / 3000	5 / 4000	10 / 3000	10 / 2500	10 / 1500	2 / 1500
Coil characteristics								
Average consumption, inrush,		0.75 VA / 0.45 W			1.2 VA / 0.9 W			
Permissible voltage variation		0.8/0.85…1.1 Un (50/ 60Hz or =)			0.8…1.1 Un (50 / 60Hz or =)			
References		(1)	(1)	(1)	(2)	(2)	(2)	
Coil supply voltage on DC	6 VDC	**RSB2A080RD**	**RSB1A120RD**	**RSB1A160RD**	–	–	–	–
	12 VDC	**RSB2A080JD**	**RSB1A120JD**	**RSB1A160JD**	**RXM2AB2JD**	**RXM3AB2JD**	**RXM4AB2JD**	**RXM4GB2JD**
	24 VDC	**RSB2A080BD**	**RSB1A120BD**	**RSB1A160BD**	**RXM2AB2BD**	**RXM3AB2BD**	**RXM4AB2BD**	**RXM4GB2BD**
	48 VDC	**RSB2A080ED**	**RSB1A120ED**	**RSB1A160ED**	**RXM2AB2ED**	**RXM3AB2ED**	**RXM4AB2ED**	**RXM4GB2ED**
	60 VDC	**RSB2A080ND**	**RSB1A120ND**	**RSB1A160ND**	–	–	–	–
	110 VDC	**RSB2A080FD**	**RSB1A120FD**	**RSB1A160FD**	**RXM2AB2FD**	**RXM3AB2ED**	**RXM4AB2ED**	**RXM4GB2ED**
Coil supply voltage on AC	24 VAC	**RSB2A080B7**	**RSB1A120B7**	**RSB1A160B7**	**RXM2AB2B7**	**RXM3AB2B7**	**RXM4AB2B7**	**RXM4GB2B7**
	48 VAC	**RSB2A080E7**	**RSB1A120E7**	**RSB1A160E7**	**RXM2AB2E7**	**RXM3AB2E7**	**RXM4AB2E7**	**RXM4GB2E7**
	120 VAC	**RSB2A080F7**	**RSB1A120F7**	**RSB1A160F7**	**RXM2AB2F7**	**RXM3AB2F7**	**RXM4AB2F7**	**RXM4GB2F7**
	220 VAC	**RSB2A080M7**	**RSB1A120M7**	**RSB1A160M7**	–	–	–	–
	230 VAC	**RSB2A080P7**	**RSB1A120P7**	**RSB1A160P7**	**RXM2AB2P7**	**RXM3AB2P7**	**RXM4AB2P7**	**RXM4GB2P7**
	240 VAC	**RSB2A080U7**	**RSB1A120U7**	**RSB1A160U7**	–	–	–	**RXM4GB2U7**

Sockets for relays

Type of socket		For interface relays RSB			For miniature relays RXM			
Mixed input/output type sockets with location for protection module								
		–	–	–	RXZE2M114(5)	–	RXZE2M114	RXZE2M114
		–	–	–	RXZE2M114M(5)	–	RXZE2M114M	RXZE2M114M
Separate input/output type sockets with location for protection module								
		RSZE1S48M	**RSZE1S35M**	**RSZE1S48M**(3)	**RXZE2S108M**	**RXZE2S111M**	**RXZE2S114M**	**RXZE2S114M**
Protection modules								
Diode	6…230 VDC	**RZM040W**			**RXM040W**			
RC circuit	24…60 VAC	**RZM041BN7**			**RXM041BN7**			
	110…240 VAC	**RZM041FU7**			**RXM041FU7**			
Varistor	6…24 VDC or AC	**RZM021RB** (6)			**RXM021RB**			
	24…60 VDC or AC	**RZM021BN** (6)			**RXM021BN**			
	110…230 VDC or AC	**RZM021FP** (6)			**RXM021FP**			
	24 VDC or AC	–			–			
	240 VDC or AC	–			–			
Multifunction timer module	24…230 VDC or AC	–			–			
Accessories								
Plastic maintaining clamp		**RSZR215**			**RXZR335**			
Metal maintaining clamp		–			**RXZ400**			
Label for socket		**RSZL300**			**RXZL420** (except RXZE2M114)			
Bus jumper	2 poles	–			**RXZS2**			
DIN rail adapter		–			**RXZE2DA**			
Panel mounting adapter		–			**RXZE2FA**			

(1) References for relays without socket, for relays with socket, add the letter **S** to the end of the selected reference. (Example: RSB2A080B7 becomes RSB2A080B7**S**).

(2) References for relays with LED, for relays without LED, replace the number 1 in the reference by **2**. (Example: RXM2AB**2**JD becomes RXM2AB**1**JD)

(3) To use RSB 1A160 ●● relay with socket, terminals must be interconnected

Schneider Electric

Other versions: **please consult our Customer Care Centre.**

Universal and power relays

	Universal relays RUM					Power relays RPM				RPF	
	Cylindrics			Faston							
	10	10	3	10	10	15	15	15	15	30 (4)	30 (4)
	2 “C/O”	3 “C/O”	3 “C/O”	2 “C/O”	3 “C/O”	1 “C/O”	2 “C/O”	3 “C/O”	4 “C/O”	2 “N/O”	2 “C/O”
	AgNi	AgNi	AgAu	AgNi	AgNi	AgNi	AgNi	AgNi	AgNi	$AgSnO_2$	$AgSnO_2$
	12 / 250 VAC/DC					12 / 250 VAC/DC				12 / 250 VAC/DC	
	10 / 2500	10 / 2500	3 / 750	10 / 2500	10 / 2500	100 / 3750	100 / 3750	100 / 3750	100 / 3750	100 / 7200	100 / 7200
	2…3 VA / 1.4 W					0.9 VA / 0.7 W	1.2 VA / 0.9 W	1.5 VA / 1.7 W	1.5 VA / 2 W	4 VA / 1.7 W	
	(2)	(2)	–	(2)	(2)	(2)	(2)	(2)	(2)	–	–
	–	–	–	–	–	–	–	–	–	–	–
	RUMC2AB2JD	**RUMC3AB2JD**	–	**RUMF2AB2JD**	**RUMF3AB2JD**	**RPM12JD**	**RPM22JD**	**RPM32JD**	**RPM42JD**	**RPF2AJD**	**RPF2BJD**
	RUMC2AB2BD	**RUMC3AB2BD**	**RUMC3GB2BD**	**RUMF2AB2BD**	**RUMF3AB2BD**	**RPM12BD**	**RPM22BD**	**RPM32BD**	**RPM42BD**	**RPF2ABD**	**RPF2BBD**
	RUMC2AB2ED	**RUMC3AB2ED**	**RUMC3GB2ED**	**RUMF2AB2ED**	**RUMF3AB2ED**	**RPM12ED**	**RPM22ED**	**RPM32ED**	**RPM42ED**	–	–
	–	–	–	–	–	–	–	–	–	–	–
	RUMC2AB2FD	**RUMC3AB2FD**	–	**RUMF2AB2FD**	**RUMF3AB2FD**	**RPM12FD**	**RPM22FD**	**RPM32FD**	**RPM42FD**	**RPF2AFD**	**RPF2BFD**
	RUMC2AB2B7	**RUMC3AB2B7**	**RUMC3GB2B7**	**RUMF2AB2B7**	**RUMF3AB2B7**	**RPM12B7**	**RPM22B7**	**RPM32B7**	**RPM42B7**	**RPF2AB7**	**RPF2BB7**
	RUMC2AB2E7	**RUMC3AB2E7**	**RUMC3GB2E7**	**RUMF2AB2E7**	**RUMF3AB2E7**	**RPM12E7**	**RPM22E7**	**RPM32E7**	**RPM42E7**	–	–
	RUMC2AB2F7	**RUMC3AB2F7**	**RUMC3GB2F7**	**RUMF2AB2F7**	**RUMF3AB2F7**	**RPM12F7**	**RPM22F7**	**RPM32F7**	**RPM42F7**	**RPF2AF7**	**RPF2BF7**
	–	–	–	–	–	–	–	–	–	–	–
	RUMC2AB2P7	**RUMC3AB2P7**	**RUMC3GB2P7**	**RUMF2AB2P7**	**RUMF3AB2P7**	**RPM12P7**	**RPM22P7**	**RPM32P7**	**RPM42P7**	**RPF2AP7**	**RPF2BP7**
	–	–	–	–	–	–	–	–	–	–	–

	For universal relays RUM					For power relays RPM				For power relays RPF
	RUZC2M	**RUZC3M**	**RUZC3M**	–	–	**RPZF1**	**RPZF2**	**RPZF3**	**RPZF4**	–
	–	–	–	–	–	–	–	–	–	–
	RUZSC2M	**RUZSC3M**	**RUZSC3M**	**RUZSF3M**	**RUZSF3M**	–	–	–	–	–
						1 and 2 poles		3 and 4 poles		
	RUW240BD					**RXM040W**		**RUW240BD**		–
	–					**RXM041BN7**		–		–
	RUW241P7					**RXM041FU7**		**RUW241P7**		–
	–					**RXM021RB**		–		–
	–					**RXM021BN**		–		–
	–					**RXM021FP**		–		–
	RUW242B7					**RUW242B7**		–		–
	RUW242P7					–		**RUW242P7**		–
	RUW101MW					–		**RUW101MW**		–
	–					–				–
	RUZC200					**RPZF1** (for 1 pole relays)				–
	RUZL420					–				–
	RUZS2					–				–
	–					**RPZ1DA**	**RXZE2DA**	**RPZ3DA**	**RPZ4DA**	–
	–					**RPZ1FA**	**RXZE2FA**	**RPZ3FA**	**RPZ4FA**	–

(4) 30A with 13 mm space between relays; 25 A when relay mounting side by side

(5) Max 10 A operating

(6) With LED

Electromechanical plug-in relays

RSL relays mounted on sockets

2

Type of relay			Pre-assembled equipped with LED and protection circuit Sold in lots of 10	
Contact characteristics				
Thermal current Ith in A			6	
Number of contacts			1 C/O	
Contact material			AgSnO2	
Switching voltage, min/max			12 / 300 V AC/DC	
Switching capacity min/max (mA /VA)			100 / 1500	
Coil characteristics				
Average consumption, inrush			0.17 W	
permissible voltage variation			-10% / +15%	
Socket connexion			Screw connector	Spring terminal
	Socket supply voltage	Coil supply voltage		
References	12 V AC/DC	12 V DC	**RSL1PVJU**	**RSL1PRJU**
	24 V AC/DC	24 V DC	**RSL1PVBU**	**RSL1PRBU**
	48 V AC/DC	48 V DC	**RSL1PVEU**	**RSL1PREU**
	110 V AC/DC	60 V DC	**RSL1PVFU**	**RSL1PRFU**
	230 V AC/DC	60 V DC	**RSL1PVPU**	**RSL1PRPU**

RSL relays

Type of relay		Relay for customer assembly Sold in lots of 10
Number of contacts		1 C/O
	Coil supply voltage	
References	12 V DC	**RSL1AB4JD**
	24 V DC	**RSL1AB4BD**
	48 V DC	**RSL1AB4ED**
	60 V DC	**RSL1AB4ND**

Sockets

Type of socket		Sockets for customer assembly with LED and protection circuit Sold in lots of 10	
Socket connection		Screw connector	Spring terminal
	Socket supply voltage		
References	12 and 24 V AC/DC	**RSLZVA1**	**RSLZRA1**
	48 and 60 V AC/DC	**RSLZVA2**	**RSLZRA2**
	110 V AC/DC	**RSLZVA3**	**RSLZRA3**
	230 V AC/DC	**RSLZVA4**	**RSLZRA4**

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Other versions: **please consult our Customer Care Centre.**

Solid-state relays

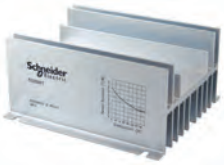
SSRP relays

Type of relay	Panel mounted without heat sink and thermal interface					
Contact characteristics						
Thermal current Ith in A	10	25	50	75	90	125
Number of contacts	1 NO					
Type if switching	Zero voltage switching					
Output	SPST contact					
Connection	Screw connector					
Control voltage range	3…32 V DC			4…32 V DC		
Operating voltage	24…280 VAC			48…530 V AC	48…660 V AC	
References	**SSRPCDS10A1**	**SSRPCDS25A1**	**SSRPCDS50A1**	**SSRPCDS75A2**	**SSRPCDS90A3**	**SSRPCDS125A3**
Control voltage range	90…280 V AC					
Operating voltage	24…280 VAC			80…530 V AC	48…660 V AC	
References	**SSRPP8S10A1**	**SSRPP8S25A1**	**SSRPP8S50A1**	**SSRPP8S75A2**	**SSRPP8S90A3**	**SSRPP8S125A3**

SSRD relays

Type of relay	Rail DIN mounted With integrated heat sink			
Contact characteristics				
Thermal current Ith in A	10	20	30	45
Number of contacts	1 NO			
Type if switching	Zero voltage switching			
Output	SPST contact			
Connection	Screw connector			
Control voltage range	4…32 V DC			3…32 V DC
Operating voltage	24…280 VAC			
References	**SSRDCDS10A1**	**SSRDCDS20A1**	**SSRDCDS30A1**	**SSRDCDS45A1**
Control voltage range	90…280 V AC			90…140 V AC
Operating voltage	24…280 VAC			
References	**SSRDP8S10A1**	**SSRDP8S20A1**	**SSRDP8S30A1**	**SSRDP8S45A1**

Accessories



Type of accessory	Heat sink	Thermal interface
For relay	SSRP	
References	**SSRAH1**	**SSRAT1**

3-phase monitoring relays

Function	presence of phase +phase sequence		+phase sequence, +regeneration +phase unbalance, +under/over voltage	
Monitoring voltage range	208…480 VAC	208…440 VAC	208…480 VAC	220 … 440 VAC
Outputs	1 C/O	2 C/O	1 C/O	2 C/O
References	**RM17TG00**	**RM17TG20**	**RM17TE00**	**RM35TF30**

Function	presence of phase +under/over voltage		+presence of neutral +under/over voltage
Monitoring voltage range	208…480 VAC	220…480 VAC	120…277 VAC (phase-neutral)
Outputs	1 C/O	2 C/O	2 C/O
References	**RM17UB310**	**RM35UB330**	**RM35UB3N30**

Level / Speed monitoring relays

Function	Conductive liquid level monitoring	Non-conductive material level monitoring	Over/under Speed monitoring
Power supply	24…240 VAC/DC		
Monitoring range	0,25…5 KΩ 5…100 KΩ 0,05…1 MΩ	Input of sensor : Contact / PNP / NPN	Interval between pulses: 0.05…0.5 s, 0.1…1 s, 0.5…5 s 1…10 s, 0.1…1 mn, 0.5…5 mn 1…10 mn
Output	2 C/O	1 C/O	1 C/O
Reference	**RM35LM33MW**	**RM35LV14MW**	**RM35S0MW**

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Other versions: **please consult our Customer Care Centre.**

Function	Voltage Monitoring Under or Over Voltage		
Power Supply	24…240 VAC/DC 50/60Hz		
Monitoring range	0.05…0.5 V 0.3…3 V 0.5…5 V	1…10 V 5…50 V 10…100 V	15…150 V 30…300 V 60…600 V
Outputs	2 C/O	2 C/O	2 C/O
References	**RM35UA11MW**	**RM35UA12MW**	**RM35UA13MW**

Function	Voltage Monitoring Under or Over Voltage			Under and Over Voltage	
Power Supply	self powered			self powered	
Monitoring range	9…15 VDC	20…80 VAC/DC	65…260 VAC/DC	20…80 VAC/DC	65…260 VAC/DC
Outputs	1 C/O	1 C/O	1 C/O	1 C/O	1 C/O
References	**RM17UAS14**	**RM17UAS16**	**RM17UAS15**	**RM17UBE16**	**RM17UBE15**

Function	Current Monitoring over curent	over or under current		Frequency Monitoring Over or under frequency
Power supply	24…240 VAC/DC	24…240 VAC/DC 50/60 Hz		120…277 VAC 50/60 Hz
Monitoring range	2…20 A built-in CT	2…20 mA 10…100 mA 50…500 mA	0.15…1.5 A 0.5…5 A 1.5…15 A	50 Hz ± 10 Hz or 60 Hz ± 10Hz
Output	1 C/O	2 C/O	2 C/O	2 C/O
Reference	**RM17JC00MW**	**RM35JA31MW**	**RM35JA32MW**	**RM35HZ21FM**

Lift / Pump / Motor monitoring relays

Function	Lift motor room temperature monitoring		+phase presence +phase sequence
Power supply	24…240 VAC/DC 50/60Hz		
Monitoring range	input PT100 3 wires Under -1…+11 °C Over +34…+46 °C		208…480 VAC 50/60Hz input PT100 3 wires Under -1…+11 °C Over +34…+46 °C
Output	1 C/O	2 NO	2 C/O
Reference	**RM35ATL0MW**	**RM35ATR5MW**	**RM35ATW5MW**

Function	Pump protection Current monitor +3 phase monitor	Motor Protection Winding Temperature monitor +3 phase monitor	
Power supply	self powered (single phase :230 VAC 50/60 Hz)	24…240 VAC/DC	
Monitoring range	Current: 0.1…10 A Voltage (three phase): 208…480 VAC 50/60Hz	Winding Temperature: PTC sensor Three phase voltage: 208…480 VAC 50/60Hz	
Output	1 C/O	2 NO	2 NO
Reference	**RM35BA10**	**RM35TM50MW**	**RM35TM250MW**

Control relays for 3-phase supplies

Function	Rotational direction and presence of phases					
		+ Undervoltage	+ Over and undervoltage		+ Asymmetry	
Adjustable time delay	without	without	0.1…10 s	0.1…10 s	fixed, 0.5 s	0.1…10 s
Supply voltage	220…440V	380…440V	400V	380…440V	380…440V	380…440V
Output	2 C/O	2 C/O	2 C/O	2 C/O	1 C/O	2 C/O
References	**RM4TG20**	**RM4TU02**	**RM4TR34** (1)	**RM4TR32** (2)	**RM4TA02**	**RM4TA32**

(1) Relay with fixed voltage thresholds.

(2) Relay with adjustable voltage thresholds.

2

Current and voltage measurement relays

(3) Basic reference. To be completed with the letters indicating the required voltage, as shown below:

Voltage	VAC, 50/60 Hz	VDC
24…240 V	MW	MW
110…130 V	F	–
220…240 V	M	–
380…415 V	Q	–

Function	Detection of over and undercurrent		over and undervoltage			
Measuring range	3…30 mA 10…100 mA 0.1…1 A	0.3…1.5 A 1…5 A 3…15 A	0.05 …0.5 V 0.3 …3 V 0.5…5 V	1…10 V 5…50 V 10…100 V	30…300 V 50…500 V	180…270 V
Adjustable time delay	0.05…30 s	0.05…30 s	0.05…30 s	0.05…30 s	0.05…30 s	0.1…10 s
Output	2 C/O	2 C/O	2 C/O	2 C/O	2 C/O	2 C/O
References	**RM4JA31••** (3)	**RM4JA32••** (3)	**RM4UA31••** (3)	**RM4UA32••** (3)	**RM4UA33••** (3)	**RM4UB35**

Liquid level control relays

(4) Basic reference. To be completed with the letters indicating the required voltage, as shown below:

Voltage	RM4-LG01	RM4-LA32	
	VAC, 50/60 Hz	VAC, 50/60 Hz	VDC
24 V	B	B	–
24…240 V	–	MW	MW
110…130 V	F	F	–
220…240 V	M	M	–
380…415 V	Q	Q	–

Control relays	Empty or fill	
Sensitivity scale	5 ... 100 kΩ	0.25 ... 5 kΩ 2.5 ... 50 kΩ 25 ... 500 kΩ
Time delay	without	adjustable, 0.1 to 10 s
Output	1 C/O	2 C/O
References	**RM4LG01•** (4)	**RM4LA32••** (4)

Liquid level control probe type	Measuring electrode and reference electrode	1 simple stainless steel electrode in PVC protective casing
Mounting	suspended	suspended
Maximum operating temperature	100°C	100°C
References	**LA9RM201**	**RM79696043**

Type of relay			Size 24 x 48 mm - 1/32 DIN				
Input type			Thermocouple PT100 probe			Voltage/Current 1...5 V / 4…20 mA	
Integrated functions			Hysteresis, PID, auto-tuning, fuzzy logic, rampe 8 steps, automatic operating mode				
Alarm output			–	1	–	–	
Communication			ModBus	–	ModBus	ModBus	
Supply voltage			100...240 VAC		24 V AC/DC	100...240 VAC	24 V AC/DC
References	Number/Output type	1/relay	**REG24PTP1RHU**	**REG24PTP1ARHU**	**REG24PTP1RLU**	**REG24PUJ1RHU**	**REG24PUJ1RLU**
		1/solid-state	**REG24PTP1LHU**	**REG24PTP1ALHU**	**REG24PTP1LLU**	**REG24PUJ1LHU**	**REG24PUJ1LLU**
		1/4-20 mA	**REG24PTP1JHU**	–	**REG24PTP1JLU**	–	–

Type of relay			Format 48 x 48 mm - 1/16 DIN		
Input type			Universal		
Integrated functions			Hysteresis, PID, auto-tuning, fuzzy logic, rampe 16 steps, automatic and manual operating mode		
Alarm output			2		
Communication			ModBus	–	ModBus
Supply voltage			100...240 VAC		24 V AC/DC
References	Number/Output type	1/relay	**REG48PUN1RHU**	**REG48PUNL1ARHU**	**REG48PUN1RLU**
		2/relay	**REG48PUN2RHU**	–	**REG48PUN2RLU**
		1/solid-state	**REG48PUN1LHU**	**REG48PUNL1LHU**	**REG48PUN1LLU**
		1 + 1 solid-state	**REG48PUN2RLHU**	–	**REG48PUN2RLLU**
		1/4-20 mA	**REG48PUN1JHU**	–	**REG48PUN1JLU**
		1/solid-state + 1/4-20 mA	**REG48PUN2LJHU**	–	**REG48PUN2LJLU**

Type of relay			Size 96 x 48 mm - 1/8 DIN		
Input type			Universal		
Integrated functions			Hysteresis, PID, auto-tuning, fuzzy logic, rampe 16 steps, automatic and manual operating mode		
Alarm output			3		
Communication			ModBus	–	ModBus
Supply voltage			100...240 VAC		24 V AC/DC
References	Number/Output type	1/relay	**REG96PUN1RHU**	**REG96PUNL1RHU**	**REG96PUN1RLU**
		2/relay	**REG96PUN2RHU**	–	**REG96PUN2RLU**
		1/solid-state	**REG96PUN1LHU**	**REG96PUNL1LHU**	**REG96PUN1LLU**
		1 + 1 solid-state	**REG96PUN2RLHU**	–	**REG96PUN2RLLU**
		1/4-20 mA	**REG96PUN1JHU**	–	**REG96PUN1JLU**
		1/solid-state + 1/4-20 mA	**REG96PUN2LJHU**	–	**REG96PUN2LJLU**

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Other versions: **please consult our Customer Care Centre.**

Counters

Totalisers

Display	Mechanical				LCD
Supply voltage	24 VDC				Battery
Number of digits displayed	5	6	6	8	8
Counting frequency	20 Hz	10 Hz	25 Hz	25 Hz	7.5 kHz
Type of zero reset	Manual	Without	Manual	Without	Manual (1)
Front face dimensions, W x H	41.5 x 31 mm	30 x 20 mm	60 x 50 mm	60 x 50 mm	48 x 24 mm
Certifications	cUR	None	cUR	cUR	None
References	**XBKT50000U10M**	**XBKT60000U00M**	**XBKT60000U10M**	**XBKT80000U00M**	**XBKT81030U33E**

(1) With electrical interlocking.

Hours counters

Display	LCD
Supply voltage	Battery
Number of digits / display	8 (999,999.99 h)
Supply frequency	Mode: 1/100 hour
Type of zero reset	Manual (1)
Front face dimensions, W x H	48 x 24 mm
Certifications	None
References	**XBKH81000033E**

Multifunction counters

Display			LCD		LED	
Number of digits displayed			6			
Counting frequency			5 kHz			
Type of reset			Manual, electric and automaticn			
Front face dimensions, W x H			48 x 48 mm			
Preselection number			1	2	1	2
Certifications			cURus	cURus	cURus	cURus
References	Supply voltage	24 VDC	**XBKP61130G30E**	**XBKP61230G30E**	**XBKP62130G30E**	**XBKP62230G30E**
		115 VAC	**XBKP61130G31E**	**XBKP61230G31E**	–	–
		230 VAC	**XBKP61130G32E**	**XBKP61230G32E**	**XBKP62130G32E**	**XBKP62230G32E**

Timing relays
Modular timers

Type of modular timer width 17.5 mm, relay output	On-delay	Multifunction		
External control	no	–		–
Supply voltage	24 VDC - 24 ...240 VAC	24 VDC - 24 ...240 VAC		12 ... 240VAC/DC
Timing range	0.1 s…100 h	0.1 s…100 h	0.1 s…10 h	0.1 s…100 h
Output	1 C/O	1 C/O	1 C/O	1 C/O
References	**RE11RAMU**	**RE11RMMU** (1)	**RE11RMEMU** (2)	**RE11RMMW** (1)

(1) Multifunction: On-delay, Off-delay, Totaliser, Symmetrical flashing, Chronometer, Pulse on energisation, Pulse output, Timing after closing/opening of control contact.

(2) Multifunction: On-delay, Off-delay, Totaliser, Symmetrical flashing, Chronometer, Pulse on energisation.

Type of modular timer width 17.5 mm, relay output	Asymmetrical flashing	Pulse on energisation	Off delay	Timing on impulse
External control	–	–	–	–
Supply voltage	24 VDC - 24…240 VAC	24 VDC - 24…240 VAC	24 VDC - 24…240 VAC	24 VDC - 24…240 VAC
Timing range	0.1 s…100 h	0.1 s…100 h	0.1 s…100 h	0.1 s…100 h
Output	1 C/O	1 C/O	1 C/O	1 C/O
References	**RE11RLMU**	**RE11RHMU**	**RE11RCMU**	**RE11RBMU**

Type of modular timer width 17.5 mm, solid-state output	On-delay	Off-delay	Multifunction (3)
Supply voltage	24…240 VAC/DC	24…240 VAC	24…240 VAC
Timing range	0.1 s…100 h	0.1 s…100 h	0.1 s…100 h
Output	solid-state	solid-state	solid-state
References	**RE11LAMW**	**RE11LCBM**	**RE11LMBM**

(3) Multifunction: On-delay, Off-delay, Totaliser, Symmetrical flashing, Chronometer, Pulse on energisation, Pulse output, Timing after closing/opening of control contact.

Panel-mounted relays		Timer on-delay	Asymmetrical flasher	Multifunction (4)	Multifunction (5)
Power supply		24…240 VAC/DC			
Time range		0,02 s…300 h			
Output		2 relay 5 A			
Reference		**RE48ATM12MW**	**RE48ACV12MW**	**RE48AMH13MW** (6)	**RE48AML12MW**
	Back panel mounting socket	**RUZC2M**	**RUZC3M**	**RUZC2M**	**RUZC3M**
	Front panel mounting socket	**RE48ASOC8SOLD**	**RE48ASOC11SOLD**	**RE48ASOC8SOLD**	**RE48ASOC11SOLD**

(4) Timer on-delay / pulse on energization

(5) Timer on-delay / calibrator / timer off-delay / symmetrical flasher

(6) 1 selectable in instantaneous

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Other versions: **please consult our Customer Care Centre.**

Industrial timers

Type of single function relay width 22.5 mm, relay output	On-delay		Off-delay		
External control	no	yes	no	yes	yes
Supply voltage	24 VAC/DC 110…240 VAC	24 VAC/DC 42…48 VAC/DC 110…240 VAC	24...240 VAC/DC	24 VAC/DC 42…48 VAC/DC 110…240 VAC	24 VAC/DC 42…48 VAC/DC 110…240 VAC
Timing range	0.05 s...300 h	0.05 s...300 h	0.05 s...10 mn	0.05 s...300 h	0.05 s...300 h
Output	1 C/O	2 C/O (1)	1 C/O	2 C/O (1)	1 C/O
References	**RE7TL11BU**	**RE7TP13BU**	**RE7RB11MW**	**RE7RL13BU**	**RE7RM11BU**

(1) 1 selectable in instantaneous mode.

Type of relay width 22.5 mm, relay output	Single function		Multifunction	
	Asymmetrical flashing	Pulse on energisation	6 functions (2)	8 functions (3)
External control	yes	no	–	–
Supply voltage	24 VAC/DC 42…48 VAC/DC 110…240 VAC	24 VAC/DC 110…240 VAC	24 VAC/DC 42…48 VAC/DC 110…240 VAC	24 VAC/DC 110…240 VAC
Timing range	0.05 s...300 h	0.05 s...300 h	0.05 s...300 h	0.05 s...300 h
Output	1 C/O	1 C/O	1 C/O	2 C/O (4)
References	**RE7CV11BU**	**RE7PE11BU**	**RE7ML11BU**	**RE7MY13BU**

(2) RE7ML11BU functions: On-delay, Off-delay, Pulse on energisation with start on energisation, Pulse on energisation with start on opening of remote control contact, Flashing with start during the OFF period, Flashing with start during the ON period.

(3) REMY13BU functions: On-delay, Off-delay, Pulse on energisation with start on energisation, Pulse on energisation with start on opening of remote control contact, Flashing with start during the OFF period, Flashing with start during the ON period, Star-delta starting with double On-delay timing, Star-delta starting with contact for switching to star connection.

(4) 1 selectable in instantaneous mode

Miniature plug-in relays, relay output

Functions			
Timing ranges	7 switchable ranges	0.1 s…1 s - 1 s…10 s - 0.1 min…1 min - 1 min…10 min - 0.1 h…1 h - 1 h…10 h - 10 h…100 h	
Relay output		4 timed C/O contacts	2 timed C/O contacts
Rated current		3 AC 5 A	AC 5 A
Voltages	24 VDC	**RE XL4TMBD**	**RE XL2TMBD**
	24 VAC 50/60 Hz	**RE XL4TMB7**	**RE XL2TMB7**
	120 VAC 50/60 Hz	**RE XL4TMF7**	**RE XL2TMF7**
	230 VAC 50/6 0 Hz	**RE XL4TMP7**	**RE XL2TMP7**
Socket with mixed contact terminals	With screw clamp	**RXZE2M114**	**RXZE2M114**
	With connector	**RXZE2M114M**	**RXZE2M114M**

Analog Interface

Universal Thermocouple

2

Type	Thermocouple				
Temperature range	0…150 °C 32…302 °F	0…300 °C 32…572 °F	0…600 °C 32…1112 °F	0…600 °C 32…1112 °F	0…1200 °C 32…2192 °F
Output range	0…10 V / 0…20 mA - 4…20 mA Switchable				
Dimensions H x W x D	80 x 22,5 x 80 mm				
Voltage	24 VDC - Non isolated				
References	**RMTJ40BD**	**RMTJ60BD**	**RMTJ80BD**	**RMTK80BD**	**RMTK90BD**

Universal PT 100

Type	PT 100				
Temperature range	-40…40 °C -40…104 °F	-100…100 °C -148…212 °F	0…100 °C 32…212 °F	0…250 °C 32…482 °F	0…500 °C 32…932 °F
Output range	0…10 V / 0…20 mA - 4…20 mA Switchable				
Dimensions H x W x D	80 x 22,5 x 80 mm				
Voltage	24 VDC - Non isolated				
References	**RMPT10BD**	**RMPT20BD**	**RMPT30BD**	**RMPT50BD**	**RMPT70BD**

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Other versions: **please consult our Customer Care Centre.**

Optimum PT 100

Type	PT 100				
Temperature range	-40…40 °C -40…104 °F	-100…100 °C -148…212 °F	0…100 °C 32…212 °F	0…250 °C 32…482 °F	0…500 °C 32…932 °F
Output range	0…10 V				
Dimensions H x W x D	80 x 22,5 x 80 mm				
Voltage	24 VDC - Non isolated				
References	**RMPT13BD**	**RMPT23BD**	**RMPT33BD**	**RMPT53BD**	**RMPT73BD**

2

Universal Analog Converter

Type	Analog Converter			
Input range	0…10 V or 4…20 mA	0…10 V / -10…+10 V 0…20 mA 4…20 mA	0…50 V / 0…300 V 0…500 V	0…1,5 A / 0…5 A 0…15 A
Output range	0…10 V or 4…20 mA	0…10 V / -10…+10 V 0…20 mA 4…20 mA Switchable	0…10 V 0…20 mA 4…20 mA Switchable	0…10 V or 0…20 mA ou 4…20 mA
Dimensions H x W x D	80 x 22,5 x 80 mm			80 x 45 x 80 mm
Voltage	24 VDC - Non isolated	24 VDC - Isolated	24 VDC - Isolated	24 VDC - Isolated
References	**RMCN22BD**	**RMCL55BD**	**RMCV60BD**	**RMCA61BD**

Compact smart relays		With display, a.c. power supply						
Supply voltage		**24 VAC**		**48 VAC**	**100…240 VAC**			
Number of inputs/outputs		**12**	**20**	**20**	**10**	**12**	**20**	**20**
Number of inputs	Discrete inputs	8	12	12	6	8	12	12
Number of outputs		4 relay	8 relay	8 relay	4 relay	4 relay	8 relay	8 relay
Dimensions, W x D x H (mm)		71.2x59.5x107.6	124.6x59.5x107.6		71.2x59.5x107.6		124.6x59.5x107.6	
Clock		yes	yes	no	no	yes	no	yes
References		**SR2B121B**	**SR2B201B**	**SR2A201E**	**SR2A101FU** (1)	**SR2B121FU**	**SR2A201FU** (1)	**SR2B201FU**

(1) Programming on smart relay in LADDER language only

Compact smart relays		With display, d.c. power supply					
Supply voltage		**12 VDC**		**24 VDC**			
Number of inputs/outputs		**12**	**20**	**10**	**12**	**20**	**20**
Number of inputs	Discrete inputs	8	12	6	8	12	12
	including 0-10 V analogue inputs	4	6	-	4	2	6
Number of outputs		4 relay	8 relay	4 relay	4	8 relay	8
Dimensions, W x D x H (mm)		71.2x59.5x107.6	124.6x59.5x107.6	71.2x59.5x107.6		124.6x59.5x107.6	
Clock		yes	yes	no	yes	no	yes
References		**SR2B121JD**	**SR2B201JD**	**SR2A101BD** (1)	**SR2B12●BD** (2)	**SR2A201BD** (1)	**SR2B20●BD** (2)

(1) Programming on smart relay in LADDER language only

(2) Replace the ● by number **1** to order a smart relay with **relay output** or by **2** for a smart relay with **transistor output** (Example: SR2B12**1**BD)

Compact smart relays		Without display and without buttons					
Supply voltage		**100…240 VAC**			**24 VDC**		
Number of discrete inputs/outputs		**10**	**12**	**20**	**10**	**12**	**20**
Number of inputs	Discrete inputs	6	8	12	6	8	12
	including 0-10 V analogue inputs	–	–	–	–	4	6
Number of outputs		4 relay	4 relay	8 relay	4 relay	4 relay	8 relay
Dimensions, W x D x H (mm)		71.2x59.5x107.6		124.6x59.5x107.6	71.2x59.5x107.6		124.6x59.5x107.6
Clock		no	yes	yes	no	yes	yes
References		**SR2D101FU** (1)	**SR2E121FU**	**SR2E201FU**	**SR2D101BD** (1)	**SR2E121BD** (3)	**SR2E201BD** (3)

(1) Programming on smart relay in LADDER language only

(3) To order a smart relay for a **24 VAC supply** (no analogue inputs), delete the letter **D** from the end of the reference (**SR2E121B** and **SR2E201B**)

Modular, SR3

Modular smart relays*		With display						
Supply voltage		**24 VAC**		**100…240 VAC**		**12 VDC**	**24 VDC**	
Number of inputs/outputs		**10**	**26**	**10**	**26**	**26**	**10**	**26**
Number of inputs	Discrete inputs	6	16	6	16	16	6	16
	including 0-10 V analogue inputs	–	–	–	–	6	4	6
Number of outputs		4 relay	10 relay	4 relay	10 relay	10 relay	4	10
Dimensions, W x D x H (mm)		71.2x59.5x107.6	124.6x59.5x107.6	71.2x59.5x107.6	124.6x59.5x107.6	124.6x59.5x107.6	71.2x59.5x107.6	124.6x59.5x107.6
Clock		yes	yes	yes	yes	yes	yes	yes
References		**SR3B101B**	**SR3B261B**	**SR3B101FU**	**SR3B261FU**	**SR3B261JD**	**SR3B10●BD** (1)	**SR3B26●BD**(1)

*The modular base can be fitted with one I/O extension module. The 24 VDC modular base can be fitted with one communication module and/or one I/O extension module

(1) Replace the ● by number **1** to order a smart relay with **relay output** (SR3B10**1**BD) or by **2** for a smart relay with **transistor output** (SR3B10**2**BD)

Extension modules for Zelio Logic SR3B●●●●● (2)		Communication		Discrete Inputs/Outputs			Analogue Inputs/Outputs
Network		**Modbus**	**Ethernet**	–			–
Number of inputs/outputs		–	–	**6**	**10**	**14**	**4**
Number of inputs	Discrete	–	–	4	6	8	–
	Analogue (0…10 V, 0…20 mA, PT100)	–	–	–	–	–	2 (1 PT100 max.)
Number of outputs	Relay	–	–	2 relay	4 relay	6 relay	–
	Analogue (0…10 V)	–	–	–	–	–	**2**
Dimensions, W x D x H (mm)		35.5x59.5x107.6		35.5x59.5x107.6	72x59.5x107.6		35.5x59.5x107.6
References	24 VAC	–	–	**SR3XT61B**	**SR3XT101B**	**SR3XT141B**	–
	100…240 VAC	–	–	**SR3XT61FU**	**SR3XT101FU**	**SR3XT141FU**	–
	12 VDC	–	–	**SR3XT61JD**	**SR3XT101JD**	**SR3XT141JD**	–
	24 VDC	**SR3MBU01BD**	**SR3NET01BD**	**SR3XT61BD**	**SR3XT101BD**	**SR3XT141BD**	**SR3XT43BD**

(2) The power supply of the extension modules is provided via the Zelio Logic modular relays

Zelio Soft 2 software and programming tools

Zelio Soft 2 software, connecting cables, wireless connecting, memory	Multilingual programming software	Connecting cables				Wireless connection	Back-up memory
Description	CD ROM PC (Windows XP, Vista 32 bits and Windows 7 32 bits) (3)	Serial PC/Smart relay	USB PC/Smart relay	XBT N/R Interface	HMISTO Interface	Bluetooth interface	EEPROM
References	**SR2SFT01**	**SR2CBL01**	**SR2USB01**	**SR2CBL08**	**SR2CBL09**	**SR2BTC01**	**SR2MEM02**

(3) CD-ROM including Zelio Soft 2 programming software, an application library, a self-training manual, installation instructions and a user's manual

Communication interface for SR2/SR3

Interface, modems, Zelio Logic Alarm software	Communication interface	Modems (4)		Alarm management software
Supply voltage	12…24 VDC	12…24 VDC	12…24 VDC	–
Description	–	Analogue modem	GSM modem	PC CD-ROM (Windows 98, NT, 2000, XP)
Dimensions, W x D x H (mm)	72x59.5x107.6	120.7x35x80.5	111x 25.5x54.5	–
References	**SR2COM01**	**SR2MOD01**	**SR2MOD02**	**SR2SFT02**

(4) Must be used in conjunction with communication interface SR2COM01

Compact bases

2

Type de base		Compact Non expandable bases		Expandable bases	
Number of digital i/O		10	16	24	40
Number of digital inputs (24 VDC)		6 sink/source	9 sink/source	14 sink/source	24 sink/source
Number of digital outputs		4 relay (2 A)	7 relay (2 A)	10 relay (2 A)	14 relay (2 A), 2 solid-state (1 A)
Type of connection		Screw terminals (non removable)			
Possible I/O expansion modules		–	–	4	7
Counting		3 x 5 kHz, 1 x 20 kHz			
PWM positioning		–			2 x 7 kHz
Serial ports		1 x RS 485	1 x RS 485; option: 1 x RS 232C or RS 485		
Protocol		Modbus master/slave, ASCII, I/O relocation			
Ethernet port		–	–	–	RJ45 Ethernet
Dimensions, W x D x H		80 x 70 x 90 mm	80 x 70 x 90 mm	95 x 70 x 90 mm	157 x 70 x 90 mm
References	Supply voltage 100…240 VAC	**TWDLCAA10DRF**	**TWDLCAA16DRF**	**TWDLCAA24DRF**	**TWDLCAE40DRF** (1)
	Supply voltage 19.2…30 VDC	**TWDLCDA10DRF**	**TWDLCDA16DRF**	**TWDLCDA24DRF**	**TWDLCDE40DRF** (1)
	Real-time clock (option)	**TWDXCPRTC**			
	Display unit (option)	**TWDXCPODC**			
	Memory cartridge (option)	**TWDXCPMFK32** (3)			**TWDXCPMFK64** (4)

(1) 40 I/O version without Ethernet also available: TWDLCAA40DRF and TWDLCDA40DRF

Modular bases

Type of base		Modular		
Number of digital i/O		20		40
Number of digital inputs (24 VDC)		12 sink/source	12 sink/source	24 sink/source
Number of digital outputs		8 transistor, source (0.3 A)	6 relay (2 A) & 2 trans., source (0.3 A)	16 transistor, source (0.3 A)
Type of connection		HE10 connector	Removable screw terminals	HE10 connector
Possible I/O expansion modules		4	7	7
Supply voltage		24 VDC		
Counting		2 x 5 kHz, 2 x 20 kHz		
PLS/PWM positioning		2 x 7 kHz		
Serial ports		1 x RS 485; option: 1 x RS 232C or RS 485		
Protocol		Modbus master/slave, ASCII, I/O relocation		
Dimensions, W x D x H		35.4 x 70 x 90 mm	47.5 x 70 x 90 mm	47.5 x 70 x 90 mm
References		**TWDLMDA20DTK** (2)	**TWDLMDA20DRT**	**TWDLMDA40DTK** (2)
	Real-time clock (option)	**TWDXCPRTC**		
	Display unit (option)	**TWDXCPODM**		
	Memory cartridge (option)	**TWDXCPMFK32** (3)	**TWDXCPMFK64** (4)	

(2) Sink version transistor outputs also available: TWDLMDA20DUK and TWDLMDA40DUK
(3) Application backup, program transfer
(4) Memory expansion, application backup, program transfer

I/O expansion modules

For I/O expansion modules, please consult Modicon TM2 page 2/21

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Communication modules

Type of module	Serial interface			Serial interface adaptor		
Physical layer (non isolated)	RS 232C	RS 485		RS 232C	RS 485	
Connection	Mini-DIN connector		Screw terminals	Mini-DIN connector		Screw terminals
Protocol	Modbus master/slave, ASCII, I/O relocation					
Twido base compatibility	Modular base TWDLMDA			Compact base TWDLCAA16/24DRF Modular base via integrated display module TWDXCPODM		
References	**TWDNOZ232D**	**TWDNOZ485D**	**TWDNOZ485T**	**TWDNAC232D**	**TWDNAC485D**	**TWDNAC485T**

Type of module	Modem for Twido	CANopen expansion	Ethernet interface	Modbus isolation module	Modbus junction module
Number of modules	–	1	1	–	–
Connection	–	SUB-D9	RJ45	RJ45	RJ45
Twido base compatibility	–	20, 24 or 40 I/O base	All models	All models	All models
References	**SR2MOD03**	**TWDNCO1M**	**499TWD01100**	**TWDXCAISO**	**TWDXCAT3RJ**

(1) 2 modules max., 62 digital slaves max., 7 analogue slaves max., AS-Interface/M3, V 2.11 (profile S.7.4 not supported)

Programming software

Software, connecting cables, interfaces	TwidoSuite software EN/FR	Connecting cables		Bluetooth® USB adaptor	Bluetooth® gateway
Application	PC with Windows XP or Vista	Twido/PC USB port	Twido/PC serial port	For PC not fitted with Bluetooth®	For Twido controller
References	**TWDBTFU10M**	**TSXCUSB485** **TSXCRJMD25**	**TSXPCX1031**	**VW3A8115**	**VW3A8114**

Bases

SoMachine

Type of base	Compact			
Number of digital I/O	24 (removable battery to be ordered separately)			
Supply voltage	24VDC	100-240VAC	24VDC	100-240VAC
Number of digital inputs (24VDC)	14, 8 of which can be assigned as fast inputs			
Number of digital outputs	10 transistor, 4 of which can be configured as fast outputs	4 transistor + 6 relays	10 transistor, 4 of which can be configured as fast outputs	4 transistor + 6 relays
Type of connection	Removable screw terminal blocks (as standard) Removable spring terminal blocks (as option)			
Possible I/O expansion modules	7 modules: digital, analog, high-speed counter (3 max.), master AS-Interface (2 max.)			
High-speed counting (32 bits capacity)	8 x 100kHz simple channels, 4 x 100kHz simple channels + 1 x 100kHz advanced channels, or 2 x 100kHz advanced channels			
Motion or reflex functions	2 advanced channels, PWM:20kHz, PTO: 100kHz		4 advanced channels HSC reflex functions:100kHz	
PID Regulation	Yes			
Serial Ports	1 RS 232/485 (SL1) serial link		1 RS232/485 (SL1) serial link, 1 RS485 (SL2) serial link	
CANopen	–		1 master for 16 slaves max.	
Dimensions, W x D x H	157 x 86 x 118 mm			
References	**TM238LDD24DT**	**TM238LDA24DR**	**TM238LFDC24DT**	**TM238LFAC24DR**

High-speed counting modules

Type of module	High-speed counting	
Modularity	2 channels	
Maximum number of modules per base	3	
Number of sensor inputs	6 per channel	
Number of actuator outputs	2 per channel	
Capacity	31 bits + sign	
Frequency on inputs	60kHz	
Connection	1 screw terminal per channel	1 spring terminal per channel
References	**TM200HSC206DT**	**TM200HSC206DF**

Communication module and accessory

Designation	Ethernet interface	Program loader Kit: program loader, cable (USB/mini-B USB), 2 batteries (type AA/LR6)
Description	Ethernet Modbus/TCP	Used to update and duplicate applications (1)
Maximum number of modules per base	1	–
References	**499TWD01100**	**TM2USBABDEV1**

(1) Requires the use of a USB memory stick (not supplied)

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Other versions: **please consult our Customer Care Centre.**

I/O expansion modules

For Modicon M238, Magelis XBTGC and Twido

Type of module		Analog inputs						
Number of inputs		2 I	2 I	4 I	8 I	8 I	8 I	8 I
Connection		Removable screw terminals						RJ11
Inputs	Range	Thermocouples type K, J, T	0…10 V (1) 4…20 mA (2)	0…10 V (1) 0…20 mA (2) θ °C	0…10 V (1) 0…20 mA (2)	PTC/NTC	Thermo probe Pt100 / Pt1000 - 200...+ 600 °C	
	Resolution	12 bits (4096 points)			10 bits (1024 points)		12 bits (4096 points)	
Supply voltage		24 VDC						
Dimensions, W x D x H		23.5 x 70 x 90 mm					39.1x70x90 mm	
References		**TM2AMI2LT**	**TM2AMI2HT**	**TM2AMI4LT**	**TM2AMI8HT**	**TM2ARI8HT**	**TM2ARI8LT**	**TM2ARI8LRJ**

(1) Non differential

(2) Differential

Type of module		Analog Outputs, Inputs/Outputs (mixed)				
Number of inputs and/or outputs		1 O	2 O	2 I / 1 O	2 I / 1 O	4 I / 2 O
Connection		Removable screw terminals				
Inputs	Range	–	–	0…10 V (1) 4…20 mA (2)	Thermocouple type K, J & T 3-wire Pt 100 thermal probe	0…10 V (1) 4…20 mA (2)
	Resolution	–	–	12 bits (4096 points)	12 bits (4096 points)	12 bits (4096 points)
Outputs	Range	0…10 V (1) 4…20 mA (2)	± 10 V	0…10 V (1) 4…20 mA (2)	0…10 V (1) 4…20 mA (2)	0…10 V (1) 4…20 mA (2)
	Resolution	12 bits	11 bits + sign	12 bits	12 bits	12 bits
Supply voltage		24 VDC				
Dimensions, W X D x H		23.5 x 70 x 90 mm				
References		**TM2AMO1HT**	**TM2AVO2HT**	**TM2AMM3HT**	**TM2ALM3LT**	**TM2AMM6HT**

(1) Non differential

(2) Differential

Type of module			Digital Inputs/Outputs					
Number of inputs and/or outputs			8	16	16	32	4 I / 4 O	16 I / 8 O
Connection			Removable screw terminals		HE10 connectors		Removable screw terminals	Spring terminals (non removable)
References	Inputs	24 VDC sink	**TM2DDI8DT**	–	–	–	–	–
		24 VDC sink/source	–	**TM2DDI16DT**	**TM2DDI16DK**	**TM2DDI32DK**		
		120 V sink	**TM2DAI8DT**	–	–	–	–	–
	Outputs	Relay (2 A)	**TM2DRA8RT**	**TM2DRA16RT**		–	–	–
		Transistor, source 0.5 A	**TM2DD08TT**	–	–	–	–	–
		Transistor, source 0.4 A	–	–	**TM2DD016TK**	**TM2DD032TK**	–	–
		Transistor, sink 0.1 A	**TM2DDO8UT**	–	**TM2DDO16UK**	**TM2DDO32UK**	–	–
	Inputs, 24 VDC + Outputs, Relais 2 A		–	–	–	–	**TM2DMM8DRT**	**TM2DMM24DRF**

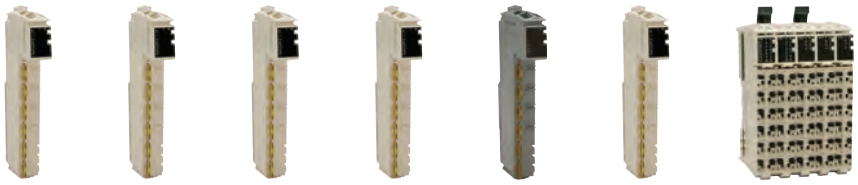
SoMachine

Controller type		42 digital I/O	42 digital I/O & CANopen
Internal memory	RAM	64 MB	
	Flash Eeprom	128 MB	
Typical Boolean instruction time		22 ns	
User program size		128 program K instructions	
Power supply		24 V DC	
Inputs	Digital	**26** inputs 24VDC including 8 counter inputs (200 kHz)	
	Analog	–	
Ouputs	Transistor	**16** outputs (0,5A) including 4 reflex outputs (100 kHz)	
	Relay	–	
Optional communication ports		–	
Communication	USB-B mini-port	Programming port for SoMachine software	
	USB-A port	Connection of a USB memory stick for transferring programs, data files, firmware updates	
	RJ45 port (MBS)	RS232 serial link RS485 serial link (supplies 250 mA, 5 V for HMI power supply) Protocols: Modbus ASCII/RTU Master/Slave, ASCII (character string)	
	SUB-D connector (CAN0)	–	CANopen bus master (63 slaves)
	RJ45 port (Ethernet)	Ethernet TCP, Ethernet IP, FTP server, Web server, Ethernet Modbus TCP	
Max. number of expansions		250 modules (local or remote) for digital IO, analog IO or Expert functions	
References		**TM258LD42DT**	**TM258LF42DT**

Controller type		42 digital I/O relays & CANopen	66 digital I/O & CANopen & 4 analog inputs
Internal memory	RAM	64 MB	
	Flash Eeprom	128 MB	
Typical Boolean instruction time		22 ns	
User program size		128 program K instructions	
Power supply		24 V DC	
Inputs	Digital	**26** inputs 24VDC including 8 counter inputs (200 kHz)	**38** inputs 24VDC including 8 counter inputs (200 kHz)
	Analog	–	**4** analog inputs +10 V/-10V, 4-20mA/0-20 mA 12 bits resolution
Ouputs	Transistor	**4** reflex outputs (100 kHz)	**28** outputs (0,5A) including 4 reflex outputs (100 kHz)
	Relay	12 relays	–
Optional communication ports		**2** PCI slots for optional communication modules	
Communication	USB-B mini-port	Programming port for SoMachine software	
	USB-A port	Connection of a USB memory stick for transferring programs, data files, firmware updates	
	RJ45 port (MBS)	RS232 serial link RS485 serial link (supplies 250 mA, 5 V for HMI power supply) Protocols: Modbus ASCII/RTU Master/Slave, ASCII (character string)	
	SUB-D connector (CAN0)	CANopen bus master (63 slaves)	
	RJ45 port (Ethernet)	Ethernet TCP, Ethernet IP, FTP server, Web server, Ethernet Modbus TCP	
Max. number of expansions		250 modules (local or remote) for digital IO, analog IO or Expert functions	
References		**TM258LF42DR**	**TM258LF66DT4L**

Other versions: **please consult our Customer Care Centre.**

I/O expansion modules
for Modicon M258 and Modicon LMC058 (1)



Type of module	Input			Output			Input Output Digital
	Digital	Analog		Digital		Analog	
Number of inputs	12 sink	–	–	–	–	–	24
Number of outputs	–	–	–	12 source	4 relay	–	18
Number of inputs	–	4	4	–	–	–	–
Number of outputs	–	–	–	–	–	4	–
Nominal input current	24 VDC	–	–	–	–	–	24 VDC
Nominal output current	–	–	–	24 VDC	30 VDC/ 230 VAC	–	24 VDC
Type	–	Thermal probe	Voltage / Current	–	–	Voltage / Current	–
Associated bus sub-bases (2)	TM5ACBM11	TM5ACBM11	TM5ACBM11	TM5ACBM11	TM5ACBM12	TM5ACBM11	–
Associated terminal block (2)	TM5ACTB12	TM5ACTB12	TM5ACTB12	TM5ACTB12	TM5ACTB32	TM5ACTB12	–
References	**TM5SDI12D**	**TM5SAI4PH**	**TM5SAI4L**	**TM5SDO12T**	**TM5SDO4R**	**TM5SAO4L**	**TM5C24D18T**

(1) Modicon M258 and Modicon LMC058 controllers offer the possibility of creating IP20 or IP67 islands of remote I/O via the TM5 expansion bus. For Modicon TM7 (IP67) and Modicon TM5 (IP20) modular I/O systems, refer to the essential guide DIA3ED2070413EN or consult www.schneider-electric.com
(2) To be ordered separately

SoMachine

Controller type		42 digital I/O	42 digital I/O + 4 analog inputs
CANmotion Drive synchronisation	Up to 4 axes	2 ms	
	Up to 8 axes	4 ms	
Internal memory	RAM	64 MB	
	Flash Eeprom	128 MB	
Typical Boolean instruction time		22 ns	
Expert application	Relative and Absolute positioning	Yes	
	Velocity control	Yes	
	Homing	Yes	
	CNC visual editor	Yes	
	CAM profiles	Yes	
	Electronic gear	Yes	
	Interpolation	Yes	
	Shift Compensation	Yes	
Embedded number of digital inputs		26 including 8 high speed counter	
Embedded number of digital ouputs		16 outputs transistor (0.5 A) including 4 reflex outputs	
Embedded number of analog inputs		–	4
Optional communication ports		–	2 PCI slots for optional communication modules
Communication	USB-B mini-port	Programming port for SoMachine software	
	USB-A port	Connection of a USB memory stick for transferring programs, data files, firmware updates	
	RJ45 port (MBS)	RS232 serial link RS485 serial link (supplies 250 mA, 5 V for HMI power supply) Protocols: Modbus ASCII/RTU Master/Slave, ASCII (character string)	
	SUB-D connector (CAN0)	CANopen bus master (63 slaves)	
	SUB-D connector (CAN1)	CANmotion bus master (63 slaves)	
	SUB-D connector (Encoder)	Encoder input (incremental or SSI)	
	RJ45 port (Ethernet)	Ethernet IP device Ethernet TCP Modbus SoMachine protocol FTP server embedded Web server embedded	
Max. number of expansions		250	
References		**LMC058LF42**	**LMC058LF424**

I/O expansion modules

For I/O expansion modules, please consult Modicon TM5 page 2/23

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Other versions: **please consult our Customer Care Centre.**

Magelis XBTGC HMI Controllers

Compact HMI Controller

SoMachine

Type		Characteristics		
Display	LCD screen size / Resolution	3,8" / QVGA	5,7" / QVGA	
	Type	**STN monochrome, amber or red**	**STN monochrome, gray**	**STN 4096 colours**
Functions	Representation of variables	Alphanumeric, bitmap, bargraph, gauge, button, light, clock, flashing light, keypad		
	Curves / Alarm logs	Yes, with log / Yes, incorporated		
	Control	5 languages IEC		
Communication	Serial link	–	1 Sub9 (RS 232/RS 422 - RS 485)	
	Networks	–	–	**Ethernet, IEEE 802.3 10/100 BASE-T, RJ45**
Downloadable protocols		**Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Simatic)** Uni-TE, Modbus, Modbus TCP		
Development software		SoMachine (on Windows XP and Vista)		
Dimensions W x D x H (mm)		**130 x 76 x 104**	**207 x 76 x 157**	
Compatibility with PLCs		**Twido, Modicon TSX Micro, Modicon Premium, Modicon Quantum, Modicon M340**		
«Compact Flash» card slot		**No**		
USB port Host type A		1	1	1
Built-in Ethernet TCP/IP		**No**	No	Yes
Integrated I/O		**12I/6O 24 VDC**	16I/16O 24 VDC	
Extensions		**2 modules TM2 or CANopen module**	3 modules TM2 or CANopen module	
Supply voltage		**24 VDC**		
References	Source Output	**XBTGC1100T**	**XBTGC2120T**	**XBTGC2230T**
	Sink Output	**XBTGC1100U**	**XBTGC2120U**	**XBTGC2230U**

2

Extensions

Type of module	CANopen Master
Characteristics	Class M10 limited 16 slaves, Standard DS301 V4.O2
References	**XBTZGCCAN**

Type of module	Digitals Inputs / Outputs						
Characteristics	8I 24 VDC Screw terminal	16I 24 VDC Screw terminal	16I 24 VDC HE10	32I 24 VDC HE10	8I 120 VAC Screw terminal	4I 24 VDC 4O Relays Screw terminal	16I 24 VDC 8O Relays Screw terminal
References	**TM2DDI8DT**	**TM2DDI16DT**	**TM2DDI16DK**	**TM2DDI32DK**	**TM2DAI8DT**	**TM2DMM8DRT**	**TM2DMM24DRF**

Type of module		Digitals Inputs / Outputs				
Characteristics		8O Transistor 24 VDC Screw terminal	16O Transistor 24 VDC HE10	32O Transistor 24 VDC HE10	8O Relays 230 VAC 30 VDC Screw terminal	16O Relays 230 VAC 30 VDC Screw terminal
References	Source Output	**TM2DD08TT**	**TM2DD016TK**	**TM2DD032TK**	**TM2DRA8RT**	**TM2DRA16RT**
	Sink Output	**TM2DD08UT**	**TM2DD016UK**	**TM2DD032UK**	–	–

Type of module	Analog Inputs / Outputs					
Characteristics	2I Current/Voltage	2I Thermocouple	4I Current/Voltage Temperature	8I Current/Voltage	8I Temperature	8I PTC
References	**TM2AMI2HT**	**TM2AMI2LT**	**TM2AMI4LT**	**TM2AMI8HT**	**TM2ARI8LRJ TM2ARI8LT**	**TM2ARI8HT**

Type of module	Analog Inputs / Outputs				
Characteristics	1O Current/Voltage	2O Voltage	2I Current/Voltage 1O Current/Voltage	2I Temperature 1O Current/Voltage	4I Current/Voltage 2O Current/Voltage
References	**TM2AMO1HT**	**TM2AVO2HT**	**TM2AMM3HT**	**TM2ALM3LT**	**TM2AMM6HT**

For HMI Controllers **Magelis XBTGT/GK** with control function, refer to the Essential guide DIA1ED2040506EN or consult www.schneider-electric.com

Drive controller

Integrated controller card for Altivar 71/61 variable speed drives

SoMachine

2

Type of card		Integrated controller card
Variable speed drive compatibility		Altivar 71 / Altivar 61 (1)
Power supply		24 VDC
Inputs	Digital	10 x 24 V DC inputs, 4 of which can be used for 2 high-speed counter inputs (100 kHz) or 2 incremental encoders (A/B) (100 kHz)
	Analog	2 x 0…20 mA inputs
Outputs	Digital	6 transistor outputs (2 A) - source
	Analog	2 x 0…20 mA outputs
Built-in communication ports	RJ45 port	Ethernet Modbus TCP, Web/FTP Server
	SUB-D connector (male 9-way)	Master CANopen bus (16 slaves)
	USB Mini-B port	SoMachine software programming
Real-time clock		Integrated
Typical time (for 1000 Boolean instructions)		942 µs
Data storage memory FRAM (Ferroelectric RAM)		64 KB
Compiled program size (saved in flash memory)		2 MB
User program size		1 MB
References		**VW3A3521**

(1) Refer to motion & drives essential guide or consult www.schneider-electric.com

Type of card	I/O expansion cards (2)	
Designation	I/O extension logic	Extended
Description	1 relay logic output (“C/O” contact) 4 x 24 VDC positive or negative logic inputs 2 x 24 VDC open collector positive or negative logic outputs 1 input for PTC probes	1 x 0…20 mA differential current analog input 1 software-configurable voltage (0…10 VDC) or current (0…20 mA) analog input 2 software-configurable voltage (±10V, 0…10 VDC) or current (0…20 mA) analog inputs 1 relay logic output (“C/O” contact) 4 x 24 VDC positive or negative logic inputs 2 x 24 VDC open collector positive or negative logic outputs 1 input for PTC probes 1 frequency control input
References	**VW3A3201**	**VW3A3202**

(2) Altivar 71 / 61 variable speed drives can only take one I/O expansion card with the same reference

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Other versions: **please consult our Customer Care Centre.**

SoMachine

Type	OEM machine programming software		
Compatibility	Modicon M238 - Logic controller Modicon M258 - Logic controller Modicon LMC058 - Motion controller Magelis XBT GC - HMI controllers XBT GT/GK with control function - HMI controllers Altivar IMC - Drive controller		
IEC 61131-3 Programming languages	IL (Instruction List) LD (Ladder Diagram) SFC (Sequential Function Chart) ST (Structured Text) FBD (Function Block Diagram) CFC (Continous Function Chart)		
Languages	English French German Italian Spanish Simplified Chinese.		
System Requirements	Processor: Pentium 3 - 1.2 GHz or higher RAM Memory: 2 GByte; recommended: 3 GByte Hard Disk: 3.5 GB, recommended: 4 GB OS: Windows XP Professional, Windows Vista 32 Bit Drive: DVD reader Display: 1024 × 786 pixel resolution or higher Peripherals: a Mouse or compatible pointing device Peripherals: USB interface Web Access: Web registration requires Internet access		
Licence type	Trial (30 days)	1 (Single)	10 (Team)
References DVD	**MSDCHNSFNV30**	**MSDCHNLMUA**	**MSDCHNLMTA**

Simplify machine programming and commissioning

The SoMachine software solution, developed specifically for OEM machine builders, allows you to design, commission and service your machine in a single environment. It helps you get to market faster and gives your machines a competitive advantage.

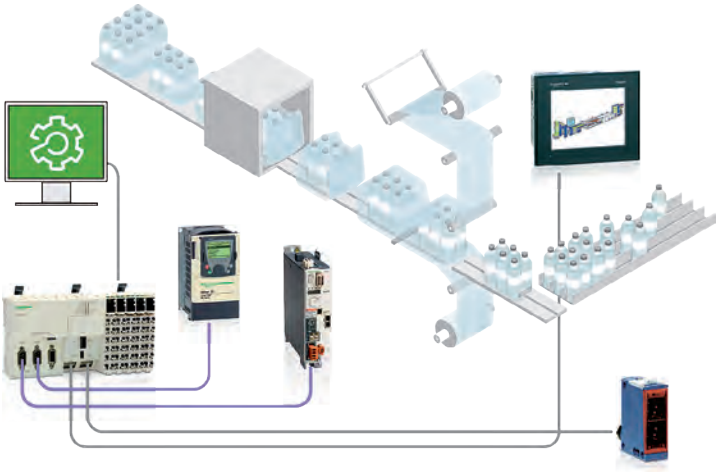
A single software suite to create and manage your complete automation solution from control and HMI to remote devices.

Flexible and Scalable Control platforms include:

• Controllers:
> HMI controllers: XBT GC, XBT GT/GK CANopen,
> Logic controllers: Modicon M238, Modicon M258,
> Motion Controller Modicon LMC 058,
> Integrated Controller Card Altivar IMC,
> Modicon TM2, TM5 and TM7 I/O offers
• HMI:
> HMI Magelis graphic panels: XBT GT, XBT GK, HMI STO, HMI STU, XBT GH

SoMachine is a professional, efficient, and open software solution integrating Vijeo-Designer.

It integrates also the configuring and commissioning tool for motion control devices. It features all IEC 61131-3 languages, integrated field bus configurators, expert diagnostics and debugging, as well as outstanding capabilities for maintenance and visualisation.



1

Software suite
for controllers, HMI, and remote devices.

Download
to transfer the entire machine program in a single step

Connection
to access to all devices

File
Create and maintain a single project file

Processor modules

2

Type of processor			Standard		High-performance		
		Number of racks	2 (4, 6, 8 or 12 slots)		4 (4, 6, 8 or 12 slots)		
Maximum configuration			Maximum 24 slots for processor and modules (excluding power supply module)		Maximum 48 slots for processor and modules (excluding power supply module)		
Functions	Max. no. (1)	Discrete I/O	512		1024		
		Analog I/O	128		256		
		Control channels	Programmable loops (via CONT-CTL process control EFB library)				
		Counter channels	20		36		
		Motion control	–		Independent axes on CANopen bus (via MFB library)	–	Independent axes on CANopen bus (via MFB library)
	Integrated connections	Ethernet TCP/IP	–			1 RJ45 port, 10/100 Mb/s, with Transparent Ready class B10 standard web server	
		CANopen master bus Integrated port	–		1 (SUB-D9)	–	1 (SUB-D9)
		Serial link	1 RJ45 port, Modbus master/slave RTU/ASCII or character mode (non isolated RS 232C/RS 485), 0.3...19.2 Kb/s				–
		USB port	1 port, 12 Mb/s				
	Communication module	Ethernet TCP/IP	1 RJ45 port, 10/100 Mb/s with: - Transparent Ready class B30 standard web server with BMX NOE 0100 module - Transparent Ready class C30 configuration web server with BMX NOE 0110 module				
Internal user RAM	Total capacity		2048 Kb		4096 Kb		
	Program, constants and symbols		1792 Kb		3584 Kb		
	Data		128 Kb		256 Kb		
Execution time for one instruction	Boolean		0.18 µs		0.12 µs		
	On words or fixed point arithmetic	Single-length words	0.38 µs		0.25 µs		
		Double-length words	0.26 µs		0.17 µs		
	On floating points		1.74 µs		1.16 µs		
No. of K instructions executed per ms	100% Boolean		5.4 Kinst/ms		8.1 Kinst/ms		
	65% Boolean and 35% fixed arithmetic		4.2 Kinst/ms		6.4 Kinst/ms		
System overhead	Master task		1.05 ms		0.70 ms		
	Fast task		0.20 ms		0.13 ms		
References			**BMXP341000**	**BMXP342000**	**BMXP3420102**	**BMXP342020**	**BMXP3420302**

(1) Only affects in-rack modules. The remote I/O on the CANopen bus are not included in these maximum numbers.

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Other versions: **please consult our Customer Care Centre.**

Memory cards

Type of card	8 MB memory card	8 MB memory card + 8 MB files	8 MB memory card + 128 MB files
Use	Supplied as standard with each processor. Used for:	As replacement for the memory card supplied as standard with each processor, used for:	
	Backup of program, constants, symbols and data		
	–	File storage, 8 MB	File storage, 128 MB
	Activation of class B10 web server		
Compatibility	BMXP341000/20...	BMXP3420...	
References	**BMXRMS008MP**	**BMXRMS008MPF**	**BMXRMS0128MFP**

2

Type of module		Ethernet Network Communication		
Speed		10/100 Mb/s		10/100 Mb/s
Protocols		Modbus TCP	TCP/IP (Uni-TE, Modbus)	EtherNet/IP and Modbus/TCP
Conformity class		Transparent Ready class B30		-
Communication service	I/O Scanning service	Yes		Yes
Transparent Ready	FDR service	Yes (client/server)		Yes (client / server)
	SNMP network management service	Yes		Yes (agent)
	Global Data service	Yes		No
	SOAP/XML Web service	No	Server	-
	Bandwidth management	Yes		Yes
	Qos	-		Yes
	RSTP	-		No SOAP
References		**BMXNOE0100**	**BMXNOE0110**	**BMXNOC0401**
Memory card	Use	Provides services conforming to Transparent Ready: Class B	Class C 32 MB available for user web pages	No
References		**BMXRWSB000M**	**BMXRWSFC032M**	

Qos: Quality of Service - RSTP: Rapid Spanning Tree Protocol

Type of module	PROFIBUS DP V1	
Designation	PROFIBUS Remote Master (Ethernet Modbus TCP/PROFIBUS DP V1) compatible with all programmable automation under UNITY and supporting the I/O scanning service	
	Standard version 0…65°	Hardened version -25…70°, varnished
Speed	9.6 Kb…12 Mb	
Interface	RS485 isolated (Sub-D 9 pin female connector)	
PROFIBUS Services	Master Class 1 and 2, support for 125 slaves, Sync & Freeze, Extended diagnostics. Delivered with communication DTM allowing any FDT tool to access the PROFIBUS slaves from the Ethernet network by way of the PROFIBUS Remote Master	
References	**TCSEGPA23F14F**	**TCSEGPA23F14FK**

Type of module	Serial link (1)	AS-Interface (1)
Number of interfaces	2	1
Speed	115 Kbits/s	–
Profile	–	M4 (AS-i V3)
References	**BMXNOM0200**	**BMXEIA0100**

(1) For BMXNOC0401 (EtherNet/IP), Profibus DP Gateway TSX EGPA23F14F, Modbus Plus Gateway TCS EGDB23F24FA

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Other versions: **please consult our Customer Care Centre.**

Communication modules

Type of module		RTU communication
Designation		Communication
Protocols		IEC 60870-5-101, DNP3 (subset level 3), Modbus/TCP, IEC 60870-5-104, DNP3 IP, DNP3 (subset level 3), Multi-protocols master slave
Ports	Ethernet port	10BASE-T/100BASE-TX or PPPoE (PPP Protocol over Ethernet) for ADSL external modem
	Serial port	Non-isolated RS 232/485 (Serial link) or RS232 external modem (Radio, PSTN, GSM, GPRS/3G)
Conformity class		Transparent Ready class C30
Transparent Ready communication services	I/O Scanning service	-
	Global Data service	-
	NTP me synchronization	Yes
	FDR service	Yes (client)
	SMTP e-mail notification service	Yes
	SOAP/XML Web service	Server
	SNMP network management service	Yes (agent)
RTU communication services	Master or Slave configuration	Yes, IEC101/104 and DNP3, with Pull through routing of events
	RTU clock synchronization	via RTU protocol or NTP
	Time stamped data and events exchanges	Yes, IEC101/104 and DNP3, polled interogations, Report by exception (RbE), unsolicited responses
	Time stamped events buffering and date stamped events	up to 100000 events, backup of events on power fail (10000)
	Automatic bacfill of time stamped events to Master/SCADA	Yes, on network disconnection/reconnection
	Data logging service	in CSV files in SD card memory (128 MB)
	Email/SMS service	Alarm and report notification
Memory Card	SD card 128 MB	Web server and Data logging CSV files
Reference		**BMXNOR0200H**

Power supply modules

Type of module		Power supply modules				
Voltage		24 VDC isolated	24…48 VDC isolated	100…240 VAC		
Nominal input current		1A at 24 VDC	1.65 A at 24 VDC 0.83 A at 48 VDC	0.61 A at 115 VAC 0.31 A at 220 VDC	1.04 A at 0.52 A	100...150 VDC
Micro-break duration		≤ 1				
Integrated protection		Via internal fuse (not accessible)				
Max. useful power		17W	32 W	20 W	36 W	
Max. dissipated power		8.5 W				
Removable connectors (set of 2)	supplied as standard	**BMXXTSCPS10** (cage clamp)				
	to be ordered separately	**BMXXTSCPS20** (spring-type)				
References		**BMXCPS2010**	**BMXCPS3020**	**BMXCPS2000**	**BMXCPS3500**	**BMXCPS3504** (1)

Racks

Designation	Racks			
Type of modules to be installed	BMX CPS power supply, BMX P34 processor, I/O modules and application-specific modules (counter, communication)			
No. of slots	4	6	8	12
References	**BMXXBP0400**	**BMXXBP0600**	**BMXXBP0800**	**BMXXBP1200**

Rack extensions

Designation	Rack extension module	Kit for rack extension
	Standard module to interconnect rack	A complete assembly kit for to racks distant from 0.8 m or less
References	**BMXXBE1000**	**BMXXBE2005**

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Type of module			DC input modules					
Number of inputs			16	16	32	64	16	16
Connection			Screw or spring-type 20-way removable terminal block		1 connector 40-way	2 connectors 40-way	Screw or spring-type 20-way removable terminal block	
Nominal input values	Voltage		24 V	48 V	24 V			125 VDC
	Current		3.5 mA	2.5 mA	1 mA	3 mA		
	Logic		Positive *(sink)*				Negative *(source)*	
Input limit values	At state 1	Voltage	≥11 V	≥34 V	≥11 V	≥15 V	≥14 V	
		Current	> 2 mA (for U ≥11 V)	> 2 mA (for U ≥34 V)	> 2 mA (for U ≥11 V)	> 1 mA (for U ≥5 V)	> 2 mA (for U ≥15 V)	
	At state 0	Voltage	< 5 V	< 10 V	< 5 V			
		Current	≥1.5 mA	≥0.5 mA	≥1.5 mA	≥0.5 mA		
References			**BMXDDI1602**	**BMXDDI1603**	**BMXDDI3202K**	**BMXDDI6402K**	**BMXDAI1602**	**BMXDDI1604** (1)

Type of module			AC input modules			
Number of inputs			16			8
Connection			Screw or spring-type 20-way removable terminal block			
Nominal input values	Voltage		24 VAC	48 AC	100…120 VAC	200...240 VAC
	Current		3 mA			10.4 mA
	Frequency		50/60 Hz			
Input limit values	At state 1	Voltage	≥15 V	≥34 V	≥74 V	≥159 V
		Current	≥2 mA		≥2.5 mA	≥6 mA
	At state 0	Voltage	≤5 V	≤10 V	≤20 V	≤40 V
		Current	≤1 mA			≤4 mA
References			**BMXDAI1602**	**BMXDAI1603**	**BMXDAI1604**	**BMXDAI0805** (2)

Type of module		DC solid state output modules			
Number of inputs		16	16	32	64
Connection		Screw or spring-type 20-way removable terminal block		One 40-way connector	Two 40-way connectors
Nominal output values	Voltage	24 VDC			
	Current	0.5 V		0.1 V	
	Logic	Positive *(source)*	Negative *(sink)*	Positive *(source)*	
Output limit values	Voltage (ripple included)	19…30 (possible up to 34 V, limited to 1 hour in every 24 hours)			
	Current per channel	0.625 A			0.125 A
	Current per module				
Maximum dissipated power		4	2.26	3.6	6.85
References		**BMXDDO1602**	**BMXDDO1612**	**BMXDDO3202K**	**BMXDDO6402K**

Type of module			Triac output modules
Number of inputs			16
Connection			Screw or spring-type 20-way removable terminal block
Operating voltage	Nominal		100…240 VAC
	Limit		85…288 VAC
Currents	Maximum		0.6 per channel, 2.4 per common, 4.8 for all 4 commons.
	Minimum		25 mA at 100 V a, 25 mA at 240 V a.
Maximum inrush current			≤ 20/cycle
Reference			**BMXDAO1605**

Type of module			Relay output modules		
Number of inputs			8	16	8
Connection			Screw or spring-type 20-way removable terminal block		
Max. operating voltage	DC		10…34 VDC	24…125 VDC (resistive load)	
	AC		10…264 VAC	200…264 VAC (Cosφ = 1)	100...150 VDC
Response time	Activation		< 10 ms		
	Deactivation		< 8 ms	< 12 ms	
Dissipated power			2.7 W max	3 W	
References			**BMXDRA0805**	**BMXDRA1605**	**BMXDRA0804** (1)

Type of module			24 VDC mixed I/O modules			
			Inputs	Solid state outputs	Inputs	Solid state outputs
Number of I/O			8	8	16	16
Connection			Screw or spring-type 20-way removable terminal block		One 40-way connector	
Input limit values	At state 1	Voltage	≥11V		≥11V	
		Current	≥3 mA (for U ≥11)		≥2 mA (for U ≥11)	
	At state 0	Voltage	5 V		5 V	
		Current	≤1.5 mA		≤1.5 mA	
	Sensor power supply (ripple included)		19…30 V (possible up to 30 V, limited to 1 hour in every 24 hours)			
Output limit values	Voltage (ripple included)		19…30 (possible up to 30 V, limited to 1 hour in every 24 hours)			
	Current	per channel	0.625 A		0.125 A	
		per module	5 A		3.2 A	
Maximum dissipated power			3.7 W		4 W	
References			**BMXDDM16022**		**BMXDDM3202K**	

Discrete I/O modules

Type of module			Mixed input/relay output modules	
			24 VDC inputs	24 VDC or 24…240 VAC relay outputs
Number of I/O			8	8
Connection			Screw or spring-type 20-way removable terminal block	
Nominal values	Inputs	Voltage	24 VDC (positive logic)	
		Current	3.5 mA	
	Outputs	DC voltage		24 VDC
		DC		2 (resistive load)
		AC voltage		220 VAC, Cosφ = 1
		AC		2 A
Input limit values	At state 1	Voltage	≥11V	
		Current	≥2 mA (for U ≥ 11 V)	
	At state 0	Voltage	5 V	
		Current	≤1.5 mA	
	Sensor power supply (ripple included)		19…30 V (possible up to 30 V, limited to 1 hour in every 24 hours)	
Maximum dissipated power			3.1 W	
Reference			**BMXDDM16025**	

2

Analog I/O modules

2

Type of module	Analog input module				
Input type	Isolated high-level inputs	Isolated high-level inputs	Non isolated high-level inputs	Isolated inputs, low-level voltage, resistors, temperature probes, thermocouples	
Number of channels	4	8	8	4	8
Nature of inputs	± 10 V, ± 5 V, 0…5 V, 0…10 V, 1…5 V 0…20 mA, 4…20 mA , ± 20 mA			±40 mV, ±80 mV, ±160 mV, ±320 mV, ±640 mV, ±1.28 V	
Resolution	0.35 mV/0.92 µA			15 mV + sign	
References	**BMXAMI0410**	**BMXAMI0810** (1)	**BMXAMI0800** (1)	**BMXART0414**	**BMXART0814**

Type of module		Analog output module		
Output type		Isolated high-level outputs		Non isolated high-level outputs
Number of channels		2	4	8
Range	Voltage	± 10 V		–
	Current	0…20 mA and 4…20 mA		–
Resolution		15 bits + sign		
References		**BMXAMO0210**	**BMXAMO0410** (1)	**BMXAMO0802** (1)

Type of module		Mixed analog I/O module	
Channel type		Non-isolated high-level inputs	Non-isolated high-level outputs
Number of channels		4	2
Ranges		±10 V, 0…5 V, 0…10 V, 1…5 V, 0…20 mA, 4…20 mA	±10 V, 0…20 mA, 4…20 mA
Maximum conversion value	Voltage	± 11.25 V	± 11.25 V
	Current	0…30	0…24 mA
Resolution		14 bits, 12 bits, 13 bits, 12 bits	12 bits, 11 bits
Reference		**BMXAMM0600**	

Counter and motion control modules

Type of module	Counter module 32 bits	Counter module 16 bits	Counter module 32 bits	Motion Control Module
Modularity	2 channels	8 channels	4 channels	4 channels
No. of sensor inputs	6 per channel	2 per channel	3 per channel	4 auxiliary inputs
No. of actuator outputs	2 per channel			2 auxiliary outputs
Module cycle time	1 ms	5 ms		–
Applications	Upcounting, downcounting, measurement, frequency meter, frequency generator, axis following	Upcounting, downcounting, measurement		Frequency generator, Move, set position
References	**BMXEHC0200**	**BMXEHC0800**		**BMXMSP0200**

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Other versions: **please consult our Customer Care Centre.**

SSI encoder module

Type of module	SSI encoder interface
Number of channels	3
Encoder support	8 to 31 bits, 24V
Auxiliary input	2
Reflex output	3
Baud rate	100K to 1MHz
Module cycle time	1 ms
Functions	Capture, compare and event, modulo, reduction, offset
Reference	**BMXEAE0300**

Connection accessories

Removable terminal blocks	20-way			28-way	
For use with modules	BMX AMI 0410 - BMX AM0 0210 - BMX AMM 0600 - BMX EHC 0800			BMX MSP 200, BMX AMI 0800 / AMI 0810	
For use with TOR modules	All 8 and 16 channel modules				
Composition	Cage clamp	Screw clamp	Spring-type	–	–
Type of connection	–	–	–	Spring-type	Screw clamp
References	**BMXFTB2000**	**BMXFTB2010**	**BMXFTB2020**	**BMXFTB2820**	**BMXFTB2800**

Some racks, power supply, communication modules and specific modules, plus all the analog modules are now available in «ruggedized version». The references of these products end by a H.

Processors under Unity Pro software

2

Type of processor		TSX 5710 4 racks max.	TSX 5720 16 racks max.	TSX 5730 16 racks max.
Number of I/O	Discrete	512	1024	1024
in racks	Analog	24	80	128
Integrated process control		No / Yes	30 loops / Yes	45 loops / Yes
Application-specific channels (counter, position control, weighing)		8	24	32
Bus	AS-Interface cabling system	2	4	8
	CANopen machine bus	1	1	1
	InterBus, Profibus DP fieldbus	–	1	3
Networks (Ethernet, Modbus Plus, Fipway)		1	2	3
Memory capacity	Without PCMCIA extension	96 Kb data/prog.	160/192 Kb data/prog. (1)	192/208 Kb data/prog. (1)
	With PCMCIA extension	96 Kb data/224 Kb prog.	160/192 Kb data (1)/768 Kb prog.	192/208 Kb data (1)/1,75 MB prog.
Execution time for one	Boolean	0.19 µs	0.19 µs	0.12 µs
instruction without ext. PCMCIA	On word or arithmetic	0.25 µs	0.25 µs	0.17 µs
Reference	Without integrated port	**TSXP57104M** (6)	**TSXP57204M** (6)	**TSXP57304M** (6)
	Integrated Ethernet	**TSXP571634M** (2) (6)	**TSXP572634M** (6)	**TSXP573634M** (6)
	Integrated CANopen	–	–	–
	Integrated Fipio	**TSXP57154M** (6)	**TSXP57254M** (6)	**TSXP57354M** (6)

Processors under PL7 software

Type of processor		TSX 5710 4 racks max.	TSX 5720 16 racks max.	TSX 5730 16 racks max.
Number of I/O	Discrete	512	1024	1024
in racks	Analog	24	80	128
Integrated process control		No	30 loops	45 loops
Application-specific channels (counter, position control, weighing)		8	24	32
Bus	AS-Interface cabling system	2	4	8
	CANopen machine bus	1 (with TSXP57103M)	1	1
	InterBus, Profibus DP fieldbus	–	1	2
Networks (Ethernet, Modbus Plus, Fipway)		1	1	3
Memory capacity	Without PCMCIA extension	32 K words data/prog.	48 K words data/prog. (4)	64/80 K words data/prog. (4)
	With PCMCIA extension	32 K words data/64 K words prog.	32 K words data (4)/160 K words prog.	80/96 K words data (4)/384 K words prog.
Execution time for one	Boolean	0.19 µs	0.19 µs	0.12 µs
instruction without ext. PCMCIA	On word or arithmetic	0.25 µs	0.25 µs	0.17 µs
Reference	Without integrated port	**TSXP57103M** (6)	**TSXP57203M** (6)	**TSXP57303AM** (6)
	Integrated Ethernet	–	**TSXP572623M** (6)	**TSXP573623AM** (6)
	Integrated Fipio	**TSXP57153M** (6)	**TSXP57253M** (6)	**TSXP57353AM** (6)
	Integrated Ethernet and Fipio	–	**TSXP572823M** (6)	–

(1) The second value corresponds to the integrated memory capacity when the processor is equipped with a Fipio manager integrated link

(2) Processor with double format

(3) PC format card on PCI bus

(4) The second value corresponds to the processor with integrated Fipio bus manager link.

(5) with PL7 V4.4 min.

(6) For coated version add C at the end of the reference: example **TSXP571634M** becomes **TSXP571634MC**

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Other versions: **please consult our Customer Care Centre.**

HotStandBy offer

	TSX 5740 16 racks max.	**TSX 5750** 16 racks max.	**TSX 5760** 16 racks	**TSXH5724M** 16 racks	**TSXH5744M** 16 racks
	2048	2048	2048	512	512
	256	512	512	80	128
	60 loops / Yes	90 loops / Yes	90 loops / Yes	30 loops / Yes	60 loops / Yes
	64	64	64	16 (serial communication)	16 (serial communication)
	8	8	8	0	0
	1	1	1	0	0
	4	5	5	0	0
	4	4	4	2	4
	320 Kb data/prog.	1024 Kb data/prog.	2048 Kb data/prog.	192 Kb	440 Kb
	440 Kb data/2 MB prog.	1024 Kb data/7 MB prog.	2048 Kb data/7 MB prog.	192 Kb data/768 Kb prog.	440 Ko data/2 MB prog.
	0.06 µs	0.037 µs	0,037 µs	0,039 µs	0,039 µs
	0.07 µs	0.045 µs	0,045 µs	0,054 µs	0,054 µs
	–	–	–	**TSXH5724M** (6)	**TSXH5744M** (6)
	TSXP574634M (6)	**TSXP575634M** (6)	**TSXP576634M** (6)		
	–	–	–		
	TSXP57454M (6)	**TSXP57554M** (6)	–		

Memory extensions for Unity Pro processors

Type of PCMCIA card		Application		Additional data
Technology		SRAM	Flash EPROM only	SRAM
Memory size	96 Kb	–	**TSXMFPB096K** (3)	–
	128 Kb	**TSXMRPP128K**	**TSXMFPP128K**	–
	224 Kb	**TSXMRPP224K / TSXMCPC224K**	**TSXMFPP224K**	–
	384 Kb	**TSXMRPP384K**	**TSXMFPP384K**	–
	448 Kb	**TSXMRPC448K** (1)	–	–
	512 Kb	–	**TSXMCPC512K** (2) / **TSXMFPP512K**	–
	768 Kb	**TSXMRPC768K** (1)	–	–
	1 MB	**TSXMRPC001M** (1) (6)	**TSXMFPP001M**	–
	1.7 MB	**TSXMRPC01M7**	–	–
	2 MB	**TSXMRPC002M** (1)	**TSXMCPC002M** (2) / **TSXMFPPC002M**	–
	3 MB	**TSXMRPC003M** (1) (6)	–	–
	4 MB	–	**TSXMFPP004M**	**TSXMRPF004M**
	7 MB	**TSXMRPC007M** (1) (6)	–	–
	8 MB	–	–	**TSXMRPF008M**

(1) By configuration, the user can reserve part of the memory space for data storage (recipes, production data) on request.

(2) These cards have an additional SRAM area for storing data (recipes, production data).

(3) Backup cartridge of the program when this one reside entirely in PLC internal memory.

Memory extensions for PL7 processors

Type of PCMCIA card		Application		Additional data
Technology		SRAM	Flash EPROM only	SRAM
Memory size (4)	32 K words	**TSXMRPP128K**	**TSXMFPP128K**	–
	64 K words	**TSXMRPP224K**	**TSXMFPP224K**	–
	64 K words/128 K words	**TSXMRPP384K**	**TSXMCPC224K**	–
	96 K words	–	**TSXMFPB096K**	–
	128 K words	**TSXMRPC448K**	**TSXMFPP384K**	–
	128 K words/128 K words	**TSXMRPC768K** (5)	–	–
	256 K words	**TSXMRPC001M** (6)	–	–
	256 K words/640 K words	**TSXMRPC01M7** (5)	–	–
	384 K words/640 K words	**TSXMRPC002M**	–	–
	512 K words	**TSXMRPC003M** (5) (6)	–	–
	992 K words/640 K words	**TSXMRPC007M** (6)	–	–
	2048 K words	–	–	**TSXMRPF004M**

(4) The 1st value corresponds to the size of the application area, the second to the size of the additional data area for storing data (recipes, production data, etc).

(5) These cards have an additional SRAM area for storing application object symbols.

(6) For coated version add C at the end of the reference: example **TSXMRPC001M** becomes **TSXMRPC001MC**

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Power supply modules (1)

Type of power supply module for	Premium					Atrium (2)
Input voltage	24 VDC		100…240 VAC	100…120/200…240 VAC		24 VDC
Output voltage	5 VDC/24 VDC					5 VDC
Total useful power	26 W	50 W	26 W	50 W	77 W	26 W
Format	Standard	Double	Standard	Double	Double	–
Reference	**TSXPSY1610M** (4)	**TSXPSY3610M** (4)	**TSXPSY2600M** (4)	**TSXPSY5500M** (4)	**TSXPSY8500M** (4)	**TSXPSI2010**

(1) Process power supplies see chapter 6 “Power supply”

(2) Only for Atrium slot-PLCs under Unity

2

Racks

Type of rack			Non extendable	Extendable
For configuration			Mono-rack	Multi-rack (16 max.)
		Dimensions WxDxP		
Reference	4 positions	188 x 160 x 151,5 mm (3)	–	**TSXRKY4EX** (4)
	6 positions	261,6 x 160 x 151,5 mm (3)	**TSXRKY6** (4)	**TSXRKY6EX** (4)
	8 positions	335,3 x 160 x 151,5 mm (3)	**TSXRKY8** (4)	**TSXRKY8EX** (4)
	12 positions	482,6 x 160 x 151,5 mm (3)	**TSXRKY12** (4)	**TSXRKY12EX** (4)

(3) Hight of I/O modules : 151,5 mm with HE 10 or SUB-D connectors, 165 mm with screw terminals

(4) For coated version add C at the end of the reference: example **TSXPSY1610M** becomes **TSXPSY1610MC**

Connection accessories

Type		Bus X daisy chaining cable for extendable racks	Line terminators and accessories
		–	Set of 2
Reference		–	**TSXTLYEX**
		–	**TSXTVSY100** (2 Bus X Transcient voltage suppressor) (5)
	L = 1 m	**TSXCBY010K**	–
	L = 3 m	**TSXCBY030K**	–
	L = 5 m	**TSXCBY050K**	–
	L = 12 m	**TSXCBY120K**	–
	L = 18 m	**TSXCBY180K**	–
	L = 28 m	**TSXCBY280KT**	–
	L = 38 m	**TSXCBY380KT**	–
	L = 50 m	**TSXCBY500KT**	–
	L = 72 m	**TSXCBY720KT**	–
	L = 100 m	**TSXCBY1000KT**	–

(5) Available 1Q 2010.

Type of module		Discrete inputs				
Connection		By screw terminals TSXBLY01 (1)		By HE 10 connector (2) high density		
Number of isolated channels		8	16	16 (3)	32	64
Input voltage	24 VDC	**TSXDEY08D2** (5)	**TSXDEY16D2** (5)	**TSXDEY16FK** (5)	**TSXDEY32D2K** (5)	**TSXDEY64D2K** (5)
	48 VDC	–	**TSXDEY16D3** (5)	–	**TSXDEY32D3K** (5)	–
	24 VAC	–	**TSXDEY16A2** (4) (5)	–	–	–
	48 VAC	–	**TSXDEY16A3** (5)	–	–	–
	100…120 VAC	–	**TSXDEY16A4** (5)	–	–	–
	200…240 VAC	–	**TSXDEY16A5** (5)	–	–	–

(1) Terminal block to be ordered separately

(2) For use with Modicon ABE7 wiring system

(3) Module with high-speed isolated inputs (filtering from 0.1 to 7.5 ms) able to activate the event-triggered task

(4) Module also compatible with 24 VDC negative logic

Type of module		Discrete outputs							
		Solid state				Relay			Triac
Connection		By screw terminals TSXBLY01 (1)		By HE10 conn. (2)		By screw terminals TSXBLY01 (1)			
Number of protected channels		8	16	32	64	8	16	8	16
Output voltage/current	24 VDC/0,5 A	TSXDSY08T2 (5)	TSXDSY16T2 (5)	–	–	–	–	–	–
	24 VDC/2 A	TSXDSY08T22 (5)	–	–	–	–	–	–	–
	24 VDC/0.1 A	–	–	TSXDSY32T2K (5)	TSXDSY64T2K (5)	–	–	–	–
	48 VDC/1 A	TSXDSY08T31 (5)	–	–	–	–	–	–	–
	48 VDC/0.25 A	–	TSXDSY16T3 (5)	–	–	–	–	–	–
	24…48 VDC-24…240 VAC/5 A Th.c	–	–	–	–	TSXDSY08R5A (5)	–	–	–
	24…120 VAC/5 A Th.c	–	–	–	–	TSXDSY08R4D (5)	–	–	–
	24…120 VAC/1 A	–	–	–	–	–	–	–	TSXDSY16S4 (5)
	48…240 VAC/1 A	–	–	–	–	–	–	–	TSXDSY16S5
	48…240 VA /2 A	–	–	–	–	–	–	TSXDSY08S5	–
	24 VDC-24…240 VAC/3A	–	–	–	–	TSXDSY08R5 (5)	TSXDSY16R5 (5)	–	–

(1) Terminal block to be ordered separately

(2) For use with Modicon ABE7 wiring system

Type of module		Discrete I/O	
Connection		By HE 10 connector (2) high density	
Number of inputs		16 high-speed	
Number of protected outputs		12 solid state	12 reflex or timed
Output voltage/current	24 VDC/0.5 A	**TSXDMY28FK** (5)	**TSXDMY28RFK** (5)

(2) For use with Modicon ABE7 wiring system

(5) For coated version add C at the end of the reference: example **TSXDEY08D2** becomes **TSXDEY08D2C**

Connection accessories: See www.schneider-electric.com

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Other versions: **please consult our Customer Care Centre.**

Analog I/O modules

Type of module		Analog input					
		High level with common point			High level isolated	Low level isolated	
Connection		By 25-way SUB-D connector					By terminal block (1)
Number of channels		4 high-speed	8	16	8	16	4
Resolution		16 bits	12 bits		16 bits	16 bits	16 bits
Isolation	Between channels	Common point	Common point	Common point	± 200 VDC	± 100 VDC	± 2830 Vrms
	Between channels and earth	~ 1000 Vrms	~ 1000 Vrms	~ 1000 Vrms	~ 1000 Vrms	~ 1000 Vrms	~ 1780 Vrms
Reference	High level input (2)	**TSXAEY420** (7)	**TSXAEY800** (7)	**TSYAEY1600** (7)	**TSXAEY810** (7)	–	–
	Multi-range	–	–	–	–	**TSXAEY1614** (3)(7)	**TSXAEY414** (4) (7)

(1) Screw terminals **TSXBLY01** to be ordered separately

(2) ± 10 V, 0…10 V, 0…5 V, 1…5 V, 0…20 mA, 4…20 mA

(3) ± 63 mV thermocouple (B, E, J, K, L, N, R, S, T, U)

(4) ± 10 V, ± 5 V, 0…10 V, 0…5 V, 1…5 V, 0…20 mA, 4…20 mA, -13…+63 mV, 0…400 W, 0…3850 W, thermal probe, thermocouple

Type of module		Analog output	
		Isolated	With common point
Connection		By screw terminals TSXBLY01 (5)	By 25-way SUB-D connector
Number of channels		4	8
Resolution		11 bits + sign	13 bits + sign
Isolation	Between channels	~ 1500 Vrms	Common point
	Between channels and earth	~ 1500 Vrms	~ 1000 Vrms
Reference	Input signal (6)	**TSXASY410** (7)	**TSXASY800** (7)

(5) Terminal block to be ordered separately

(6) ± 10 V, 0…10 V, 0…20 mA, 4…20 mA.

(7) For coated version add C at the end of the reference: example **TSXAEY420** becomes **TSXAEY420C**

Counter modules

Type of module	Counter		Counter/measurement	Electronic cam
Type of inputs for	Sensors (2) Incremental encoders (3)		Sensors (2) Encoders (3)(4)	Incremental encoders (3) Absolute encoders (5)
Counting	40 kHz		500 kHz/200 kHz (5)	
Cycle time module	5 ms	10 ms	1 ms	–
Number of channels	2	4	2	128 cams
Number of axes	–	–	–	1
Reference	**TSXCTY2A** (1)	**TSXCTY4A** (1)	**TSXCTY2C** (1)	**TSXCCY1128** (1)

(1) For coated version add **C** at the end of the reference: example TSXCTY2A becomes TSXCTY2A**C**
(2) For 2/3-wire PNP/NPN 24 VDC sensors
(3) For 5 VDC RS422, 10…30 VDC Totem Pole incremental encoders
(4) For SSI serial or parallel output absolute encoders
(5) For RS485 serial or parallel output absolute encoders

Motion control modules

Module type		For translators (amplifier for stepper motor)		For analog control servomotors (for asynchronous and brushless motors)				
Control outputs		RS 422		+/- 10 V				
Compatible with drives		Lexium 05, Twin Line		Lexium 05 / 15 LP, MP and HP, Twin Line, Lexium 32				
Functions	Linear axes	–		Limited		Limited or infinite		Limited or infinite(6)
	Slave axes	–		With static ratio		With dynamic ratio		–
Frequency for each axis		187 kHz		500 kHz with incremental encoder, 200 kHz with absolute encoder (7)				
Number of axes		1	2	2	4	2	4	3
Reference		**TSXCFY11** (1)	**TSXCFY21** (1)	**TSXCAY21** (1)	**TSXCAY41** (1)	**TSXCAY22** (1)	**TSXCAY42** (1)	**TSXCAY33** (1)

(6) With linear interpolation on 2 or 3 axes
(7) SSI serial or with parallel outputs

Module type	Servomotors with SERCOS® digital ring (for brushless motors)		
Control outputs	SERCOS® network ring		
Compatible with ranges	Lexium 15 LP, MP, HP and Lexium 32 modular drive		
Functions	Linear or infinite independent axes, slave axes with cam profile or ratio		
Processing	4 sets of axes with linear interpolation from 2 to 8 axes	4 sets of axes with linear and circular interpolation from 2 to 3 axes (8)	4 sets of axes with linear interpolation from 2 to 8 axes
Frequency for each axis	4 MB SERCOS® network ring		
Number of axes	8 (9)	8 (9)	16 (10)
Reference	**TSXCSY84**	**TSXCSY85**	**TSXCSY164**

(8) TSXCSY85 module supplied with TJE trajectory editor: linear trajectories with links between segments according to polynomial or circular interpolation and circular trajectories.
(9) 8 real axes, 4 imaginary axes and 4 remote axes
(10) 16 axes (real axes, imaginary and remote axes)

Weighing modules

Type of module		ISP Plus supplied uncalibrated	supplied calibrated and Ex offer
Load cell inputs / outputs		50 measurements (for 1 to 8 load cells) / 2 discrete and 1 RS 485 for display unit	
Reference	Without display unit	**TSXISPY101** (1)	**Please consult your Schneider-electric agency**
	With display unit TSXXBTN410	**TSXISPY121**	**Please consult your Schneider-electric agency**

Connection accessories: See www.schneider-electric.com

Other versions: **please consult our Customer Care Centre.**

Communication modules

Type of module		Ethernet network communication					
Speed		10 Mb/s	10/100 Mb/s				
Standard services		Ethway, Modbus TCP (Uni-TE, Modbus)	Modbus TCP (Uni-TE, Modbus)				EtherNet/IP & Modbus TCP
Transparent Ready	Class	C10	B30	B30	C30	D10	B30
	Global Data	–	Yes	Yes	Yes	–	–
	I/O Scanning	–	Yes	Yes	Yes	–	Yes
	QoS (3)						Yes
	TCP Open	Yes	–	–	Yes	–	–
Web server	Standard services	Yes	Yes	Yes	Yes	Yes	Yes
	FactoryCast services	Yes	–	–	Yes	–	–
	FactoryCast HMI services	–	–	–	–	Yes	–
Reference		**TSXETY110WS** (4)	**TSXP57** (1)	**TSXETY4103** (4)	**TSXETY5103** (4)	**TSXWMY100** (4)	**TSXETC101** (2)

(1) References: see pages 3/30 and 3/31, Premium processors with integrated Ethernet TCP/IP port
(2) Seamless integration of Modbus and EtherNet/IP environments. Full integration in Unity (FDT/DTM technology). Available Unity V5
(3) QoS: Quality of Service

Profibus DPV1 is available for Modicon Premium — Please refer to page 3/23

Type of module	AS-Interface cabling system	CANopen machine bus	Fipio manager fieldbus	InterBus fieldbus	Profibus DP V0 fieldbus
Name and description	In-rack	PCMCIA	Integrated port	In-rack	In-rack
Speed	167 Kb/s	20 K…1 Mb/s	1 Mb/s	0.5 Mb/s	9.6 K…12 Mb/s
Reference	**TSXSAY1000** (4)	**TSXCPP110** (4)	**TSXP57** (2)	**TSXIBY100** (4)	**TSXPBY100**

(2) References: see pages 3/30 and 3/31, Premium processors with integrated Fipio port

Type of module			Serial links					
			Uni-Telway			Modbus		ASCII
Name and description			Integrated port	In-rack	PCMCIA	In-rack	PCMCIA	PCMCIA
Speed			19.2 Kb/s	19.2 Kb/s	1.2...19.2 Kb/s	19.2 Kb/s	1.2...19.2 Kb/s	1.2...19.2 Kb/s
Reference	With interface	RS 485	**TSXP57** (1)	**TSXSCY21601** (3) (4)	**TSXSCP114** (4)	**TSXSCY11601** (4)	**TSXSCP114** (4)	**TSXSCP114** (4)
		RS 232D	–	–	**TSXSCP111** (4)	–	**TSXSCP111** (4)	**TSXSCP111** (4)
		20mA CL	–	–	**TSXSCP112** (4)	–	**TSXSCP112** (4)	**TSXSCP112** (4)

(3) Also designed for Modbus serial (channel 0).

Type of module	Other networks		
	Modbus Plus	Fipway	Fipio (agent function)
Name and description	PCMCIA card	PCMCIA card	PCMCIA card
Speed	1 Mb/s	1 Mb/s	1 Mb/s
Reference	**TSXMBP100** (4)	**TSXFPP20** (4)	**TSXFPP10** (4)

(4) For coated version add C at the end of the reference: example TSXETY110WS becomes TSXETY110WSC
Connection accessories: See www.schneider-electric.com

Processors under Unity Pro software

Type of processor		Simple applications	Simple and medium complexity applications
Max. number of discrete I/O (1)	Local	Unlimited (27 slots max.)	
	Remote/distributed	31744 inputs (RIO)/8000 inputs (DIO) and 31744 outputs (RIO)/8000 outputs (DIO)	
Max. number of analog I/O (1)	Local	Unlimited (27 slots max.)	
	Remote/distributed	1984 inputs (RIO)/500 inputs (DIO) and 1984 outputs (RIO)/500 outputs (DIO)	
Type of application-specific I/O		Counter, motion control, high-speed interrupt inputs, time-stamp, serial link, AS-Interface sensor/actuator bus	
Communication ports (2)	Integrated Modbus	2 RS 232/RS 485	2 RS 232
	Modbus Plus	1 integrated, 2 in local rack	1 integrated, 6 in local rack
	Ethernet TCP/IP	2 in local rack	6 in local rack
	Fieldbus	Profibus DP: 2 in local rack	Profibus DP: 6 in local rack
Memory capacity	Internal RAM	548 KB	1056 KB
	With PCMCIA extension	–	–
	Data storage	–	–
Reference		**140CPU31110** (4)	**140CPU43412U** (4)

(1) The maximum values for the number of discrete or analog I/O are not cumulative
(2) The numbers of communication modules are not cumulative, 2 or 6 in local rack, depending on model
(3) Processor compatible with Unity Pro software after updating its firmware (via OS-Loader included in Unity Pro)
(4) For coated version add C at the end of the reference: example **T140CPU31110** becomes **140CPU31110C**
(5) Suitable for safety related application up to SIL2 and SIL3

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	Complex applications				Hot Standby redundant applications		Long distance HSBY CPU
	Unlimited (26 slots max.)			Unlimited (13 slots max.)	Unlimited (26 slots max.)	Unlimited (13 slots max.)	Unlimited (26 slots max.)
	31744 inputs (RIO)/8000 inputs (DIO) and 31744 outputs (RIO)/8000 outputs (DIO)			31744 inputs and 31744 outputs	31744 inputs (RIO)/8000 inputs (DIO) and 31744 outputs (RIO)/8000 outputs (DIO)	31744 inputs and 31744 outputs	31744 inputs (RIO)/8000 inputs (DIO) and 31744 outputs (RIO)/8000 outputs (DIO)
	Unlimited (27 slots max.)			Unlimited (13 slots max.)	Unlimited (27 slots max.)	Unlimited (13 slots max.)	Unlimited (27 slots max.)
	1984 inputs (RIO)/500 inputs (DIO) and 1984 outputs (RIO)/500 outputs (DIO)			1984 inputs and 1984 outputs	1984 inputs (RIO)/500 inputs (DIO) and 1984 outputs (RIO)/500 outputs (DIO)	1984 inputs and 1984 outputs	1984 inputs (RIO)/500 inputs (DIO) and 1984 outputs (RIO)/500 outputs (DIO)
	Intrinsically safe I/O, counter, motion control, high-speed interrupt inputs, time-stamp, serial link, AS-Interface sensor/actuator bus			–		–	–
	1 RS 232/485			1 RS 232/485	1 RS 232/485	1 RS 232/485	1 RS 232/485
	1 integrated, 6 in local rack			1 integrated	1 integrated, 6 in local rack	1 integrated	1 integrated, 6 in local rack
	1 integrated, 6 in local rack			1 integrated, 6 in local rack	6 in local rack	1 integrated, 6 in local rack	6 in local rack
	Profibus DP: 6 in local rack			–	Profibus DP: 6 in local rack	–	Profibus DP: 6 in local rack
	768 KB	1024 KB	3072 KB	1024 KB	1024 KB	1024 MB	3072 KB
	7 MB	7 MB	7 MB	7 MB	7 MB	7 MB	7 MB
	8 MB	8 MB	8 MB	–	8 MB	–	8 MB
	140CPU65150 (4)	**140CPU65160** (4)	**140CPU65260** (4)	**140CPU65160S** (5)	**140CPU67160** (4)	**140CPU67160S** (5)	**140CPU67261**

Power supply modules (1)

2

Type of power supply module for			Quantum				
Input voltage			24 VDC	48…60 VDC	100…150 VDC	120…130 VAC	115/230 VAC
Output current			8 A/3 A (5)	8 A	8 A/3 A	8 A/3 A	11 A
Reference	Type	Standalone (2)	**140CPS21100** (6)	–	**140CPS51100** (6)	**140CPS11100** (6)	–
		Summable	**140CPS21400** (6)	**140CPS41400** (6)	–	–	**140CPS11420** (6)
		Redundant	**140CPS22400** (6)	**140CPS42400** (6)	**140CPS52400** (6)	–	**140CPS12420** (6)

(1) Process power supplies see chapter 6 “Power supply”

(2) The output current for the standalone power supply modules is 3 A

PCMCIA memory extensions

Type of PCMCIA card for Unity processors 140CPU65/67		Application		Additional data
Technology		SRAM	Flash EPROM	SRAM
Memory size	512 Kb/512 Kb (4)	–	**TSXMCPC512K** (3)	–
	1 MB (5)	**TSXMRPC001M** (6)	**TSXMFPP001M**	–
	2 MB (5)	**TSXMRPC002M**	**TSXMFPP002M**	–
	2 MB/1 MB (4)	–	**TSXMCPC002M**	–
	3 MB (5)	**TSXMRPC003M** (6)	–	–
	4 MB	–	**TSXMFPP004M**	**TSXMRPF004M**
	7 MB (5)	**TSXMRPC007M** (6)	–	–
	8 MB	–	–	**TSXMRPF008M**

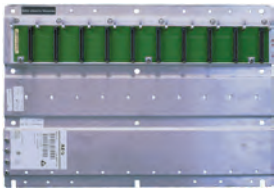
(3) These cards have an additional SRAM area for storing data (recipes, production data).

(4) The 1st value corresponds to the size of the application area, the second to the size of the additional data area for storing data (recipes, production data, etc)

(5) By configuration the user can reserve part of the memory space for data storage (recipes, production data, etc)

(6) For coated version add C at the end of the reference: example **TSXMRPC001M** becomes **TSXMRPC001MC**

Racks



Type			Racks
		Dimensions WxDxH	
References	2 slots	104x104x290 mm	**140XBP00200** (2)
	3 slots	143x104x290 mm	**140XBP00300** (2)
	4 slots	184x104x290 mm	**140XBP00400** (2)
	6 slots	265x104x290 mm	**140XBP00600** (2)
	10 slots	428x104x290 mm	**140XBP01000** (2)
	16 slots	671x104x290 mm	**140XBP01600** (2)
	Rack extension module		**140XBE10000** (1) (2)

(1) Local extension module, to be placed in main rack and secondary rack.

(2) For coated version add C at the end of the reference: example **140XBP00200** becomes **140XBP00200C**

Connection accessories (3)

Type		Cable for extension racks (main and secondary)
References	L = 1 m	**140XCA71703**
	L = 2 m	**140XCA71706**
	L = 3 m	**140XCA71709**

(3) **Other accessories:** See www.schneider-electric.com

Type of module (5)		Discrete inputs					
Connection		By screw terminals 140XTS00200 (to be ordered separately)					
Number of isolated channels		16	4 groups of 8	3 groups of 8	2 groups of 8	6 groups of 16	8 groups of 2
Input voltage	5 VDC TTL (negative logic)	–	**140DDI15310**	–	–	–	–
	24 VDC	–	**140DDI35300**(1)(2)	–	–	**140DDI36400**	–
	10…60 VDC	–	**140DDI85300**	–	–	–	**140DDI84100**
	20…30 VDC	–	**140DSI35300**(1)	–	–	–	–
	125 VDC	–	–	**140DDI67300**	–	–	–
	24 VAC	**140DAI34000**	**140DAI35300**	–	–	–	–
	48 VAC	**140DAI44000**	**140DAI45300**	–	–	–	–
	115 VAC	**140DAI54000**	**140DAI55300**	–	**140DAI54300**	–	–
	230 VAC	**140DAI74000**	**140DAI75300**	–	–	–	–

(1) For negative logic, replace 00 at the end of the reference with 10, for example **140DDI35300** becomes **140DDI35310**.

(2) Non-interfering module in safety related application

Type of module (5)		Discrete outputs Solid state					
Connection		By screw terminals 140XTS00200 (to be ordered separately)					
Number of protected channels		16	4 groups of 8	4 groups of 4	2 groups of 8	6 groups of 16	2 groups of 6
Output voltage/current	5 VDC TTL/0.075 A (3)	–	**140DDO15310**	–	–	–	–
	24 VDC/0.5 A	–	**140DDO35301**(1) **140DDO35300**(2)	–	–	–	–
	10…30 VDC/0.5 A (4)	–	**140DVO85300**	–	–	–	–
	19.2…30 VDC/0.5 A	–	–	–	–	**140DDO36400**	–
	10…60 VDC/2 A	–	–	–	**140DDO84300**	–	–
	24...125 VDC/0.75 A	–	–	–	–	–	**140DDO88500**
	24…48 VAC/4 A	–	–	**140DAO84220**	–	–	–
	24…115 VAC/4 A	**140DAO84010**	–	–	–	–	–
	24…230 VAC/ 4-3 A	**140DAO84000**	**140DAO85300**	–	–	–	–
	100...230 VAC/4-3 A	–	–	**140DAO84210**	–	–	–

(1) For negative logic, replace 01 at the end of the reference with 10, for example **140DDO35301** becomes **140DDO35310**.

(2) Non-interfering module in safety related application

(3) Negative logic

(4) Controlled outputs

Type of module (5)	Discrete I/O Solid state			Discrete outputs Relay	
Connection	By screw terminals 140XTS00200 (to be ordered separately)				–
Number of I/O	2 groups of 8/2 groups of 4		1 group of 4/ 4 isolated	–/16 NO	–/8 NO/NC
Input voltage	24 VDC	115 VAC	125 VDC	–	–
Output voltage/current	24 VDC / 4 A	115 VAC / 8 A	24...125 VDC / 16 A	2 A	5 A
Reference	**140DDM39000**	**140DAM59000**	**140DDM69000**	**140DRA84000**	**140DRC83000**

(5) For coated version add C at the end of the reference: example **140DDI15310** becomes **140DDI15310 C**

Connection accessories: See www.schneider-electric.com

Analog I/O modules

Type of module (4)	Analog inputs				
Connection	By screw terminals 140XTS00200 (to be ordered separately)				
Number of channels	8	16	8		
Input signal	4…20 mA 1…5 V	0…25/20 mA 4…20 mA	(1)	Thermal probe Pt, Ni	Thermocouple (2)
Resolution	12 bits	0…25000 points	16 bits	12 bits + sign	16 bits
Reference	**140ACI03000**	**140ACI04000** (3)	**140AVI03000**	**140ARI03010**	**140ATI03000**

(1) 0…25 mA, ± 20 mA, 4…20 mA, 0…10 V, ± 10 V, 0…5 V, ± 5 V, 1…5 V.

(2) Type B, E, J, K, R, S, T, mV

(3) Non-interfering module in safety related application

Type of module (4)	Analog output		
Connection	By screw terminals 140XTS00200 (to be ordered separately)		
Number of channels	4	8	4
Input signal	4…20 mA	0…25/20 mA 4…20 mA	0…10 V, ± 10 V 0…5 V, ± 5 V
Resolution	12 bits	0…25000 points	12 bits
Reference	**140ACO02000** (3)	**140ACO13000**	**140AVO02000**

(3) Non-interfering module in safety related application

Type of module (4)	Analog I/O
Connection	By screw terminals 140XTS00200 (to be ordered separately)
Number of inputs	4
Number of outputs	2
Input signal	0…20 mA, ± 20 mA, 4…20 mA, 0…10 V, ± 10 V, 0…5 V, ± 5 V, 1…5 V.
Resolution	Inputs 16 bits, outputs 12 bits
Reference	**140AMM09000**

(4) For coated version add C at the end of the reference: example 140ACI03000 becomes 140ACI03000C

Connection accessories: See www.schneider-electric.com

Counter and special purpose modules

Type of module	High-speed counter		High-speed inputs with interrupt	Time-stamp system
Type of inputs for	Incremental encoders		Discrete 24 VDC (2)	Discrete 24…125 VDC
Counting frequency	100 kHz	500 kHz	–	–
Number of channels	5	2	16	32
Reference	**140EHC10500**	**140EHC20200**	**140HLI34000**	**140ERT85410** (4)

(2) 3 operating modes: Interrupt, latch, high-speed inputs, on rising or falling edge.

Safety I/O modules

Type of modules	Analog	Discrete	
Connection	Screw terminal		
Number of inputs	8 analog inputs	16 discrete inputs	–
Number of outputs	–	–	16 discrete outputs
Input signal	4…20mA	24VDC	–
Output voltage	–	–	24VDC
Resolution	16 bits	–	–
Certification	Suitable for safety related application up to SIL2 and SIL3, UL, CE, CSA, Haz-loc		
Reference	**140SAI94000S**	**140SDI95300S**	**140SDO95300S**

Connection accessories: See www.schneider-electric.com

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Communication modules

Type of module		Ethernet TCP/IP network				
Speed		10/100 Mb/s				
Protocol		**Modbus TCP**	**Modbus TCP**	**Modbus TCP**	**Modbus TCP**	**EtherNet/IP & Modbus TCP**
Transparent Ready	Class	B30	B30	C30	D10	B30
	Global Data	Yes	Yes	Yes	–	–
	I/O Scanning	Yes	Yes	Yes	–	Yes
	FDR server	Yes	Yes	Yes	–	Yes
	SNMP protocol	Yes	Yes	Yes	Yes	Yes
	QoS (1)	–	–	–	–	Yes
Web server	Standard services	Yes	Yes	Yes	Yes	_
	FactoryCast services	–	–	Yes	Yes	_
	FactoryCast HMI services	–	–	–	Yes	_
Reference		**140CPU651*** (2)	**140NOE77101**	**140NOE77111**	**140NWM10000**	**140NOC77101**

(1) QoS: Quality of Service

(2) 140 CPU 651 50, 140 CPU 651 60, 140 CPU 652 60, 140 CPU 671 60

PROFIBUS DPV1 is available for Modicon Quantum	Please refer to page 3/23

Type of module	Modbus Plus network	AS-Interface cabling system	Fieldbus		
			INTERBUS	Profibus DP Master V1 (1)	Modnet fielbus
Name and description	Integrated link	In-rack	In-rack	In-rack	In-rack
Speed	1 Mb/s	167 Kb/s	0,5 Mb/s	to 12 Mb/s	375 Kb/s
Reference	**140CPU***	**140EIA92100**	**140NOA62200**	**PTQPDPMV1**	**140NOG11100**

(1) from your partner Prosoft, www.prosoft-technology.com

*** 140 CPU 311 10, 140 CPU 434 12U, 140 CPU 651 50, 140 CPU 651 60, 140 CPU 652 60, 140 CPU 671 60**

Type of module	Serial link	
	Modbus	ASCII
Name and description	Integrated link	In-rack
Speed	19.2 Kb/s	19.2 Kb/s
Reference	**140CPU*** (1)	**140ESI06210**

(1) RS 232/RS 485 on 140CPU651●● and 140CPU67160 processors and RS 232 on 140CPU31110, 140CPU43412A, 140CPU53414A processors.

*** 140 CPU 311 10, 140 CPU 434 12U, 140 CPU 651 50, 140 CPU 651 60, 140 CPU 652 60, 140 CPU 671 60**

To operate in a corrosive environment, Quantum modules can be ordered with a conformal coating applied to components of the product.
Conformal coating will extend its life and enhance its environmental performance capabilities.
To order conformal coating append a C to the standard catalog number. For example, 140CPS 11420 > 140CPS 114 20C

Connection accessories: See www.schneider-electric.com

Unity Pro, configuration software

For Modicon M340, Premium, and Quantum

Software type		Unity Pro Small version 6.0			
License type version 6.0		Single (1 workstation)	Group (3 workstations)	Team (10 workstations)	Facility (100 workstations)
References	Software pack	UNYSPUSFUCD60	UNYSPUSFGCD60	UNYSPUSFTCD60	–
	Upgrade Legacy Software (1)	UNYSPUSZUCD60	UNYSPUSZGCD60	UNYSPUSZTCD60	–
Software type		**Unity Pro Medium version 6.0**			
License type version 6.0		Single (1 workstation)	Group (3 workstations)	Team (10 workstations)	Facility (100 workstations)
References	Software pack	UNYSPUMFUCD60	UNYSPUMFGCD60	UNYSPUMFTCD60	–
	Upgrade Legacy Software (2)	UNYSPUMZUCD60	UNYSPUMZGCD60	UNYSPUMZTCD60	–
Software type		**Unity Pro Large version 6.0**			
License type version 6.0		Single (1 workstation)	Group (3 workstations)	Team (10 workstations)	Facility (100 workstations)
References	Software pack	UNYSPULFUCD60	UNYSPULFGCD60	UNYSPULFTCD60	UNYSPULFFCD60
	Upgrade Legacy Software (3)	UNYSPULZUCD60	UNYSPULZGCD60	UNYSPULZTCD60	UNYSPULZFCD60
Software type		**Unity Pro Extra Large version 6.0**			
License type version 6.0		Single (1 workstation)	Group (3 workstations)	Team (10 workstations)	Facility (100 workstations)
References	Software pack	UNYSPUEFUCD60	UNYSPUEFGCD60	UNYSPUEFTCD60	UNYSPUEFFCD60
	Upgrade Legacy Software (4)	UNYSPUEZUCD60	UNYSPUEZGCD60	UNYSPUEZTCD60	UNYSPUEZFCD60

(1) From Concept S, PL7 Micro, ProWORX NxT Lite and ProWORX 32 Lite

(2) From Concept S/M, PL7 M/J, ProWORX NxT Lite and ProWORX 32 Lite

(3) From Concept S /M, PL7 M/J/P, ProWORX NxT Lite and ProWORX 32 Lite

(4) From all models Concept, PL7, ProWORX NxT and ProWORX 32

Unity Pro, is common programming software for debugging and operation of Modicon M340, Premium, and Quantum programmable controller ranges. Unity Pro takes the recognized usage values of PL7 and Concept software and offers a complete set of new functions for improved productivity and opening to other software.

Five IEC61131-3 languages are supported as standard in Unity Pro with all debugging functions, either on the simulator or directly online with the programmable controller.

Additional LL984 language is now available in Unity V 6.0 (Unity V6.0 available 2Q 2011) to allow easy migration of Modsoft an Concept applications to Quantum platforms.

Thanks to symbolic variables independent of memory, structured data and user function blocks, application objects are a direct reflection of the automated process application components. Unity Pro operator screens are user-configured in the application from graphic libraries. Operator accesses are simple and direct.

The converters integrated in Unity Pro automatically convert PL7 and Concept IEC 61131-3 standards and applications.

Unity V 6.0 fully support new Quantum Ethernet RIO architectures.

It integrates additional possibilities for Online changes in RUN mode, as well as improved Search/Replace Toll.

Debugging and Maintenance, as well as Design are greatly simplified and improved.

Unity Pro application comparison software

Software type		Unity Dif
Licence type version 2.21		Single (1 workstation), French and English languages (software and documentation)
Reference	Software extension (1)	UNYSDUZFUCD22
Licence type version 2.21		Site licence (100 workstations), French and English languages (software and documentation)
Reference	Software extension (1)	UNYSDUZFFCD22

(1) Requires version Unity V2.1 or later

EF/EFB function development software in C language

Software type		Unity EFB Toolkit
Licence type version 3.1		Single (1 workstation), English language (software and documentation)
References	Software pack	UNYSPUZFUCD31E
	Renewal	UNYCSPSPUZBU

Process application design and generation software

Software type		Unity UAG (Unity Application Generator)	
Licence type version 3.2		Single (1 workstation)	Site (> 10 workstations)
References	Software pack	UAGSEWLFUCD32	UAGSEWLFFCD23

Specific libraries according to the software used

Library type	Control Libraries				
Designation	Predictive Control Library (for Unity Pro and Concept)	Fuzzy Control Library (for Unity Pro)	TeSys Library (for Unity Pro)	HVAC Library (for Unity Pro)	Flow Calculation Library (for Unity Pro)
Licence type	Single Licence (1 work station)				
Reference	UNYLPCZAUCD10	UNYLFZZAUWB12	UNYLTSZAUWB10	UNYLHVZAUWB10	UNYLAGZAUWB20

Library type	UAG Libraries	
Designation	Device and Process Library (for UAG)	Process Application Library (for UAG)
Licence type	Single Licence (1 workstation)	
Reference	UAGSBTDFUWB13	UAGSBTXFUWB20

*Includes Process Application Library (PAL) V2.0 and Device and Process Library (DPL) V1.0

Programming software
For Modicon Premium slot-PLCs

PL7 is the common programming, debugging and operating software for the TSX Micro and Premium ranges of PLCs as well as Atrium coprocessors (see pages 3/12, 3/18 and 3/26).
PL7 offers 4 IEC languages: Instruction List (IL), Ladder Diagram (LD), Structured Text (ST) and Sequential Function Chart (SFC). You can use the most suitable language for each function in your application, making use of the multi-tasking structure of the processors.
For using application-specific functions, PL7 directly integrates the application-specific screens required for configuration and adjustment as well as supervisory and diagnostics activities.

2

Type of software		PL7 Micro for TSX Micro platform			
Type of license version 4.5		Single (1 station)	Single with SyCon V2.8	Group (3 stations)	Open Team (10 stations)
Reference	Software package	TLXCDPL7MP45	TLXCDPL7MPC45	TLXCD3PL7MP45	TLXOTPL7MP45M
	Update (1)	TLXRCDPL7MP45M	TLXRCDPL7MPC45M	TLXRCD3PL7MP45M	–
		PL7 Junior for TSX Micro/Premium and Atrium coprocessor platforms			
Type of license version 4.5		Single (1 station)	Group (3 stations)		
Reference	Software package	TLXCDPL7JP45	TLXCD3PL7JP45		
	Update (1)	TLXRCDPL7JP45M	TLXRC3DPL7JP45M		
	Upgrade (2)	TLXUCDPL7JP45M	TLXUCD3PL7JP45M		
		PL7 Pro for TSX Micro/Premium and Atrium coprocessor platforms			
Type of license version 4.5		Single (1 station)	Group (3 stations)	Open Team (10 stations)	Open Site
Reference	Software package	TLXCDPL7PP45	TLXCD3PL7PP45	TLXOTPL7PP45M	TLXOSPL7PP45M
	Update (1)	TLXRCDPL7PP45M	TLXRCD3PL7PP45M	–	–
	Upgrade (2)	TLXUCDPL7PP45M	TLXUCD3PL7PP45M	–	–

(1) From the previous software version.
(2) From lower level, earlier version software.

Specialist tools

EF function development software in C language

Type of software	PL7 SDKC for EF function development software in C language
PL7 SDKC software extension	For PL7 Micro/Junior/Pro
Reference	TLXLSDKCPL741M

Development of applications in C language

Type of software	PL7 FUZ for processing process applications using fuzzy logic
PL7 FUZ software extension	For PL7 Micro/Junior/Pro, TSX Micro/Premium
Reference	TLXLPL7FUZ34M

Comparison of PL7 applications

Type of software	PL7 DIF for comparison of applications	
PL7 DIF software extension	For PL7 Pro, TSX Micro/Premium	
Type of license	Single (1 station)	Site (> 10 stations)
Reference	TLXCDPL7DIF42	TLXOSPL7DIF42

Availability of control systems based on Premium platforms

Type of software	Warm Standby redundant
Warm Standby software extension	For PL7 Junior/Pro
Type of license	Single (1 station)
Reference	TLXCDWSBYP40F / E

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Programming software
For Modicon Quantum, Momentum

Concept is the IEC programming software for the Momentum and Quantum range of PLCs. It provides advanced Microsoft Windows based tools that deliver a multi-language development environment for control system programming.
Uses familiar, standardized editors, bundled in a single application to create and integrate PLC control, communication and diagnostic logic.
Five IEC editors give users the freedom to choose the programming language that fits their application requirements: Function Block Diagram (FBD), Ladder Diagram (LD), Sequential Function Chart (SFC), Structured Text (ST) and Instruction List (IL).

Type of software		Concept for Quantum/Momentum platforms			
Type of license version 2.6		Single (1 station)	Group (3 stations)	10 users (10 stations)	Site
Software references	Concept S	**372SPU47101V26**	–	–	–
	Concept M	**372SPU47201V26**	–	–	–
	Concept XL	**372SPU47401V26**	**372SPU47411V26**	**372SPU47421V26**	**372SPU47431V26**
Update references	Concept S (3)	**372ESS47101**	–	–	–
	Concept M (3)	**372ESS47201**	–	–	–
	Concept XL (3)	**372ESS47401**	**372ESS47403**	**372ESS47410**	**372ESS47400**

(3) From an earlier software version.

2

Specialist tools
EF/EFB function development software in C language

Type of software		Concept EFB Toolkit	
Type of license		Version 2.6	Upgrade version 2.6
Reference	Software package	**332SPU47001V26**	**372ESS47001**

Concept service version limited to application loading

Type of software		Concept Application Loader
Type of license		Version 2.6
Reference	Software package	**372SPU47701V26**

Software for designing and generating batch/process applications

Type of software		Unity UAG (Unity Application Generator)	
Type of license version 3.0		Single (1 station)	Site
Reference	Medium Software package	**UAGSEWMFUCD31**	**UAGSEWMFFCD31**
	Large Software package	**UAGSEWLFUCD31**	**UAGSEWLFFCD31**

ProWORX for Modicon Quantum, Momentum

ProWORX 32 is the flexible, easy-to-use cross-platform LL984-programming software for Modicon range PLCs. It gives you the power to program your Modicon controllers online or offline, manage your I/O subsystems, and analyze your plant's activity in real-time, all in a familiar Windows environment.
ProWORX 32 provides client/server capabilities to organize user-groups and -rights, store projects at a central location and realize office-plant floor bridging.
The project emulator provides the ability to test projects prior to running them in the PLC run-time environment to ensure your system will run at peak efficiency.

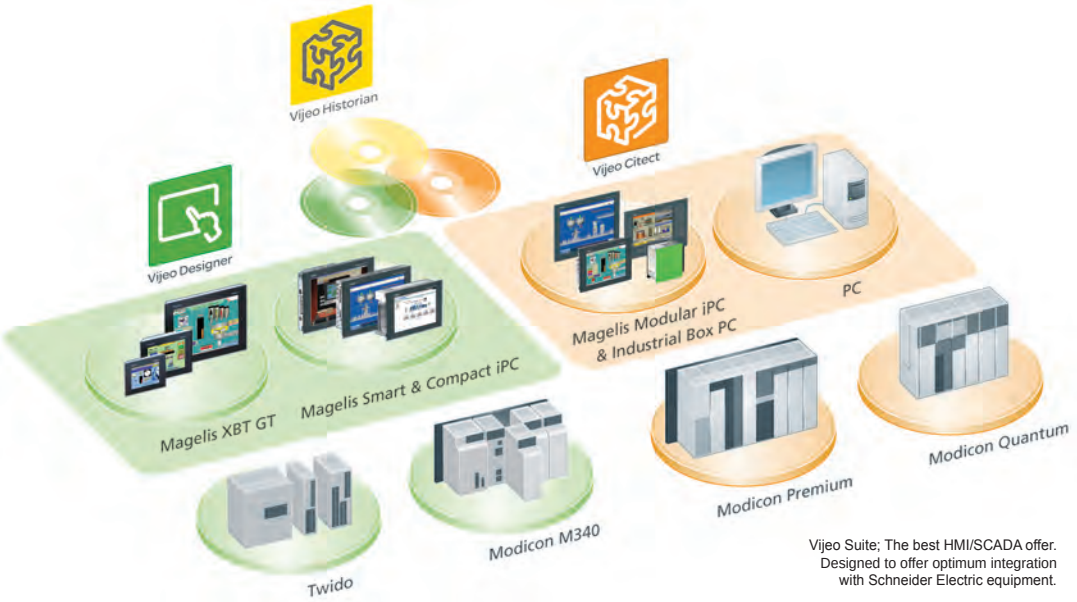
Type of software		ProWORX for Quantum/Momentum platforms			
Type of license version 2.1		Single (1 station)	Group (3 stations)	Multi-user (10 stations)	Site
Software references	ProWORX 32 Server	**372SPU78001PSEV**	–	–	–
	ProWORX 32 Suite	**372SPU78001PSSV**	–	–	–
	ProWORX 32 Client, Full Dev.	**372SPU78001PDEV**	**372SPU78001PSTH**	**372SPU78001PSTE**	**372SPU78001SITE**
	ProWORX 32 Online	**372SPU78101PONL**	–	–	–
	ProWORX 32 Lite	**372SPU71001PLDV**	**372SPU71001PLTH**	**372SPU71001PLTE**	–
Upgrade to ProWORX 32references (4)		**372SPU78401LPUP**	**372SPU78401LPTH**	**372SPU78401LPTE**	–

(4) Only possible for customers, who are "up-to-date" with CSP (continuing support program)

Vijeo Citect

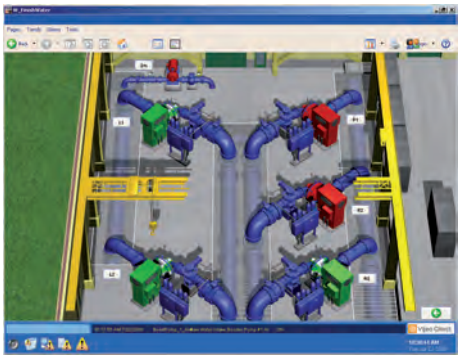
2

Type	Supervisory control and data acquisition (SCADA) software
Compatibility	All Schneider Electric automation platforms and third party devices
Operating system	Windows XP® SP3 (32 bit), Windows® 2003 Server SP2 (32 bit), Windows Vista® SP2 (32 and 64 bit), Windows® Server 2008 SP2 (32 and 64 bit), Windows® 7 (32 and 64 bit), Windows® Server 2008 R2
Versions	The development licence (without network connectivity) allows free communication with PLCs for 10 minutes at a time.
	Vijeo Citect full server licences are available in 75 points, 150 points, 500 points, 1500 points, 5000 points, 15000 points and unlimited points
	Vijeo Citect Lite (without network connectivity) is available in 100 - 1200 points
References	**Please contact your local sales representative**



Vijeo Suite; The best HMI/SCADA offer.
Designed to offer optimum integration
with Schneider Electric equipment.

Vijeo Citect is a software for operating and monitoring. With its powerful visualisation capabilities and operational features, it delivers actionable insight faster, enabling operators to respond quickly to process disturbances, thereby increasing their effectiveness. Its easy-to-use configuration tools and powerful features enable you to quickly develop and deploy solutions for any size application.



Benefits at a glance:

- **Full-redundancy for reliable architecture:** Vijeo Citect's in-built redundancy greatly reduces lost data and downtime, tolerating failure anywhere in your system.
- **Powerful graphics:** Vijeo Citect lets you develop true colour, easy-to-use graphics that provide the operator with an intuitive, consistent user interface.
- **Intuitive Process Analysis tool:** Vijeo Citect Process Analyst is an intuitive process analysis tool that sits directly in the SCADA system, providing a complete story of your plant and delivering actionable insight to the operators faster, thereby improving their efficiency and productivity.
- **Object-based configuration for rapid development:** Developing your control system is made quick and easy by Vijeo Citect's object-based configuration tools such as page templates, Genies, Super Genies, and SpeedLink.
- **Engineering with ease:** Vijeo Citect offers flexible and targeted system engineering tools to help you be more efficient. It accelerates your control system configuration process, significantly reducing your engineering time and costs and minimising your project risk.

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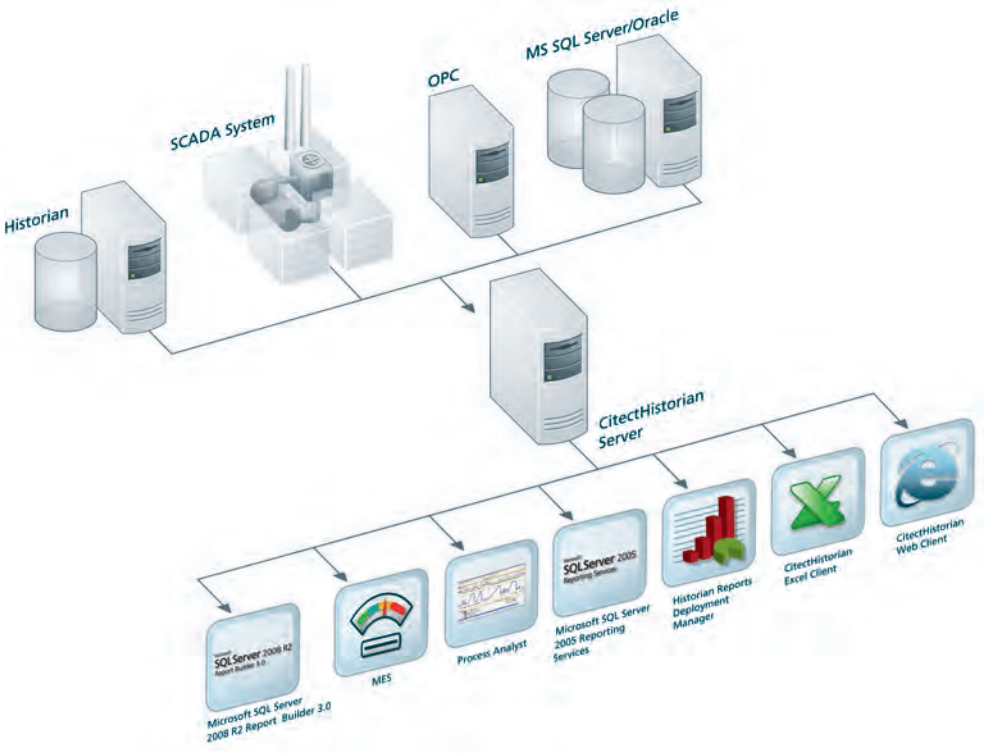
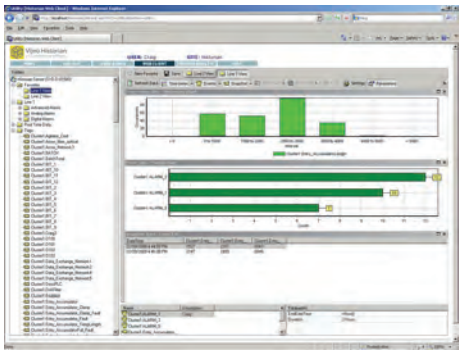
Other versions: **please consult our Customer Care Centre.**

Vijeo Historian

Type	Historian software
Compatibility	All Schneider Electric automation platforms and third party devices
Operating system	Windows XP® SP3 (32 bit), Windows® 2003 Server SP2 (32 bit), Windows Vista® SP2 (32 and 64 bit), Windows® Server 2008 SP2 (32 and 64 bit), Windows® 7 (32 and 64 bit), Windows® Server 2008 R2
References CD-ROM PC	**Please contact your local sales representative**



Vijeo Historian is a software for the information management. It comprises the historian and portal functionalities of the solution, enabling you to accurately store data for long-term reporting while connecting your production and business systems through its active data transfers and simple, easy-to-use reporting.



Benefits at a glance:

• **Business systems integration:** Vijeo Historian reduces the complexity and cost of bridging the divide between senior management and plant operations through its simple, easy-to-use interface and its active data transfers that push data from the control systems up to the business systems.

• **An open data store:** Vijeo Historian utilises 100% Microsoft SQL Server 2008 R2 as its embedded historical data store. Its open, industry-standard technology and trusted security integrate effortlessly into your business in a way that lowers your total cost of ownership.

• **Enterprise-wide reporting:** A range of reports can be produced using a convenient built-in historian in the familiar, open Microsoft user interface. Vijeo Historian also comes with a standard set of pre-configured reports, simplifying basic alarm and tag reporting.

• **Alarm management:** Pre-configured alarm reports based on the EEMUA (Engineering Equipment & Materials Users Association) 191 alarm management guidelines.

• **Going 'green' with the energy reports:** Energy reports help you perform a comprehensive energy assessment of your plant to determine how much energy is being consumed and how much could potentially be saved.

Altistart and Altivar

Use Altistart soft starters to start your motors smoothly and so protect the mechanics of your equipment. With the Altivar range of variable speed drives, you save energy and manage the speed of your motors to optimise and enhance productivity in your installations.

3

The Altistart, Altivar and Lexium ranges increase the efficiency of your machines, reduce their energy consumption and optimise their kinematics. Easy to install, offering intuitive programming and extensive communication options, they are easily integrated into your control system architectures.

Lexium

Controllers, drives, motors and linear positioning axes: Schneider Electric offers a complete range of motion control products and solutions suitable for even the most specialised applications. Designed with maximum simplicity in mind throughout a machine's entire service life, the Lexium range reduces costs and optimises productivity.

3 | Motion and Drives

WARNING
This document is a selection of the top selling products.

Soft starters and variable speed drives

Selection guide ..... 3/3 and 3/7

Starters

Altistart 01 ..... 3/8 and 3/9
Altistart 22 ..... 3/10 and 3/11
Altistart 48 ..... 3/12 and 3/13

Drives

Altivar 12 ..... 3/14
Altivar 212 ..... 3/15
Altivar 312 ..... 3/16
Altivar 31C 3/17
Altivar 32 ..... 3/18
Altivar 61, 61Q, 61 Plus ..... 3/19 to 3/25
Specific cards and extension for pumping and ventilation machines ..... 3/26 and 3/27
Altivar 71, 71Q, 71 Plus ..... 3/28 to 3/34
Altivar LIFT 3/35
Specific cards and extension for complex and high power machines ..... 3/36 and 3/37

Accessories and options (Altistart et Altivar) ..... 3/38 and 3/39

Controllers, drives, motors and linear motion axes

Selection Guide ..... 3/40 to 3/42

Motion Controller Lexium LMC 3/43

Servo drives, servo motors Lexium 32 and accessories ..... 3/44 to 3/51

Lexium 32 servo drives
Lexium BMH and Lexium BSH servo motors

Stepper Drives and Stepper Motors Lexium SD 3/52

Lexium SD2/Lexium SD3 stepper drives
Lexium BRS2/Lexium BRS3 stepper motors

Integrated Drives Lexium IL ..... 3/53 to 3/55

Lexium ILA/ILE/ILS/ILT/ILP

Single axes and multi-axis Systems Linear Motion ..... 3/56 and 3/57

Lexium PAS/CAS/TAS/MAX

Highlights

Altivar 32

More than 150 application-specific functions

The Altivar 32 range of variable speed drives controls asynchronous and synchronous motors rated from 0.18 to 15 kW operating in open loop mode in complex machines:

- Compact, vertical and slim format (45 mm)
- Integrated function blocks for creating simple control system functions (timers, counters, comparators, etc.)
- Machine safety functions integrated as standard (STO, SLS, SS1)
- Open design: communicates with most industrial networks

For more information, see page 3/18

Lexium 32

Inspired by Simplicity

The Lexium 32 servo drive range (0.15 to 7 kW) is a drive system designed for applications where high precision and dynamic positioning are critical:

- Suitable for packaging, materials processing (cutting, turning, milling, etc.) and handling, printing and textile applications
- 3 servo drive families and two types of servo motor available
- Simplified engineering: motor sizing, CAD and cabinet drawings, support for PLCopen libraries and SoMove setup software
- Integrated “Safe Torque Off” function
- Quick integration: wide selection of fieldbus modules

For more information, see page 3/44

Ultra slim and ultra powerful

Practical and innovative, the Altivar 32 and Lexium 32 ranges can help reduce the size of your enclosures by as much as 40%.

- Extra slim book format
- Easy to configure and setup with SoMove software
- Packed with common software tools, accessories and functions
- Homogeneous mounting and wiring systems
- High-performance communication system
- Built-in Bluetooth as standard
- Can be configured with the power off in its original packaging: configurations can be transferred remotely via mobile phone using SoMove Mobile software

Selection guide

Starters - Low voltage

			Simple machines		Complex machines/ Special machines
			⇨*Applications:* Compressors, fans, pumps, conveyors, car wash gantries, etc.	⇨*Applications:* Pumps, fans, turbines, compressors, conveyors, conveyor belts, lifting screws, escalators, etc.	⇨*Applications:* Pumps, high inertia fans and machines, compressors, conveyors, agitators, mixers, escalators, etc.
			Altistart 01 Soft start and Soft start/soft stop units	**Altistart 22** Soft start/soft stop units	**Altistart 48** Soft start/soft stop units
Description			• **Compact** • **Simple:** easy mounting, wiring and adjustment • **Efficient:** Current peaks limitation on starting, reduction of mechanical shocks, increased service life for your machines • **Energy saving**	• **Innovative** with its **integrated Bypass** contactor for motors up to 315 kW • **Cost-effective** • **Compact dimensions** • **Quick setup** • **Protection of motor and starter** • **Energy saving** • **3 controlled phases**	• **Torque control system:** controlled torque, prevention of pressure surges and limiting of temperature rises • **Simple:** quick setup • **Protection of motor and starter:** thermal protection, phase loss detection, locked rotor detection • **Energy saving**
Technical information	Power range for 50…60 Hz supply		0.37...15 kW 0.5...20 HP	4...400 kW 3...500 HP	4...1200 kW 2...200 HP
	Voltage		Single-phase 110…480 V Three-phase 110…480 V	Three-phase 208…600 V Three-phase 230…440 V	Three-phase 208…690 V
	Drive/Output frequency		–	–	–
	Motor type	Asynchronous	Yes	Yes	Yes
		Synchronous	No	No	No
Communication	Integrated		–	Modbus	Modbus
	As an option		Can be used with TeSys U motor starter-controller to create a complete motor starter solution	–	DeviceNet, Fipio, Profibus DP, Ethernet
Standards and certifications			IEC/EN 60947-4-2, C-Tick, CSA, UL, CE	IEC/EN 60947-4-2, C-Tick, CSA, UL, CE, GOST, CCC Class A EMC	IEC/EN 60947-4-2, C-Tick, CSA, UL, CE, DNV, GOST, CCC, NOM, SEPRO and TCF Classes A and B EMC
Intended use			Buildings, Simple machines.	Machines, Infrastructures and Buildings	

Selection guide

Standard drives - Low voltage

Simple machines

		⇨*Applications:* • Simple machines for industry (small handling applications, packaging, pumps, fans, etc.) • Simple consumer machines (access barriers, rotating advertising hoardings, medical beds, treadmills, dough mixers, etc.) • Other types of application: - Mobile machines and small appliances equipped with a power socket - Applications which traditionally use other solutions (2-speed DC motors, mechanical drives, etc.).	⇨ *Applications:* Simple industrial machines (material handling and packaging, textile machines, special machines, pumps and fans).	⇨ *Applications:* Simple industrial machines (material handling and packaging, textile machines, special machines, pumps and fans).
		Altivar 12 Variable speed drives for small machines with 240 V three-phase asynchronous motor	**Altivar 312** Variable speed drives for three-phase asynchronous motors	**Altivar 31C IP55** Variable speed drives for three-phase asynchronous motors for machines in harsh environments.
Description		• **Compact** • **Easy to set up** (Plug & Play) • **Reliable, cost-effective solution** for compact machines	• **Open:** large number of communication cards available as options • **User-friendly:** simplified interface • **Autotuning:** maximum performance	• **Rugged** even in the most hostile environments: - Installed as close as possible to the motor - Integrated functions for applications requiring IP55 degree of protection - Modbus and CANopen communication protocols • **Flexibility** to adapt to each machine: - Customisable depending on the model - Easy configuration
Technical information	Power range for 50…60 Hz supply	0.18...4 kW 0.25...5 HP	0.18...15 kW 0.5...20 HP	0.18...15 kW 0.5...20 HP
	Voltage	Single-phase 100…240 V Three-phase 200…240 V	Single-phase 200…240 V Three-phase 200…600 V	Single-phase 200…240 V Three-phase 380…500 V
	Drive/Output frequency	0.5…400 Hz	0.5…500 Hz	0.5…500 Hz
	Motor type – Asynchronous	Yes	Yes	Yes
	Motor type – Synchronous	No	No	No
Communication	Integrated	Modbus	Modbus and CANopen	Modbus and CANopen
	As an option	–	CANopen Daisy chain, DeviceNet, Profibus DP, Modbus TCP, Fipio	DeviceNet, Ethernet TCP/IP, Fipio, Profibus DP
Standards and certifications		IEC/EN 61800-5-1, IEC/EN 61800-3 (environments 1 and 2, categories C1 to C3) CE, UL, CSA, C-Tick, GOST, NOM		IEC/EN 61800-5-1, IEC/EN 61800-3 (environments 1 and 2, categories C1 to C3) CE, UL, CSA, C-Tick, GOST
Intended use		Machines		

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Other versions: **please consult our Customer Care Centre.**

	Complex machines	Complex machines/ Special machines		Pumps and Fans	
	⇨ *Applications:* Industrial machines: hoisting, packaging, material handling, special machines (wood-working machines, metal processing machinery, etc.).	⇨ *Applications:* High performance applications: • Material handling • Hoisting • Wood-working machines • Process machinery • Textile machines • Packaging	⇨ *Applications:* High performance applications: • Material handling • Hoisting • Wood-working machines • Process machinery • Textile machines • Packaging	⇨ *Applications:* Range specifically for high performance pumps and fans for the industrial and building markets.	⇨ *Applications:* Pumping and ventilation machines in harsh environment
	Altivar 32 Variable speed drives for asynchronous motors and open-loop synchronous motors	**Altivar 71** For three-phase synchronous and asynchronous motors. Constant torque applications.	**Altivar 71Q** Water-cooled variable speed drives for three-phase synchro-nous and asynchronous motors. Constant torque applications.	**Altivar 61** Variable speed drives for three-phase asynchronous motors. Variable torque applications.	**Altivar 61Q** Water-cooled variable speed drives for three-phase asynchro-nous and synchronous motors. Variable torque applications
	• **Compact:** "**Book**" format • **Integrated Safety function** com-pliant to IEC 61508 **SIL3** and **PL-e** • **Open:** communication cards available as options • **Integrated programmable logic functions** • **Simple** setup · **Energy saving : Control of energy efficient** permanent magnet **synchr onous motors**	• **Wide range** • **Quick start-up** and easy diagnostics: multi-language graphic display terminal • **Open** to most industrial communication buses • **Integrated safety functions** • **Motor control:** high-performance in open-loop and closed loop mode	• **Improved robustness** with water cooling • Efficient cooling system **reduced need of air conditioning** • Long time operation **without maintenance** • Excellent protection against corrosion due to **stainless steel cooling pipes** • **Very high starting torque** for frequent start-up applications	• **Wide range** • **Easy setup and diagnostics** with the multi-language graphic display terminal • **Open** to the main communication buses	• **Improved robustness** with water cooling • Efficient cooling system **reduced need of air conditioning** • Prolonged **maintenance-free** operational life • Excellent protection against corrosion due to **stainless steel cooling pipes**
	0.18...15 kW 0.25...20 HP	0.37...630 kW 0.5...700 HP	90...630 kW 125...700 HP	0.37...800 kW 0.5...900 HP	110…800 kW 150...900 HP
	Single-phase 200…240 V Three-phase 380…480 V	Single-phase 200…240 V Three-phase 200…690 V	Three-phase 380...480 V Three-phase 500…690 V	Single-phase 200…240 V Three-phase 200…690 V	Three-phase 380...480 V Three-phase 500…690 V
	0.1…599 Hz	0…599 Hz up to 37 kW / 200…240V and 380…480V 0…500 Hz for the rest of the range	0…500 Hz	0.1…599 Hz up to 37 kW / 200…240V and 380…480V 0.1…500 Hz for the rest of the range	0.1…500 Hz
	Yes	Yes	Yes	Yes	Yes
	Yes	Yes	Yes	Yes	Yes
	Modbus and CANopen	Modbus and CANopen	Modbus et CANopen	Modbus and CANopen	Modbus et CANopen
	EtherNet/IP, Modbus TCP, Profibus DP V1, EtherCAT, Devicenet	Modbus TCP, Fipio, Modbus/Uni-Telway, Modbus Plus, EtherNet/IP, DeviceNet, Profibus DP, Profibus DP V1, InterBus S, CC-Link,	Modbus TCP, Fipio, Modbus/Uni-Telway, Modbus Plus, EtherNet/IP, DeviceNet, Profibus DP, Profibus DP V1, InterBus S, CC-Link,	Modbus TCP, Fipio, Modbus/Uni-Telway, Modbus Plus, EtherNet/IP, DeviceNet, Profibus DP, Profibus DP V1, InterBus S, CC-Link, Lonworks, METASYS N2, APO-GEE FLN P1, BACnet	**HVAC protocols :** LonWorks, BACnet, METASYS N2,APOGEE FLN P1 **Industrial protocols:** Modbus TCP, Modbus/Uni-Telway, Fipio, Modbus Plus, Profibus DP, Profibus DP V1, DeviceNet, Ethernet IP, CC-Link, InterBus
	IEC/EN 61800-5-1, IEC/EN 61800-3 (environments 1 and 2, Categories C2 and C3), UL508C, EN 954-1 Category 3, ISO/EN 13849-1/- 2 Category 3 (PLd), IEC 61800-5-2, IEC 61508 (parts 1&2) level SIL1 SIL2 SIL3, draft standard EN 50495E, CE, UL, CSA, C-Tick, GOST, NOM.	IEC/EN 61800-3, EN 55011, EN 55022, CSA, UL, C-TICK, CE, NOM, DNV, GOST	IEC/EN 61800-3, EN 55011, EN 55022, CSA, UL, C-TICK, CE, NOM, DNV, GOST	IEC/EN 61800-3, EN 55011, EN 55022, CSA, UL, C-TICK, CE, NOM, DNV, GOST	IEC/EN 61800-3, EN 55011, EN 55022, CSA, UL, C-TICK, CE, NOM, DNV, GOST
	Machines	Machines, industrial processes and infrastructures	Machines, industrial processes or infrastructures	Buildings and infrastructures	Building or infrastructures

3

Selection guide

3

Specialized drives - Low voltage

			HVAC	Lifts
			⇨ *Applications:* Range specifically for HVAC applications (heating, ventilation, air conditioning) in buildings.	⇨ *Applications:* Lifts
			Altivar 212 Variable speed drives for three-phase asynchronous motors. Variable torque building HVAC applications.	**Altivar LIFT** Variable speed drives for lifts.
Description			• **Compact size**: side-by-side mounting • **Simplicity :** Dedicated HVAC functions and remote graphic keypad option • **Openness :** Integrated communications for building management systems • **EMC filters** built-in • **Reduction of the total harmonic distortion** THDI<30% • **Protection class:** IP21 and IP55	• **Quick start-up** and easy diagnostics with the multi-language graphic display terminal and dedicated Lift configuration menu. • **Dedicated Lift functions** for greater comfort and safety • **High-performance motor control** in open-loop and closed loop mode
Technical information	Power range for 50…60 Hz supply		0.75…75 kW 1...100 HP	4…22 kW 5...30 HP
	Voltage		Three-phase 200…480 V	Single-phase 200…240 V Three-phase 200…480 V
	Drive/Output frequency		0.5…200 Hz	0...599 Hz
	Number of quadrants		—	—
	Cooling system		—	—
	Protection class		—	—
	Motor type	Asynchronous	Yes	Yes
		Synchronous	No	No
Communication	Integrated		Modbus, METASYS N2, APOGEE FLN P1, BACnet	Modbus and CANopen
	As an option		Lonworks	Modbus TCP, Fipio, Modbus/Uni-Telway, Modbus Plus,EtherNet/IP, DeviceNet, Profibus DP, Profibus DP V1, InterBus S, CC-Link
Standards and certifications			IEC/EN 61800-3, EN 55011, EN 55022, CSA, UL, C-TICK, CE, NOM	IEC/EN 61800-3, EN55011, EN 55022, CSA, UL, C-TICK, CE, NOM et EN81-1 (chap 12.7.3)
Intended use			Buildings	Machines

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Other versions: **please consult our Customer Care Centre.**

Notes

Dimensions (in mm)		width x height x depth
ATS01	N103FT/N106 FT	22.5 x 100 x 100.4
	N109FT/N112 FT/N125 FT	45 x 124 x 130.7
	N206●●/N209●●/N212●●	
	N222●●/N232●●	45 x 154 x 130.7

Type Motor power						Soft start units 0.37 to 11 kW	Soft start/soft stop units 0.75 to 15 kW		
Degree of protection						IP20			
Reduction of current peaks						2 controlled phases	2 controlled phases		
Adjustable starting time						1…5 s	1…10 s		
Adjustable deceleration time						No: freewheel stop	Yes: 1... 10 s		
Adjustable breakaway torque						30…80% of DOL motor starting torque			
Logic inputs						–	3 logic inputs (start, stop and startup boost)		
Logic outputs						–	1 logic output		
Relay outputs						–	1 relay output		
Control supply voltage						110... 220 VAC ± 10%, 24 VDC ± 10%	Built into the starter		
Supply voltage						**Single-phase 110…230 V**			
Motor power									
230 V kW					Nominal current (IcL)				
0.37					3 A	**ATS01N103FT**			
0.75					6 A	**ATS01N106FT**			
1.1					9 A	**ATS01N109FT**			
1.5					12 A	**ATS01N112FT**			
2.2					25 A	**ATS01N125FT**			
Supply voltage						**Three-phase 110…480 V**	**Three-phase 200…240 V**	**Three-phase 380…415 V**	**Three-phase 440…480 V**
Motor power									
210 V HP	**230 V** kW	HP	**400 V** kW	**460 V** HP	Nominal current (IcL)				
–	0.37-0.55	0.5/–	1.1	0.5-1.5	3 A	**ATS01N103FT**	**–**	**–**	**–**
0.5	0.75-1.1	1-1.5	2.2-3	2-3	6 A	**ATS01N106FT**	**ATS01N206LU**	**ATS01N206QN**	**ATS01N206RT**
1	1.5	2	4	5	9 A	**ATS01N109FT**	**ATS01N209LU**	**ATS01N209QN**	**ATS01N209RT**
1.5	2.2	3	5.5	7.5	12 A	**ATS01N112FT**	**ATS01N212LU**	**ATS01N212QN**	**ATS01N212RT**
–	4-5.5	5-7.5	7.5-11	10-15	22 A	**–**	**ATS01N222LU**	**ATS01N222QN**	**ATS01N222RT**
2-3	3-4-5.5	5-7.5	7.5-9-11	10-15	25A	**ATS01N125FT**	**–**	**–**	**–**
–	7.5	10	15	20	32 A	**–**	**ATS01N232LU**	**ATS01N232QN**	**ATS01N232RT**

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Other versions: **please consult our Customer Care Centre.**

Starters with TeSys model U

Dimensions (in mm)		width x height x depth
ATSU01	N206LT/N209LT/N212LT	45 x 124 x 130.7
	N222LT/N232LT	45 x 154 x 130.7

Type Motor power					**Soft start/soft stop units** 0.75 to 15 kW			
Degree of protection					IP20			
Reduction of current peaks					Yes			
Adjustable starting and stopping times					1…10 s			
Adjustable breakaway torque					30.... 80% of DOL motor starting torque			
Logic inputs					3 logic inputs (start, stop and startup boost)			
Logic outputs					1 logic output			
Relay outputs					1 relay output			
Control supply voltage					24 VDC, 100 mA, ± 10%			
References					**Soft start/soft stop units**	**TeSys starter-controller model U**		**Power connector**
						Power base	Control unit (1)	between ATSU and TeSys model U
Supply voltage					**Three-phase 200…480 V**			
Motor power								
230 V		**400 V**	**460 V**	Nominal				
kW	HP	kW	HP	current (IcL)				
0.75	1	1.5	2	6 A	**ATSU01N206LT**	**LUB12**	**LUC●05BL**	**VW3G4104**
1.1	1.5	2.2/3	3	6 A	**ATSU01N206LT**	**LUB12**	**LUC●12BL**	
1.5	2	–	5	9 A	**ATSU01N209LT**	**LUB12**	**LUC●12BL**	**VW3G4104**
–	–	4	–	9 A	**ATSU01N209LT**	**LUB12**	**LUC●12BL**	
2.2	3	5.5	7.5	12 A	**ATSU01N212LT**	**LUB12**	**LUC●12BL**	**VW3G4104**
3	–	–	–	12 A	**ATSU01N212LT**	**LUB32**	**LUC●18BL**	
4	5	7.5	10	22 A	**ATSU01N222LT**	**LUB32**	**LUC●18BL**	**VW3G4104**
5.5	7.5	11	15	22 A	**ATSU01N222LT**	**LUB32**	**LUC●32BL**	
7.5	10	15	20	32 A	**ATSU01N232LT**	**LUB32**	**LUC●32BL**	**VW3G4104**

(1) To compose your reference, replace ● in the reference with: «**A**» for a standard control unit, «**M**» for a multifunction unit and «**B**» for an advanced unit.

Altistart 22

4…400 kW
3...500 HP

Simple machines

Soft start/soft stop units

Dimensions (en mm)	width x height x depth
Size A: 130 x 265 x 169	
Size B: 145 x 295 x 207	
Size C: 150 x 356 x 229	
Size D: 206 x 425 x 299	
Size E: 304 x 455 x 340	

Supply voltage		**Three-phase 208...600 V**	**Three-phase 230...440 V**
Protection	Degree of protection	IP20: for ATS 22D17●●●D88 starters IP00: for ATS 22C11●●●C59 starters (protection of terminals available as an option)	
	Motor thermal protection	Class 10, 20 or 30	
Drive	Number of controlled phases	3	
	Types of control	Configurable voltage ramp, torque ramp	
	Operating cycle	Standard	
Functions		Integrated Bypass contactor	
Number of I/O	Analog inputs	1 PTC probe	
	Logic inputs	3	
	Logic outputs	–	
	Analog outputs	–	
	Relay outputs	2	
Dialogue		Integrated display terminal, SoMove Lite setup software	
Communication	Integrated	Modbus	
Standards and certifications		IEC/EN 60947-4-2, class A EMC, CE, UL, CSA, C-Tick, GOST, CCC	
Motor connection			Possible to connect the starter in the motor delta connection

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Other versions: **please consult our Customer Care Centre.**

Connection in the motor power supply line Motor				Soft start/soft stop unit 230…440 V - 50/60 Hz	
Power indicated on rating plate					
230 V kW	400 V kW	440 V kW	Nominal current starter (IcL)	Reference	Size
4	7.5	7.5	17	**ATS22D17Q**	Size A
7.5	15	15	32	**ATS22D32Q**	Size A
11	22	22	47	**ATS22D47Q**	Size A
15	30	30	62	**ATS22D62Q**	Size B
18.5	37	37	75	**ATS22D75Q**	Size B
22	45	45	88	**ATS22D88Q**	Size B
30	55	55	110	**ATS22C11Q**	Size C
37	75	75	140	**ATS22C14Q**	Size C
45	90	90	170	**ATS22C17Q**	Size C
55	110	110	210	**ATS22C21Q**	Size D
75	132	132	250	**ATS22C25Q**	Size D
90	160	160	320	**ATS22C32Q**	Size D
110	220	220	410	**ATS22C41Q**	Size D
132	250	250	480	**ATS22C48Q**	Size E
160	315	355	590	**ATS22C59Q**	Size E

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Connection in the motor power supply line Motor					Soft start/soft stop unit 230…600 V - 50/60 Hz	
Power indicated on rating plate						
230 V kW	400 V kW	440 V kW	500 V kW	Nominal current starter (IcL)	Reference	Size
4	7.5	7.5	9	17	**ATS22D17S6**	Size A
7.5	15	15	18.5	32	**ATS22D32S6**	Size A
11	22	22	30	47	**ATS22D47S6**	Size A
15	30	30	37	62	**ATS22D62S6**	Size B
18.5	37	37	45	75	**ATS22D75S6**	Size B
22	45	45	55	88	**ATS22D88S6**	Size B
30	55	55	75	110	**ATS22C11S6**	Size C
37	75	75	90	140	**ATS22C14S6**	Size C
45	90	90	110	170	**ATS22C17S6**	Size C
55	110	110	132	210	**ATS22C21S6**	Size D
75	132	132	160	250	**ATS22C25S6**	Size D
90	160	160	220	320	**ATS22C32S6**	Size D
110	220	220	250	410	**ATS22C41S6**	Size D
132	250	250	315	480	**ATS22C48S6**	Size E
160	315	355	400	590	**ATS22C59S6**	Size E

The Altistart 22 soft start/soft stop unit is also available with a 110 VDC control power supply, reference ATS22…S6U

Altistart 48

4…900 kW
2...1200 HP

Pumping and ventilation machines

Soft start/soft stop units

Dimensions (in mm)		width x height x depth
ATS48 D17Q to D47Q	**Size A:**	160 x 275 x 190
D62Q to C11Q	**Size B:**	190 x 290 x 235
C14Q to C17Q	**Size C:**	200 x 340 x 265
C21Q to C32Q	**Size D:**	320 x 380 x 265
C41Q to C66Q	**Size E:**	400 x 670 x 300
C79Q to M12Q	**Size F:**	770 x 890 x 315

Supply voltage Type of application			**Three-phase 230…415 V** (1) Standard		Severe (2)	
Starter control supply voltage			**220…415 V**			
Protection		Degree of protection	IP20: ATS48D17● to ATS48C11● starters IP00: ATS48C14● to ATS48M12● starters			
		Motor thermal protection	Class 10		Class 20 and 30	
EMC		Class A	On all starters			
		Class B	On all starters up to 170 A			
Starting mode			Torque control (patented TCS: Torque Control System)			
I/O		Analog inputs	1 PTC probe			
		Logic inputs	4 logic inputs, 2 of which are configurable			
		Logic outputs	2 configurable logic outputs			
		Analog outputs	1 analog output			
		Relay outputs	3 relay outputs, 2 of which are configurable			
Dialogue			Integrated or remote display terminal (in option), PowerSuite software workshop			
Communication		Integrated	Modbus			
		As an option	DeviceNet, Ethernet, Fipio, PROFIBUS DP			
Motor power						
230 V kW	**400 V** kW	Nominal current (IcL)				
3	5.5	12 A	–		**ATS48D17Q**	Size A
4	7.5	17 A	**ATS48D17Q**	Size A	**ATS48D22Q**	Size A
5.5	11	22 A	**ATS48D22Q**	Size A	**ATS48D32Q**	Size A
7.5	15	32 A	**ATS48D32Q**	Size A	**ATS48D38Q**	Size A
9	18.5	38 A	**ATS48D38Q**	Size A	**ATS48D47Q**	Size A
11	22	47 A	**ATS48D47Q**	Size A	**ATS48D62Q**	Size B
15	30	62 A	**ATS48D62Q**	Size B	**ATS48D75Q**	Size B
18.5	37	75 A	**ATS48D75Q**	Size B	**ATS48D88Q**	Size B
22	45	88 A	**ATS48D88Q**	Size B	**ATS48C11Q**	Size B
30	55	110 A	**ATS48C11Q**	Size B	**ATS48C14Q**	Size C
37	75	140 A	**ATS48C14Q**	Size C	**ATS48C17Q**	Size C
45	90	170 A	**ATS48C17Q**	Size C	**ATS48C21Q**	Size D
55	110	210 A	**ATS48C21Q**	Size D	**ATS48C25Q**	Size D
75	132	250 A	**ATS48C25Q**	Size D	**ATS48C32Q**	Size D
90	160	320 A	**ATS48C32Q**	Size D	**ATS48C41Q**	Size E
110	220	410 A	**ATS48C41Q**	Size E	**ATS48C48Q**	Size E
132	250	480 A	**ATS48C48Q**	Size E	**ATS48C59Q**	Size E
160	315	590 A	**ATS48C59Q**	Size E	**ATS48C66Q**	Size E
–	355	660 A	**ATS48C66Q**	Size E	**ATS48C79Q**	Size F
220	400	790 A	**ATS48C79Q**	Size F	**ATS48M10Q**	Size F
250	500	1000 A	**ATS48M10Q**	Size F	**ATS48M12Q**	Size F
355	630	1200 A	**ATS48M12Q**	Size F	–	

(1) Possible to connect the starter in the motor delta connection
(2) Starting time greater than 30 seconds (fans, high inertia machines and compressors)

Soft start/soft stop units

Dimensions (in mm)		width x height x depth	
ATS48	D17Y to D47Y	**Size A:**	160 x 275 x 190
	D62Y to C11Y	**Size B:**	190 x 290 x 235
	C14Y to C17Y	**Size C:**	200 x 340 x 265
	C21Y to C32Y	**Size D:**	320 x 380 x 265
	C41Y to C66Y	**Size E:**	400 x 670 x 300
	C79Y to M12Y	**Size F:**	770 x 890 x 315

Supply voltage												**Three-phase 208…690 V** (1)			
Type of application												Standard		Severe (2)	
Starter control supply voltage												**110…230 V**			
Characteristics												Identical to 230…415 V starters			
Motor power											Nominal				
208 V	**230 V**	**460 V**	**575 V**	**230 V**	**400 V**	**440 V**	**500 V**	**525 V**	**660 V**	**690 V**	current				
HP				kW							(IcL)				
2	3	7.5	10	3	5.5	5.5	7.5	7.5	9	11	12 A	–		**ATS48D17Y**	Size A
3	5	10	15	4	7.5	7.5	9	9	11	15	17 A	**ATS48D17Y**	Size A	**ATS48D22Y**	Size A
5	7.5	15	20	5.5	11	11	11	11	15	18.5	22 A	**ATS48D22Y**	Size A	**ATS48D32Y**	Size A
7.5	10	20	25	7.5	15	15	18.5	18.5	22	22	32 A	**ATS48D32Y**	Size A	**ATS48D38Y**	Size A
10	–	25	30	9	18.5	18.5	22	22	30	30	38 A	**ATS48D38Y**	Size A	**ATS48D47Y**	Size A
–	15	30	40	11	22	22	30	30	37	37	47 A	**ATS48D47Y**	Size A	**ATS48D62Y**	Size B
15	20	40	50	15	30	30	37	37	45	45	62 A	**ATS48D62Y**	Size B	**ATS48D75Y**	Size B
20	25	50	60	18.5	37	37	45	45	55	55	75 A	**ATS48D75Y**	Size B	**ATS48D88Y**	Size B
25	30	60	75	22	45	45	55	55	75	75	88 A	**ATS48D88Y**	Size B	**ATS48C11Y**	Size B
30	40	75	100	30	55	55	75	75	90	90	110 A	**ATS48C11Y**	Size B	**ATS48C14Y**	Size C
40	50	100	125	37	75	75	90	90	110	110	140 A	**ATS48C14Y**	Size C	**ATS48C17Y**	Size C
50	60	125	150	45	90	90	110	110	132	160	170 A	**ATS48C17Y**	Size C	**ATS48C21Y**	Size D
60	75	150	200	55	110	110	132	132	160	200	210 A	**ATS48C21Y**	Size D	**ATS48C25Y**	Size D
75	100	200	250	75	132	132	160	160	220	250	250 A	**ATS48C25Y**	Size D	**ATS48C32Y**	Size D
100	125	250	300	90	160	160	220	220	250	315	320 A	**ATS48C32Y**	Size D	**ATS48C41Y**	Size E
125	150	300	350	110	220	220	250	250	355	400	410 A	**ATS48C41Y**	Size E	**ATS48C48Y**	Size E
150	–	350	400	132	250	250	315	315	400	500	480 A	**ATS48C48Y**	Size E	**ATS48C59Y**	Size E
–	200	400	500	160	315	355	400	400	560	560	590 A	**ATS48C59Y**	Size E	**ATS48C66Y**	Size E
200	250	500	600	–	355	400	–	–	630	630	660 A	**ATS48C66Y**	Size E	**ATS48C79Y**	Size F
250	300	600	800	220	400	500	500	500	710	710	790 A	**ATS48C79Y**	Size F	**ATS48M10Y**	Size F
350	350	800	1000	250	500	630	630	630	900	900	1000 A	**ATS48M10Y**	Size F	**ATS48M12Y**	Size F
400	455	1000	1200	355	630	710	800	800	–	–	1200 A	**ATS48M12Y**	Size F	**–**	

(1) Starter connection in the motor delta connection: up to 500 V only, add "**S316**" at the end of the reference

(2) Starting time greater than 30 seconds (fans, high inertia machines and compressors)

Altivar 12

0.18…4 kW
0.25...5 HP

Simple machines

Ultra-compact drives

Dimensions (in mm)	width x height x depth
1C1: 72 x 143 x 102.2	**2F3**: 105 x 143 x 131.2
1C2: 72 x 143 x 102.2	**3F3**: 140 x 184 x 141.2
1C3: 72 x 143 x 121.2	
2C1: 105 x 142 x 156.2	
2C2: 105 x 142 x 156.2	

Type of drive **Supply voltage**			**Single-phase** **120 V**		**Single-phase** **240 V**		**Three-phase** **240 V**	
Degree of protection			**IP20**					
Drive	Output frequency		0.5… 400 Hz					
	Type of control	Asynchronous motor	U/F, sensorless flux vector control, quadratic U/F					
	Transient overtorque		150…170					
Speed range			1 to 20					
Functions	Number of functions		40					
	Number of preset speeds		8					
	Number of I/O	Analog inputs	1 configurable analog input					
		Logic inputs	4 assignable logic inputs					
		Analog outputs	1 configurable analog output					
		Relay outputs	1 protected relay logic output					
Dialogue			Integrated or remote display terminal, SoMove software workshop, or mobile phone via Bluetooth©					
Communication	Integrated		Modbus					
Cards (available as an option)								
Reduction of current harmonics								
EMC filter		Integrated			C1 EMC			
		As an option						
Motor power	kW/HP	0.18/0.25	**ATV12H018F1** (1)	1C1	**ATV12H018M2** (1) (2)	1C2	**ATV12H018M3** (1)	1C3
		0.37/0.5	**ATV12H037F1**	1C1	**ATV12H037M2** (2)	1C1	**ATV12H037M3**	1C3
		0.55/0.75	–		**ATV12H055M2** (2)	1C2	–	
		0.75/1	**ATV12H075F1**	2C1	**ATV12H075M2** (2)	1C2	**ATV12H075M3**	1C3
		1.5/2	–		**ATV12HU15M2** (2)	2C2	**ATV12HU15M3**	2F3
		2.2/3	–		**ATV12HU22M2** (2)	2C2	**ATV12HU22M3**	2F3
		3/3	–		–		**ATV12HU30M3**	3F3
		4/5	–		–		**ATV12HU40M3**	3F3

(1) Because of the low heat dissipation, the ATV12H018.. is only supplied on a base plate

(2) Also exists as a multipack

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Other versions: **please consult our Customer Care Centre.**

Altivar 212

0.75…75 kW

1...100 HP

Building

Drives for HVAC applications

Dimensions (in mm)	width x height x depth
IP21	**IP55**
T1A: 107 x 143 x 150	**T1**: 215 x 297 x 192
T2A: 142 x 184 x 150	**T2**: 230 x 340 x 208
T3A: 180 x 232 x 170	**T3**: 290 x 560 x 315
T4A: 245 x 329.5 x 190	**T4**: 310 x 665 x 315
T5A: 240 x 420 x 214	**T5**: 284 x 720 x 315
T6A: 320 x 630 x 290	**T5**: 284 x 880 x 343
T7A: 240 x 550 x 266	**T5**: 362 x 1000 x 364
T8A: 320 x 630 x 290	

Type of drive			**IP21**				**IP55**			
Supply voltage	**Three-phase**		**200…240 V**		**380…480 V**		**380…480 V**			
Degree of protection			**IP21** and IP41 on the upper part				**IP55** drive available in two manufacturing variants, ATV212W…N4 C1 EMC or ATV212W…N4C C2 EMC			
Output frequency			0.5…200 Hz							
Type of control			Kn^2 quadratic ratio, sensorless flux vector control, voltage/frequency ratio (2 points), energy saving ratio							
Speed range			1 to 10							
I/O	Analog inputs		1 switch-configurable current or voltage analog input and 1 voltage analog input, configurable as a PTC probe input							
	Logic inputs		3 programmable logic inputs							
	Analog outputs		1 switch-configurable current or voltage analog output							
	Relay outputs		2 relay logic outputs							
Dialogue			Integrated display terminal with local controls (1) or remote display terminal or PC software (3)							
Communication	Integrated		Modbus, APOGEE FLN P1, Metasys N2, BACnet							
(see page 4/11)	As an option		LonWorks							
EMC filter		Integrated	–		C2 EMC		C2 EMC		C1 EMC	
		Available as an option	C2 EMC		C1 EMC		–		–	
Motor power	kW/HP	0.75/1	**ATV212H075M3X**	T1A	**ATV212H075N4**	T1A	**ATV212W075N4**	T1	**ATV212W075N4C**	T1
		1.5/2	**ATV212HU15M3X**	T1A	**ATV212HU15N4**	T1A	**ATV212WU15N4**	T1	**ATV212WU15N4C**	T1
		2.2/3	**ATV212HU22M3X**	T1A	**ATV212HU22N4**	T1A	**ATV212WU22N4**	T1	**ATV212WU22N4C**	T1
		3/–	**ATV212HU30M3X**	T2A	**ATV212HU30N4**	T2A	**ATV212WU30N4**	T2	**ATV212WU30N4C**	T2
		4/5	**ATV212HU40M3X**	T2A	**ATV212HU40N4**	T2A	**ATV212WU40N4**	T2	**ATV212WU40N4C**	T2
		5.5/7.5	**ATV212HU55M3X**	T3A	**ATV212HU55N4**	T2A	**ATV212WU55N4**	T2	**ATV212WU55N4C**	T2
		7.5/10	**ATV212HU75M3X**	T3A	**ATV212HU75N4**	T3A	**ATV212WU75N4**	T2	**ATV212WU75N4C**	T2
		11/15	**ATV212HD11M3X**	T4A	**ATV212HD11N4**	T3A	**ATV212WD11N4**	T3	**ATV212WD11N4C**	T3
		15/20	**ATV212HD15M3X**	T4A	**ATV212HD15N4**	T4A	**ATV212WD15N4**	T3	**ATV212WD15N4C**	T3
		18.5/25	**ATV212HD18M3X**	T4A	**ATV212HD18N4**	T4A	**ATV212WD18N4**	T4	**ATV212WD18N4C**	T4
		22/30	–		**ATV212HD22N4S**	T4A	–		–	
		22/30	**ATV212HD22M3X**	T5A	**ATV212HD22N4** (2)	T5A	**ATV212WD22N4**	T5	**ATV212WD22N4C**	T5
		30/40	**ATV212HD30M3X**	T6A	**ATV212HD30N4** (2)	T5A	**ATV212WD30N4**	T5	**ATV212WD30N4C**	T5
		37/50	–		**ATV212HD37N4**	T7A	**ATV212WD37N4**	T6	**ATV212WD37N4C**	T6
		45/60	–		**ATV212HD45N4**	T7A	**ATV212WD45N4**	T6	**ATV212WD45N4C**	T6
		55/75	–		**ATV212HD55N4**	T8A	**ATV212WD55N4**	T7	**ATV212WD55N4C**	T7
		75/100	–		**ATV212HD75N4**	T8A	**ATV212WD75N4**	T7	**ATV212WD75N4C**	T7

(1) Drive with local controls, Run/Stop, Loc/Rem. keys
(2) For references ATV212HD22N4 and ATV212HD30N4, please refer to the Schneider Electric catalogue.
(3) PC Software is available as a free download from www.schneider-electric.com

Altivar 312

0.18…15 kW
0.25...20 HP

Simple industrial machines

High performance drives

Dimensions (in mm)	width x height x depth
T 1: 72 x 145 x 122	**T 6**: 107 x 143 x 152
T 2: 72 x 145 x 132	**T 7:** 142 x 184 x 152
T 3: 72 x 145 x 132	**T 8:** 180 x 232 x 172
T 4: 72 x 145 x 142	**T 9:** 245 x 330 x 192
T 5: 105 x 143 x 132	

Type of drive **Supply voltage**			**Single-phase 240 V** with integrated EMC filters	**Three-phase 240 V** without EMC filter	**Three-phase 500V** with integrated EMC filters	**Three-phase 600V** without EMC filter
Degree of protection			**IP20**			
Drive	Output frequency		0.5…500 Hz			
	Type of control	Asynchronous motor	Standard (voltage / frequency) - Performance (sensorless flux vector control) Energy saving ratio			
	Transient overtorque		170 ... 200% of the nominal motor torque			
Speed range			1 to 50			
Functions	Number of functions		50			
	Number of preset speeds		16			
	Number of I/O	Analog inputs	3			
		Logic inputs	6			
		Analog outputs	1			
		Logic outputs	–			
		Relay outputs	2			
Dialogue			Integrated 4-digit display, remote terminals (IP54 or IP65), Altivar 61/71 remote graphic display terminal			
Communication	Integrated		Modbus and CANopen			
	As an option		CANopen Daisy chain, Modbus TCP, DeviceNet, PROFIBUS DP, Fipio			
Reduction of current harmonics						
EMC filter		Integrated	C2 EMC	External as an option	Integrated C2(1) or C3 EMC	External as an option
		As an option	C1 EMC	–	–	–
Motor power	kW/HP	0.18/0.25	**ATV312H018M2** T3	**ATV312H018M3** T1	–	–
		0.37/0.5	**ATV312H037M2** T3	**ATV312H037M3** T1	**ATV312H037N4** T5	–
		0.55/0.75	**ATV312H055M2** T4	**ATV312H055M3** T2	**ATV312H055N4** T5	–
		0.75/1	**ATV312H075M2** T4	**ATV312H075M3** T2	**ATV312H075N4** T6	**ATV312H075S6** T6
		1.1/1.5	**ATV312HU11M2** T6	**ATV312HU11M3** T5	**ATV312HU11N4** T6	–
		1.5/2	**ATV312HU15M2** T6	**ATV312HU15M3** T5	**ATV312HU15N4** T6	**ATV312HU15S6** T6
		2.2/3	**ATV312HU22M2** (2) T7	**ATV312HU22M3** T6	**ATV312HU22N4** T7	**ATV312HU22S6** T7
		3/-	–	**ATV312HU30M3** T7	**ATV312HU30N4** T7	–
		4/5	–	**ATV312HU40M3** T7	**ATV312HU40N4** T7	**ATV312HU40S6** T7
		5.5/7.5	–	**ATV312HU55M3** T8	**ATV312HU55N4** T8	**ATV312HU55S6** T8
		7.5/10	–	**ATV312HU75M3** T8	**ATV312HU75N4** T8	**ATV312HU75S6** T8
		11/15	–	**ATV312HD11M3** T9	**ATV312HD11N4** T9	**ATV312HD11S6** T9
		15/20	–	**ATV312HD15M3** T9	**ATV312HD15N4** T9	**ATV312HD15S6** T9

(1) C2 up to 4 kW

(2) Supplied with integrated C3 EMC filter

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Other versions: **please consult our Customer Care Centre.**

Altivar 31C

0.18…15 kW
0.25...20 HP

Simple machines
Enclosed IP55 drives

Dimensions (in mm)	width x height x depth
Size 1: 210 x 240 x 163 /	**Size 2**: 215 x 297 x 192
Size 3: 230 x 340 x 208 /	**Size 4**: 320 x 512 x 282
Size 5: 440 x 625 x 282	

Supply voltage			**Single-phase 200…240 V**		**Three-phase 380…500 V**	
Degree of protection			**IP55**			
Description			Enclosure equipped with an Altivar 31 drive with external heatsink. Removable covers for adding 1 switch-disconnector or 1 circuit-breaker, 3 buttons and/or LEDs, 1 potentiometer			
Motor power	kW/HP	0.18/0.25	**ATV31C018M2**	Size 1	–	
		0.37/0.5	**ATV31C037M2**	Size 1	**ATV31C037N4**	Size 2
		0.55/0.75	**ATV31C055M2**	Size 1	**ATV31C055N4**	Size 2
		0.75/1	**ATV31C075M2**	Size 1	**ATV31C075N4**	Size 2
		1.1/1.5	**ATV31CU11M2**	Size 2	**ATV31CU11N4**	Size 2
		1.5/2	**ATV31CU15M2**	Size 2	**ATV31CU15N4**	Size 2
		2.2/3	**ATV31CU22M2**	Size 3	**ATV31CU22N4**	Size 3
		3/–	–		**ATV31CU30N4**	Size 3
		4/5	–		**ATV31CU40N4**	Size 3
		5.5/7.5	–		**ATV31CU55N4** (1)	Size 4
		7.5/10	–		**ATV31CU75N4** (1)	Size 4
		11/15	–		**ATV31CD11N4** (1)	Size 5
		15/20	–		**ATV31CD15N4** (1)	Size 5

(1) Drive in metal enclosure without cover.

Altivar 32

0.18…15 kW
0.25...20 HP

Complex machines

Compact drives

Dimensions (in mm)	width x height x depth
T1: 45 x 317 x 245	
T2: 60 x 317 x 245	
T4: 150 x 308 x 232 (EMC plate installed) **T4**: 150 x 232 x 232 (EMC plate not installed)	
T5: 180 x 404 x 232 (EMC plate installed) **T5**: 180 x 330 x 232 (EMC plate not installed)	

Type of drive			**Single-phase 240 V with integrated EMC filter**		**Three-phase 500 V with integrated EMC filter**	
Degree of protection			**IP20**			
Drive	Output frequency		0.1…599 Hz			
	Type of control	Asynchronous motor	Standard (voltage/frequency) Performance (sensorless flux vector control) Pump/fan (Kn² quadratic ratio) Energy saving ratio			
		Synchronous motor	Profile for open loop synchronous motor			
	Transient overtorque		170...200% of the nominal motor torque			
Speed range			1 to 50			
Functions	Number of functions		150			
	Number of I/O	Analog inputs	3 - Response time : 3ms, resolution 10 bits			
		Logic inputs	6 - Response time : 8 ms, configurable in PTC and IN pwm			
		Analog outputs	1 - Updating time : 2 ms			
		Logic outputs	1 - Sampling time : 2 ms, configurable as voltage (0-10 V) or current (0-20 mA)			
		Relay outputs	2			
Dialogue			4-digit display, remote display terminal (IP54 or IP55), remote graphic display terminal, SoMove setup software and SoMove Mobile application for mobile phone.			
Communication	Integrated		Modbus and CANopen - Bluetooth® link			
	As an option		DeviceNet, PROFIBUS DP V1, EtherNet/IP, Modbus TCP, EtherCat			
Reduction of current harmonics						
EMC filter		Integrated	C2 EMC			
		As an option	C1 EMC			
Motor power		kW / HP				
		0.18 / 1/4	**ATV32H018M2**	T1	–	
		0.37 / 1/2	**ATV32H037M2**	T1	**ATV32H037N4**	T1
		0.55 / 3/4	**ATV32H055M2**	T1	**ATV32H055N4**	T1
		0.75 / 1	**ATV32H075M2**	T1	**ATV32H075N4**	T1
		1.1 / 11/2	**ATV32HU11M2**	T2	**ATV32HU11N4**	T1
		1.5 / 2	**ATV32HU15M2**	T2	**ATV32HU15N4**	T1
		2.2 / 3	**ATV32HU22M2**	T2	**ATV32HU22N4**	T2
		3 / -	–		**ATV32HU30N4**	T2
		4 / 5	–		**ATV32HU40N4**	T2
		5.5 / 71/2	–		**ATV32HU55N4**	T4
		7.5 / 10	–		**ATV32HU75N4**	T4
		11 / 15	–		**ATV32HD11N4**	T5
		15 / 20	–		**ATV32HD15N4**	T5

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Notes

Altivar 61
0.37…800 kW

Pumping and ventilation machines
Drives for industry and infrastructure

Dimensions (in mm)			width x height x depth
T2	: 130 x 230 x 175	**T3**	: 155 x 260 x 187
T4	: 175 x 295 x 187	**T5A**	: 210 x 295 x 213
T5B	: 230 x 400 x 213	**T6**	: 240 x 420 x 236
T7A	: 240 x 550 x 266	**T7B**	: 320 x 550 x 266
T8	: 320 x 630 x 290	**T9**	: 320 x 920 x 377
T10	: 360 x 1022 x 377	**T11**	: 340 x 1190 x 377
T12	: 440 x 1190 x 377	**T13**	: 595 x 1190 x 377
T14	: 890 x 1390 x 377	**T15**	: 1120 x 1390 x 377

Type of drive Supply voltage			**Single-phase** 200…240 V		**Three-phase** 200…240 V		**Three-phase** 380…480 V	
Degree of protection			**IP20** for unprotected drives and IP41 on the upper part					
Drive	Output frequency		0.1…599 Hz up to 37 kW; 0.1…500 Hz from 45 to 800 kW					
	Type of control	Asynchronous motor	Kn^2 quadratic ratio, flux vector control with or without sensor, voltage/frequency ratio (2 or 5 points), energy saving ratio					
		Synchronous motor	Vector control without speed feedback					
	Transient overtorque		120…130% of the nominal drive current for 60 seconds					
Speed range			1…100 in open loop mode					
Functions	Number of functions		> 150					
	Number of preset speeds		16					
	Number of I/O		Analog inputs 2…4/Logic inputs 6…20					
			Analog outputs 1…3/Logic outputs 0…8					
			Relay outputs 2…4					
			Safety input 1					
Dialogue			Remote graphic display terminal, SoMove setup software (3)					
Communication	Integrated		Modbus and CANopen					
	As an option		**HVAC protocols:** LonWorks, BACnet, METASYS N2, APOGEE FLN P1 **Industrial protocols:** Modbus TCP Daisy Chain, Modbus/Uni-Telway, EtherNet/IP, EtherCAT, DeviceNet, PROFIBUS DP V0 and V1, INTERBUS, CC-Link					
Cards (available as an option)			Multi-pump cards, I/O extension cards, “Controller Inside” programmable card					
Reduction of current harmonics			DC choke integrated or supplied with the drive or AFE Altivar (Active Front End)					
EMC filter		Integrated	C2 EMC		C2 EMC up to 7.5 kW		C2 EMC up to 4 kW C3 EMC from 5.5 to 630 kW	
		As an option	C1 EMC		C1 EMC		C1 EMC from 0.75 to 630 kW	
Motor power	kW/HP	0.37/0.5	**ATV61H075M3**	T2	–		–	
		0.75/1	**ATV61HU15M3**	T2	**ATV61H075M3**	T2	**ATV61H075N4**	T2
		1.5/2	**ATV61HU22M3**	T3	**ATV61HU15M3**	T2	**ATV61HU15N4**	T2
		2.2/3	**ATV61HU30M3**	T3	**ATV61HU22M3**	T3	**ATV61HU22N4**	T2
		3/–	**ATV61HU40M3** (1)	T3	**ATV61HU30M3**	T3	**ATV61HU30N4**	T3
		4/5	**ATV61HU55M3** (1)	T4	**ATV61HU40M3**	T3	**ATV61HU40N4**	T3
		5.5/7.5	**ATV61HU75M3** (1)	T5A	**ATV61HU55M3**	T4	**ATV61HU55N4**	T4
		7.5/10	–		**ATV61HU75M3**	T5A	**ATV61HU75N4**	T4
		11/15	–		**ATV61HD11M3X**(2)	T5B	**ATV61HD11N4**	T5A
		15/20	–		**ATV61HD15M3X**(2)	T5B	**ATV61HD15N4**	T5B
		18.5/25	–		**ATV61HD18M3X**(2)	T6	**ATV61HD18N4**	T5A
		22/30	–		**ATV61HD22M3X**(2)	T6	**ATV61HD22N4**	T6
		30/40	–		**ATV61HD30M3X**(2)	T7B	**ATV61HD30N4**	T7A
		37/50	–		**ATV61HD37M3X**(2)	T7B	**ATV61HD37N4**	T7A
		45/60	–		**ATV61HD45M3X**(2)	T7B	**ATV61HD45N4**	T8
		55/75	–		**ATV61HD55M3X**(2)	T9	**ATV61HD55N4**	T8
		75/100	–		**ATV61HD75M3X**(2)	T9	**ATV61HD75N4**	T8
		90/125	–		**ATV61HD90M3X**(2)	T10	**ATV61HD90N4**	T9
		110/150	–		–		**ATV61HC11N4**	T9
		132/200	–		–		**ATV61HC13N4**	T10
		160/250	–		–		**ATV61HC16N4**	T11
		220/350	–		–		**ATV61HC22N4**	T12
		250/400	–		–		**ATV61HC25N4**	T13
		315/500	–		–		**ATV61HC31N4**	T13
		400/600	–		–		**ATV61HC40N4**	T14
		500/700	–		–		**ATV61HC50N4**	T14
		630/900	–		–		**ATV61HC63N4**	T15

(1) Must be used with a line choke, refer to the Schneider Electric catalogue.
(2) Drive supplied without EMC filter
(3) SoMove setup software : available from 2011. Altivar 61 is also supported by Powersuite software workshop.

For all other variants, please refer to the Schneider Electric catalogue.

Altivar 61

0.37…800 kW
0.5...900 HP

Pumping and ventilation machines

Drives for industry and infrastructure

Dimensions (in mm)	width x height x depth
T6	: 240 x 420 x 236
T8	: 320 x 630 x 290
T11	: 340 x 1190 x 377
T13	: 595 x 1190 x 377
T15	: 1120 x 1390 x 377

Type of drive Supply voltage					**Three-phase** 500...690 V	
Degree of protection					**IP20** and IP41 on the upper part	
Drive	Output frequency				0.1…599 Hz up to 37 kW; 0.1…500 Hz from 45 to 800 kW	
	Type of control	Asynchronous motor			Kn^2 quadratic ratio, flux vector control with or without sensor, voltage/frequency ratio (2 or 5 points), energy saving ratio	
		Synchronous motor			Vector control without speed feedback	
	Transient overtorque				120…130% of the nominal drive current for 60 seconds	
Speed range					1…100 in open loop mode	
Functions	Number of functions				> 150	
	Number of preset speeds				16	
	Number of I/O				Analog inputs 2…4/Logic inputs 6…20	
					Analog outputs 1…3/Logic outputs 0…8	
					Relay outputs 2…4	
					Safety input 1	
Dialogue					Remote graphic display terminal, SoMove setup software (1)	
Communication	Integrated				Modbus and CANopen	
	As an option				**HVAC protocols:** LonWorks, BACnet, METASYS N2, APOGEE FLN P1 **Industrial protocols:** Modbus TCP Daisy Chain, Modbus/Uni-Telway, EtherNet/IP, EtherCAT, DeviceNet, PROFIBUS DP V0 et V1, INTERBUS, CC-Link	
Cards (available as an option)					Multi-pump cards, I/O extension cards, “Controller Inside” programmable card	
Reduction of current harmonics					DC choke integrated or supplied with the product or AFE Altivar (Active Front End)	
EMC filter		Integrated			C3 EMC	
Motor power	kW/HP	500 V kW	575 V HP	690 V kW		
		2.2	3	3	**ATV61HU30Y**	T6
		3	–	4	**ATV61HU40Y**	T6
		4	5	5.5	**ATV61HU55Y**	T6
		5.5	7.5	7.5	**ATV61HU75Y**	T6
		7.5	10	11	**ATV61HD11Y**	T6
		11	15	15	**ATV61HD15Y**	T6
		15	20	18.5	**ATV61HD18Y**	T6
		18.5	25	22	**ATV61HD22Y**	T6
		22	30	30	**ATV61HD30Y**	T6
		30	40	37	**ATV61HD37Y**	T8
		37	50	45	**ATV61HD45Y**	T8
		45	60	55	**ATV61HD55Y**	T8
		55	75	75	**ATV61HD75Y**	T8
		75	100	90	**ATV61HD90Y**	T8
		90	125	110	**ATV61HC11Y**	T11
		110	150	132	**ATV61HC13Y**	T11
		132	–	160	**ATV61HC16Y**	T11
		160	200	200	**ATV61HC20Y**	T11
		200	250	250	**ATV61HC25Y**	T13
		250	350	315	**ATV61HC31Y**	T13
		315	450	400	**ATV61HC40Y**	T13
		400	550	500	**ATV61HC50Y**	T15
		500	700	630	**ATV61HC63Y**	T15
		630	800	800	**ATV61HC80Y**	T15

(1) SoMove setup software : available from 2011. Altivar 61 is also supported by Powersuite software workshop.

For all other variants, please refer to the Schneider Electric catalogue.

Altivar 61

0.75…90 kW
1...125 HP

Pumping and ventilation machines

IP54 drives

Dimensions (in mm) ATV61W…	width x height x depth		
TA2	: 235 x 490 x 272	**TD**	: 310 x 665 x 315
TA3	: 235 x 490 x 286	**TE**	: 284 x 720 x 315
TB	: 255 x 525 x 286	**TF**	: 284 x 880 x 343
TC	: 290 x 560 x 315	**TG**	: 362 x 1000 x 364

Type of drive			**Three-phase 380…480 V**			
Degree of protection			**Type 12** (1) **/ IP54**			
Drive	Output frequency		0.1…599 Hz up to 37 kW; 0.1…500 Hz from 45 to 800 kW			
	Type of control	Asynchronous motor	Kn^2 quadratic ratio, flux vector control with or without sensor, voltage/frequency ratio (2 or 5 points), energy saving ratio			
		Synchronous motor	Vector control without speed feedback			
	Transient overtorque		120…130% of the nominal drive current for 60 seconds			
Speed range			1…100 in open loop mode			
Functions	Number of functions		> 150			
	Number of preset speeds		16			
	Number of I/O		Analog inputs 2…4/Logic inputs 6…20			
			Analog outputs 1…3/Logic outputs 0…8			
			Relay outputs 2…4			
			Safety input 1			
Dialogue			Remote graphic display terminal, SoMove setup software (2)			
Communication	Integrated		Modbus and CANopen			
	As an option		**HVAC protocols:** LonWorks, BACnet, METASYS N2, APOGEE FLN P1 **Industrial protocols:** Modbus TCP Daisy Chain, Modbus/Uni-Telway, EtherNet/IP, EtherCAT, DeviceNet, PROFIBUS DP V0 and V1, INTERBUS, CC-Link			
Cards (available as an option)			Multi-pump cards, I/O extension cards, “Controller Inside” programmable card			
Reduction of current harmonics			Integrated DC choke			
EMC filter		Integrated	C2 EMC			
		As an option	–		–	
Motor power	kW/HP	0.75/1	**ATV61W075N4**	TA2	**ATV61E5075N4**	TA2
		1.5/2	**ATV61WU15N4**	TA2	**ATV61E5U15N4**	TA2
		2.2/3	**ATV61WU22N4**	TA2	**ATV61E5U22N4**	TA2
		3/–	**ATV61WU30N4**	TA3	**ATV61E5U30N4**	TA3
		4/5	**ATV61WU40N4**	TA3	**ATV61E5U40N4**	TA3
		5.5/7.5	**ATV61WU55N4**	TB	**ATV61E5U55N4**	TB
		7.5/10	**ATV61WU75N4**	TB	**ATV61E5U75N4**	TB
		11/15	**ATV61WD11N4**	TC	**ATV61E5D11N4**	TC
		15/20	**ATV61WD15N4**	TD	**ATV61E5D15N4**	TD
		18.5/25	**ATV61WD18N4**	TD	**ATV61E5D18N4**	TD
		22/30	**ATV61WD22N4**	TE	**ATV61E5D22N4**	TE
		30/40	**ATV61WD30N4**	TF	**ATV61E5D30N4**	TF
		37/50	**ATV61WD37N4**	TF	**ATV61E5D37N4**	TF
		45/60	**ATV61WD45N4**	TG	**ATV61E5D45N4**	TG
		55/75	**ATV61WD55N4**	TG	**ATV61E5D55N4**	TG
		75/100	**ATV61WD75N4**	TG	**ATV61E5D75N4**	TG
		90/125	**ATV61WD90N4**	TG	**ATV61E5D90N4**	TG

Drive with integrated C1 filter: add the letter **C** at the end of the reference For example, ATV61W075N4 becomes ATV61W075N4**C**
For other variants, please refer to the Schneider Electric catalogue**.**
(1) For ATV61W... range only.
(2) SoMove setup software : available from 2011. Altivar 61 is also supported by Powersuite software workshop.

Altivar 61Q

110…800 kW
150...900 HP

Pumping and ventilation machines

Water-cooled drives for harsh environments

Dimensions (in mm)	width x height x depth
T11	: 330 x 950 x 377
T13	: 585 x 950 x 377
T15	: 1110 x 1150 x 377

Type of drive Supply voltage			**Three-phase** 380...480 V		**Three-phase** 500...690 V	
Degree of protection			Sideways and front **IP31** - Top **IP20** - Bottom **IP00**			
Drive	Output frequency		0.1...500Hz			
	Type of control	Asynchronous motor	Kn^2 quadratic ratio, flux vector control with or without sensor, voltage/frequency ratio (2 or 5 points), energy saving ratio			
		Synchronous motor	Vector control without speed feedback			
	Transient overtorque		120…130% of the nominal drive current for 60 seconds			
Speed range			1…100 in open loop mode			
Functions	Number of functions		> 150			
	Number of preset speeds		16			
	Number of I/O		Analog inputs 2…4/Logic inputs 6…20			
			Analog outputs 1…3/Logic outputs 0…8			
			Relay outputs 2…4			
			Safety input 1			
Dialogue			Remote graphic display terminal, SoMove setup software (2)			
Communication	Integrated		Modbus and CANopen			
	As an option		**HVAC protocols:** LonWorks, BACnet, METASYS N2, APOGEE FLN P1 **Industrial protocols:** Modbus TCP, Modbus/Uni-Telway, Fipio, Modbus Plus, Profbus DP, Profbus DP V1, DeviceNet, EthernetIP, CC-Link, InterBus			
Cards (available as an option)			Multi-pump cards, I/O extension cards, “Controller Inside” programmable card			
Reduction of current harmonics			Optional AC choke, Altivar AFE (Active Front End)			
EMC filter		Integrated	C3 EMC			
		As an option	C1 EMC			
Motor power	kW/HP	110/150	**ATV61QC11N4**	T11	–	
		132/200	**ATV61QC13N4**	T11	–	
		160/250	**ATV61QC16N4**	T11	–	
		200/300	**ATV61QC20N4**	T13	–	
		250/400	**ATV61QC25N4**	T13	–	
		315/500	**ATV61QC31N4**	T13	–	
		400/600	**ATV61QC40N4**	T15	–	
		500/700	**ATV61QC50N4**	T15	–	
		630/900	**ATV61QC63N4**	T15	–	

	500 V kW	575 V HP	690 V kW			
	110	150	132	–	**ATV61QC13Y**	T11
	132	–	160	–	**ATV61QC16Y**	T11
	160	200	200	–	**ATV61QC20Y**	T11
	200	250	250	–	**ATV61QC25Y**	T13
	250	350	315	–	**ATV61QC31Y**	T13
	315	450	400	–	**ATV61QC40Y**	T13
	400	550	500	–	**ATV61QC50Y**	T15
	500	700	630	–	**ATV61QC63Y**	T15
	630	800	800	–	**ATV61QC80Y**	T15

(1) SoMove setup software : available during 2011. Altivar 61 also works with the PowerSuite software workshop.

Type of card	I/O extension	
	Logic	Extended
Description	1 relay logic output (“C/O” contact) 4 x 24 VDC positive or negative logic inputs 2 x 24 VDC open collector positive or negative logic outputs 1 input for PTC probes	1 x 0…20 mA differential current analog input 1 software-configurable voltage (0…10 VDC) or current (0…20 mA) analog input 2 software-configurable voltage (±10V, 0…10 VDC) or current (0…20 mA) analog inputs 1 relay logic output (“C/O” contact) 4 x 24 VDC positive or negative logic inputs 2 x 24 VDC open collector positive or negative logic outputs 1 input for PTC probes 1 frequency control input
Reference	VW3A3201	VW3A3202

"Controller Inside" programmable card

Type of card	Programmable “Controller Inside”
Description	10 logic inputs, 2 of which can be used for 2 counters or 4 of which can be used for 2 incremental encoders 2 analog inputs, 6 logic outputs, 2 analog outputs, a master port for the CANopen bus, a PC port for programming with the PS 1131 software workshop.
Reference	VW3A3501

Multi-pump cards

Type of card		Multi-pump
Description	The pump switching card ensures compatibility of applications developed on the Altivar 38.	This card is specific to pump switching. It ensures optimum flow for an impeccable quality of service. Its algorithm both saves energy and prolongs equipment service life.
Reference		VW3A3502
Description	The VWA3503 “Water Solution” card can be used to support all multi-pump applications.	This card offers all the functions needed to manage a pumping, booster, irrigation station, etc with the operational safety of a control and monitoring system.
Reference		VW3A3503

Notes

Altivar 71

0.37…630 kW

0.5...700 HP

Complex, high-power machines

High performance drives

Dimensions (in mm)	width x height x depth
T2 : 130 x 230 x 175	**T3** : 155 x 260 x 187
T4 : 175 x 295 x 187	**T5A** : 210 x 295 x 213
T5B : 230 x 400 x 213	**T6** : 240 x 420 x 236
T7A : 240 x 550 x 266	**T7B** : 320 x 550 x 266
T8 : 320 x 630 x 290	**T9** : 320 x 920 x 377
T10 : 360 x 1022 x 377	**T11** : 340 x 1190 x 377
T12 : 440 x 1190 x 377	**T13** : 595 x 1190 x 377
T14 : 890 x 1390 x 377	**T15** : 1120 x 1390 x 377

Type of drive Supply voltage			**Single-phase** 200…240 V (3)		**Three-phase** 200…240 V (3)		**Three-phase** 380…480 V (3)	
Degree of protection			**IP20** for unprotected drives and IP41 on the upper part					
Drive	Output frequency		0…599 Hz up to 37 kW - 0…500 Hz from 45…630 kW					
	Type of control	Asynchronous motor	Flux vector control with or without sensor, voltage/frequency ratio (2 or 5 points), ENA System					
		Synchronous motor	Vector control with and without speed feedback (4)					
	Transient overtorque		220% of nominal motor torque for 2 seconds, and 170% for 60 seconds					
Speed range			1…1000 in closed loop mode with encoder feedback, 1…100 in open loop mode					
Functions	Number of functions		> 150					
	Number of preset speeds		16					
	Number of I/O	Analog inputs	2…4					
		Logic inputs	6…20					
		Analog outputs	1…3					
		Logic outputs	0…8					
		Relay outputs	2…4					
		Safety input	1					
Dialogue			Remote graphic display terminal, SoMove setup software (5)					
Communication	Integrated		Modbus and CANopen					
	As an option		Modbus TCP, Modbus/Uni-Telway, EtherNet/IP, EtherCAT, DeviceNet, PROFIBUS DP V0 and V1, INTERBUS, CC-Link.					
Cards (available as an option)			Encoder interface cards, I/O extension cards, “Controller Inside” programmable card					
Reduction of current harmonics			DC choke integrated or supplied with the product or Altivar AFE (Active Front End).					
EMC filter		Integrated	C2 EMC up to 4 kW, C3 EMC from 5,5 to 500 kW					
		As an option	C1 EMC from 0.75 to 500 kW					
Motor power	kW/HP	0.37/0.5	**ATV71H075M3**	T2	**ATV71H037M3**	T2	–	
		0.75/1	**ATV71HU15M3**	T2	**ATV71H075M3**	T2	**ATV71H075N4**	T2
		1.5/2	**ATV71HU22M3**	T3	**ATV71HU15M3**	T2	**ATV71HU15N4**	T2
		2.2/3	**ATV71HU30M3**	T3	**ATV71HU22M3**	T3	**ATV71HU22N4**	T2
		3/–	**ATV71HU40M3** (1)	T3	**ATV71HU30M3**	T3	**ATV71HU30N4**	T3
		4/5	**ATV71HU55M3** (1)	T4	**ATV71HU40M3**	T3	**ATV71HU40N4**	T3
		5.5/7.5	**ATV71HU75M3** (1)	T5A	**ATV71HU55M3**	T4	**ATV71HU55N4**	T4
		7.5/10	–		**ATV71HU75M3**	T5A	**ATV71HU75N4**	T4
		11/15	–		**ATV71HD11M3X** (2)	T5B	**ATV71HD11N4**	T5A
		15/20	–		**ATV71HD15M3X** (2)	T5B	**ATV71HD15N4**	T5B
		18.5/25	–		**ATV71HD18M3X** (2)	T6	**ATV71HD18N4**	T5B
		22/30	–		**ATV71HD22M3X** (2)	T6	**ATV71HD22N4**	T6
		30/40	–		**ATV71HD30M3X** (2)	T7B	**ATV71HD30N4**	T7A
		37/50	–		**ATV71HD37M3X** (2)	T7B	**ATV71HD37N4**	T7A
		45/60	–		**ATV71HD45M3X** (2)	T7B	**ATV71HD45N4**	T8
		55/75	–		**ATV71HD55M3X** (2)	T9	**ATV71HD55N4**	T8
		75/100	–		**ATV71HD75M3X** (2)	T10	**ATV71HD75N4**	T8
		90/125	–		–		**ATV71HD90N4**	T9
		110/150	–		–		**ATV71HC11N4**	T10
		132/200	–		–		**ATV71HC13N4**	T11
		160/250	–		–		**ATV71HC16N4**	T12
		200/300	–		–		**ATV71HC20N4**	T13
		220/350	–		–		**ATV71HC25N4**	T13
		280/450	–		–		**ATV71HC28N4**	T13
		315/500	–		–		**ATV71HC31N4**	T14
		355/–	–		–		**ATV71HC40N4**	T14
		500/700	–		–		**ATV71HC50N4**	T15

(1) Must be used with a line choke, Refer to the Schneider Electric catalogue.
(2) Drive supplied without EMC filter.
(3) A three-phase 380...480 V range on base plate is available from 0.75 to 11 kW. Please refer to the Schneider Electric catalogue.
(4) Vector control with speed feedback for synchronous motors is supported by the S383 variant of the Altivar 71.
(5) SoMove setup software : available from 2011. Altivar 71 is also supported by Powersuite software workshop.

Other versions: **please consult our Customer Care Centre.**

Altivar 71

0.37…630 kW
0.5...700 HP

Complex, high-power machines

High performance drives

Dimensions (in mm)	width x height x depth
T2 : 130 x 230 x 175	**T3** : 155 x 260 x 187
T4 : 175 x 295 x 187	**T5A** : 210 x 295 x 213
T5B : 230 x 400 x 213	**T6** : 240 x 420 x 236
T7A : 240 x 550 x 266	**T7B** : 320 x 550 x 266
T8 : 320 x 630 x 290	**T9** : 320 x 920 x 377
T10 : 360 x 1022 x 377	**T11** : 340 x 1190 x 377
T12 : 440 x 1190 x 377	**T13** : 595 x 1190 x 377
T14 : 890 x 1390 x 377	**T15** : 1120 x 1390 x 377

Type of drive Supply voltage					**Three-phase** 500... 690 V	
Degree of protection					**IP20** for unprotected drives and IP41 on the upper part	
Drive	Output frequency				0…599 Hz up to 37 kW - 0…500 Hz from 45…630 kW	
	Type of control	Asynchronous motor			Flux vector control with or without sensor, voltage/frequency ratio (2 or 5 points), ENA System	
		Synchronous motor			Vector control with and without speed feedback (1)	
	Transient overtorque				220% of nominal motor torque for 2 seconds, and 170% for 60 seconds	
Speed range					1…1000 in closed loop mode with encoder feedback, 1…100 in open loop mode	
Functions	Number of functions				> 150	
	Number of preset speeds				16	
	Number of I/O	Analog inputs			2…4	
		Logic inputs			6…20	
		Analog outputs			1…3	
		Logic outputs			0…8	
		Relay outputs			2…4	
		Safety input			1	
Dialogue					Remote graphic display terminal, SoMove setup software (2)	
Communication	Integrated				Modbus and CANopen	
	As an option				Modbus TCP, Modbus/Uni-Telway, EtherNet/IP, EtherCAT, DeviceNet, PROFIBUS DP V0 and V1, INTERBUS, CC-Link.	
Cards (available as an option)					Encoder interface cards, I/O extension cards, “Controller Inside” programmable card	
Reduction of current harmonics					DC choke integrated or DC choke optional or AFE Altivar (Active Front End)	
EMC filter		Integrated			C3 EMC	
Motor power	kW/HP	500 V kW	575 V HP	690 V kW		
		1.5	2	2.2	**ATV71HU22Y**	T6
		2.2	3	3	**ATV71HU30Y**	T6
		3	–	4	**ATV71HU40Y**	T6
		4	5	5.5	**ATV71HU55Y**	T6
		5.5	7.5	7.5	**ATV71HU75Y**	T6
		7.5	10	11	**ATV71HD11Y**	T6
		11	15	15	**ATV71HD15Y**	T6
		15	20	18.5	**ATV71HD18Y**	T6
		18.5	25	22	**ATV71HD22Y**	T6
		22	30	30	**ATV71HD30Y**	T6
		30	40	37	**ATV71HD37Y**	T8
		37	50	45	**ATV71HD45Y**	T8
		45	60	55	**ATV71HD55Y**	T8
		55	75	75	**ATV71HD75Y**	T8
		75	100	90	**ATV71HD90Y**	T8
		90	125	110	**ATV71HC11Y**	T11
		110	150	132	**ATV71HC13Y**	T11
		132	–	160	**ATV71HC16Y**	T11
		160	200	200	**ATV71HC20Y**	T13
		200	250	250	**ATV71HC25Y**	T13
		250	350	315	**ATV71HC31Y**	T13
		315	450	400	**ATV71HC40Y**	T15
		400	550	500	**ATV71HC50Y**	T15
		500	700	630	**ATV71HC63Y**	T15

(1) Vector control with speed feedback for synchronous motors is supported by the S383 variant of the Altivar 71.
(2) SoMove setup software : available from 2011. Altivar 71 is also supported by Powersuite software workshop..

For all other variants, please refer to the Schneider Electric catalogue.

Altivar 71

0.75…75 kW
1...100 HP

Complex, high-power machines

IP54 drives

Dimensions (in mm) **ATV71W…, ATV71E5…** up to 75 kW	width x height x depth
TA2 : 235 x 490 x 272	**TD** : 310 x 665 x 315
TA3 : 235 x 490 x 286	**TE** : 284 x 720 x 315
TB : 255 x 525 x 286	**TF** : 284 x 880 x 343
TC : 290 x 560 x 315	**TG** : 362 x 1000 x 364

Type of drive			**Three-phase 380…480 V**		**With switch**	
Degree of protection			**UL Type 12** (1) **/ IP54**			
Drive	Output frequency		0…599 Hz up to 37 kW - 0…500 Hz from 45…75 kW			
	Type of control	Asynchronous motor	Flux vector control with or without sensor, voltage/frequency ratio (2 or 5 points), ENA System			
		Synchronous motor	Vector control without speed feedback			
	Transient overtorque		220% of nominal motor torque for 2 seconds, and 170% for 60 seconds			
Speed range			1…1000 in closed loop mode with encoder feedback, 1…100 in open loop mode			
Functions	Number of functions		> 150			
	Number of preset speeds		16			
	Number of I/O	Analog inputs	2…4			
		Logic inputs	6…20			
		Analog outputs	1…3			
		Logic outputs	0…8			
		Relay outputs	2…4			
		Safety input	1			
Dialogue			Remote graphic display terminal, SoMove setup software (2)			
Communication	Integrated		Modbus and CANopen			
	As an option		Modbus TCP, Modbus/Uni-Telway, EtherNet/IP, EtherCAT, DeviceNet, PROFIBUS DP V0 et V1, INTERBUS, CC-Link.			
Cards (available as an option)			Encoder interface cards, I/O extension cards, “Controller Inside” programmable card			
Reduction of current harmonics			Optional chokes and passive filters			
EMC filter		Integrated	C2 EMC			
		As an option	External C1 EMC			
Motor power	kW/HP	0.75/1	**ATV71W075N4**	TA2	**ATV71E5075N4**	TA2
		1.5/2	**ATV71WU15N4**	TA2	**ATV71E5U15N4**	TA2
		2.2/3	**ATV71WU22N4**	TA2	**ATV71E5U22N4**	TA2
		3/–	**ATV71WU30N4**	TA3	**ATV71E5U30N4**	TA3
		4/5	**ATV71WU40N4**	TA3	**ATV71E5U40N4**	TA3
		5.5/7.5	**ATV71WU55N4**	TB	**ATV71E5U55N4**	TB
		7.5/10	**ATV71WU75N4**	TB	**ATV71E5U75N4**	TB
		11/15	**ATV71WD11N4**	TC	**ATV71E5D11N4**	TC
		15/20	**ATV71WD15N4**	TD	**ATV71E5D15N4**	TD
		18.5/25	**ATV71WD18N4**	TD	**ATV71E5D18N4**	TD
		22/30	**ATV71WD22N4**	TD	**ATV71E5D22N4**	TD
		30/40	**ATV71WD30N4**	TF	**ATV71E5D30N4**	TF
		37/50	**ATV71WD37N4**	TF	**ATV71E5D37N4**	TF
		45/60	**ATV71WD45N4**	TG	**ATV71E5D45N4**	TG
		55/75	**ATV71WD55N4**	TG	**ATV71E5D55N4**	TG
		75/100	**ATV71WD75N4**	TG	**ATV71E5D75N4**	TG

(1) For ATV71W... range only.
(2) SoMove setup software : available from 2011. Altivar 71 is also supported by Powersuite software workshop.

Altivar 71Q

90…630 kW
125...700 HP

Complex, high-power machines

Water-cooled drives for harsh environments

Dimensions (in mm)	width x height x depth
T11	: 330 x 950 x 377
T13	: 585 x 950 x 377
T15	: 1110 x 1150 x 377

Type of drive Supply voltage			**Three-phase** 380...480 V		**Three-phase** 500...690 V	
Degree of protection			Sideways and front **IP31** - Top **IP20** - Bottom **IP00**			
Drive	Output frequency		0.1...500Hz			
	Type of control	Asynchronous motor	Flux vector control with or without sensor, voltage/frequency ratio (2 or 5 points), ENA System			
		Synchronous motor	Vector control without speed feedback			
	Transient overtorque		220% of nominal motor torque for 2 seconds, and 170% for 60 seconds			
Speed range			1…1000 in closed loop mode with encoder feedback, 1…100 in open loop mode			
Functions	Number of functions		> 150			
	Number of preset speeds		16			
	Number of I/O	Analog inputs	2…4			
		Logic inputs	6…20			
		Analog outputs	1…3			
		Logic outputs	0…8			
		Relay outputs	2…4			
		Safety input	1			
Dialogue			Remote graphic display terminal, SoMove setup software (1)			
Communication	Integrated		Modbus and CANopen			
	As an option		Modbus TCP, Modbus/Uni-Telway, Fipio, Modbus Plus, Profbus DP, Profbus DP V1, DeviceNet, EthernetIP, CC-Link, InterBus			
Cards (available as an option)			Multi-pump cards, I/O extension cards, “Controller Inside” programmable card			
Reduction of current harmonics			Optional AC choke, Altivar AFE (Active Front End)			
EMC filter		Integrated	C3 EMC			
		As an option	C1 EMC			
Motor power	kW/HP	90/125	**ATV71QD90N4**	T11	–	
		110/150	**ATV71QC11N4**	T11	–	
		132/200	**ATV71QC13N4**	T11	–	
		160/250	**ATV71QC16N4**	T13	–	
		200/300	**ATV71QC20N4**	T13	–	
		250/400	**ATV71QC25N4**	T13	–	
		315/500	**ATV71QC31N4**	T15	–	
		400/600	**ATV71QC40N4**	T15	–	
		500/700	**ATV71QC50N4**	T15	–	

	500 V kW	575 V HP	690 V kW			
	90	125	110	–	**ATV71QC11Y**	T11
	110	150	132	–	**ATV71QC13Y**	T11
	132	-	160	–	**ATV71QC16Y**	T11
	160	200	200	–	**ATV71QC20Y**	T13
	200	250	250	–	**ATV71QC25Y**	T13
	250	350	315	–	**ATV71QC31Y**	T13
	315	450	400	–	**ATV71QC40Y**	T15
	400	550	500	–	**ATV71QC50Y**	T15
	500	700	630	–	**ATV71QC63Y**	T15

(1) SoMove setup software : available during 2011. Altivar 71 also works with the PowerSuite software workshop.

Altivar LIFT

4…22 kW
5...30 HP

Complex, high-power machines

Drives for lifts

Dimensions (in mm) width x height x depth **without remote graphic terminal**	
T4 : 175 x 295 x 161	**T6** : 240 x 420 x 210
T5A : 210 x 295 x 187	**T7** : 240 x 550 x 230
T5B : 230 x 400 x 187	

Type of drive Supply voltage			**Three-phase 200...240 V**		**Three-phase 380...480 V**	
Degree of protection			**IP20** for unprotected drives and IP41 on the upper part			
Drive	Output frequency		0...599 Hz			
	Type of control	Asynchronous motor	Flux vector control with or without sensor, voltage/frequency ratio			
		Synchronous motor	Vector control with and without speed feedback			
	Transient overtorque		220% of nominal motor torque for 2 seconds, and 170% for 60 seconds			
Speed range			1…1000 in closed loop mode with encoder feedback, 1…100 in open loop mode			
Functions	Number of functions		> 150			
	Number of preset speeds		16			
	Number of I/O	Analog inputs	2…4			
		Logic inputs	6…20			
		Analog outputs	1…3			
		Logic outputs	0…8			
		Relay outputs	2…4			
		Safety input	1			
Dialogue			Remote graphic display terminal, SoMove setup software (1)			
Communication	Integrated		Modbus and CANopen			
	As an option		Fipio, Ethernet, Modbus Plus, Profibus DP, DeviceNet, Uni-Telway, InterBus			
Cards (available as an option)			Encoder interface cards, I/O extension cards, “Controller Inside” programmable card, Encoder emulation card			
Reduction of current harmonics			Integrated DC choke or supplied with the product			
EMC filter		Integrated	C2 EMC up to 5.5 kW			
		As an option	External C2 EMC from 7.5 kW			
Motor power	kW / HP / A	4 / 5 / 10	–		**ATV71LD10N4Z**	T4
		5,5 / 7,5 / 14	–		**ATV71LD14N4Z**	T4
		5,5 / 7,5 / 27	**ATV71LD27M3Z**	T5B	–	
		7,5 / 10 / 17	–		**ATV71LD17N4Z**	T5A
		7,5 / 10 / 33	**ATV71LD33M3Z**	T5B	–	
		11 / 15 / 27	–		**ATV71LD27N4Z**	T5B
		11 / 15 / 54	**ATV71LD54M3Z**	T6	–	
		15 / 20 / 33	–		**ATV71LD33N4Z**	T5B
		15 / 20 / 66	**ATV71LD66M3Z**	T6	–	
		22 / 30 / 48	–		**ATV71LD48N4Z**	T7

(1) SoMove setup software : available from 2011. Altivar LIFT is also supported by Powersuite software workshop.

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Other versions: **please consult our Customer Care Centre.**

Complex, high-power machines

I/O extension and specific cards

Type of card	I/O extension	
	Logic	Extended
Description	1 relay logic output (“C/O” contact) 4 x 24 VDC positive or negative logic inputs 2 x 24 VDC open collector positive or negative logic outputs 1 input for PTC probes	1 x 0…20 mA differential current analog input 1 software-configurable voltage (0…10 VDC) or current (0…20 mA) analog input 2 software-configurable voltage (±10V, 0…10 VDC) or current (0…20 mA) analog inputs 1 relay logic output (“C/O” contact) 4 x 24 VDC positive or negative logic inputs 2 x 24 VDC open collector positive or negative logic outputs, 1 input for PTC probes, 1 frequency control input
Reference	VW3A3201	VW3A3202

"Controller Inside" programmable card

Type of card	Programmable “Controller Inside”
Description	10 logic inputs, 2 of which can be used for 2 counters or 4 of which can be used for 2 incremental encoders 2 analog inputs, 6 logic outputs, 2 analog outputs, a master port for the CANopen bus, a PC port for programming with the PS 1131 software workshop
Reference	VW3A3501

Encoder interface cards

Type of card		Encoder interface with		
		Differential outputs (RS422)	Open collector outputs (NPN)	Push-pull outputs
Operating frequency		300 kHz		
Reference	5 V	**VW3A3401**	–	–
	12 V	–	**VW3A3403**	**VW3A3405**
	15 V	**VW3A3402**	**VW3A3404**	**VW3A3406**
	24 V	–	–	**VW3A3407**

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Type of card (1)	Resolver	Universal	Sincos Absolute	Incremental with emulation
Speed feedback resolution	12 bits	16 bits	16 bits	10,000
Encoder type supported	Resolver with 2, 4, 6 or 8 poles	"SinCos, SinCosHiperface EnDat, SSI"	Sincos Absolute	"Incremental RS 422 - 5 V or 15 V"
References	**VW3A3408**	**VW3A3409**	**VW3A3410**	**VW3A3411**

Supported by Altivar LIFT and Altivar71 with S383 firmware version

Schneider Electric

Other versions: **please consult our Customer Care Centre.**

Notes

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Selection guide
For Altistart and Altivar range

Communication tools	Remote display terminal (IP54 & IP65)	Remote graphic display terminal	Multi-loader	Simple Loader	Dongle Bluetooth® (TM)
Altistart 01					
Altistart 22	x				x
Altistart 48	x				
Altivar 12	x		x	x	x
Altivar 212		x	x	x	x
Altivar 312	x	x	x	x	x
Altivar 31C	x			x	x
Altivar 32	x	x	x	x	
Altivar LIFT		x	x	x	x
Altivar 61		x	x	x	x
Altivar 71		x	x	x	x
Altivar 61 Plus		x	x	x	x
Altivar 71 Plus		x	x	x	x
Altivar 61Q (Water Cooled)		x	x	x	x
Altivar 71Q (Water Cooled)		x	x	x	x

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Accessories & Options	ALTISTART			ALTIVAR												
	01	22	48	12	21	212	312	31C	32	61	71	LIFT	61 Plus	71 Plus	61Q	71Q
Panel cut-out adaptor for mounting control unit at 90°									x							
Ferrite suppressors for downstream contactor opening				x			x	x								
Additional EMC filter				x	x		x	x	x	x	x		x	x	x	x
Passive filters										x	x		x	x	x	x
Sinus filters										x	x		x	x	x	x
Line choke			x	x			x	x	x	x	x		x	x	x	x
Motor chokes				x				x	x	x	x		x	x	x	x
EMC conformity kit				x												
UL Type 1 conformity kit							x				x					
DNV kit			x								x					
Mechanical base kit for mounting GV2 circuit-breaker									x							
Mounting plates				x			x		x	x	x		x		x	
Braking resistors for vertical movements											x					
Braking resistors and braking units				x			x		x	x	x		x	x	x	x
References	**If options or accessories not listed, please refer to the Schneider Electric catalogue.**															

For Altivar 1000 or 1100, please consult our Customer Care Centre.

Industrial protocols	ALTISTART			ALTIVAR													
	01	22	48	12	212	312	31C	32	61	71	LIFT	61 Plus	71 Plus	61Q	71Q	1000	1100
Canopen						●	●	●	●	●	●	●	●	●	●	○	
CANopen Daisy chain						○											
CC-Link									○	○	○	○	○	○	○		
DeviceNet			Δ			○	○	○	○	○	○	○	○	○	○	○	
EtherCAT								○	●	●							
Ethernet			Δ													●	
Ethernet IP								○	○	○	○	○	○	○	○		
Ethernet TCP/IP							○			○							
Fipio			○			○	○		○	○	○	○	○	○	○		
InterBus S									○	○	○	○	○	○	○		
Modbus		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Modbus Plus									○	○	○	○	○	○	○		
Modbus TCP						○		○	○	○	○	○	○	○	○		
Modbus/ Unitelway									○	○	○	○	○	○	○		
Profibus DP			Δ			○	○	○	○	○	○	○	○	○	○	●	●
Profibus DP V0								○	○	○	○	○	○	○	○		
Profibus DP V1								○	○	○	○	○	○	○	○		
References	Please refer to the Schneider Electric catalogue or consult our Customer Care Centre.																

HVAC protocols	ALTISTART			ALTIVAR													
	01	22	48	12	212	312	31C	32	61	71	LIFT	61 Plus	71 Plus	61Q	71Q	1000	1100
Lonworks					○				○			○		○			
Metasys N2					●				○			○		○			
Apogee FLN					●				○			○		○			
BACnet					●				○			○		○			
References	Please refer to the Schneider Electric catalogue or consult our Customer Care Centre.																

● Embedded ○ Option Δ Gateway

Communication modules

Altistart 48/Altivar 31 starters/drives		Ethernet/ Modbus	DeviceNet/ Modbus	Fipio/Modbus	Profibus DP/Modbus	
Parameter setting		–	–	–	Standard configurator	ABC configurator program
References	Bridge	TSXETG100	–	–	–	–
	Gateway	–	LUFP9	LUFP1	LA9P307	LUFP7
Cable references	L = 0.3 m	–	VW3A8306R03	VW3A8306R03	–	VW3A8306R03
	L = 1 m	–	VW3A8306R10	VW3A8306R10	VW3P07306R10	VW3A8306R10
	L = 3 m	VW3A8306D30	VW3A8306R30	VW3A8306R30	–	VW3A8306R30

Selection guide

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	⇨ *Applications :* Lexium 32 is the perfect drive system for applications involving high-precision, dynamic positioning.		⇨ *Applications :* Lexium SDx stepper drives and motors are used for short-distance positioning applications requiring maximum accuracy and high torque.	
	Servo Drives	**Servo Motors**	**Stepper Drives**	**Stepper Motors**
	Lexium 32	**Lexium BMH**	**Lexium SD2**	**Lexium BRS2**
		Lexium BSH	**Lexium SD3**	**Lexium BRS3**
Machines	Packaging machines Material handling machines Material working machines Assembling machines		Printing machines Labelling machines Screen printing machines	
Description	The Lexium 32 servo range consists of three high-performance book-size servo drive models – Lexium 32 Compact, Lexium 32 Advanced and Lexium 32 Modular – and two motor families – the versatile medium-inertia Lexium BMH and the dynamic low-inertia Lexium BSH.		The Lexium SDx stepper motor drive range consists of two high-precision stepper drive lines – the three-phase stepper drives Lexium SD3 and the two-phase stepper drives Lexium SD2. These drive lines are complemented by two perfectly matched stepper motor families – Lexium BRS3 three-phase stepper motors and Lexium BRS2 two-phase stepper motors.	
Power range	0.15…7 kW		up to 750 W	
Voltage range	115…240 VAC, 400…480 VAC		24…48 VDC, 115…240 VAC	
Speed	up to 8000 rpm		up to 1000 rpm	
Torque	up to 84 Nm		up to 16.5 Nm	
Communication interfaces	CANopen, CANmotion, PROFIBUS DP, DeviceNet, EtherNet/IP		CANopen, CANmotion, PROFIBUS DP or Pulse/Direction	
	Safety function (STO) on board Enhanced Safety Module (SS1, SS2, SLS, SOS) Encoder module for digital and analog encoders and resolvers		**Safety function** (STO) on board (Lexium SD3 28)	

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Other versions: **Please consult your Schneider Electric sales office.**

⇨ *Applications :*

Lexium Integrated Drives allow for extremely space-saving decentralised motion solutions.

⇨ *Applications :*

The Lexium Linear Motion products are designed for maximum flexibility, performance and cost-effectiveness. This range offers products for all linear movements in the automation industry from single-axis to multi-axis systems.

Integrated Drives

Lexium ILA

Lexium ILE

Lexium ILS

Lexium ILP / ILT

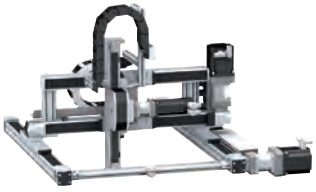
Linear Motion

Lexium PAS

Lexium CAS

Lexium TAS

Lexium MAX



Format adjustment
Printing machines
Material handling machines

Material handling machines
Material working machines
On-the-fly working machines
Assembling machines

The Lexium ILx Integrated Drives comprise motor, positioning controller, power electronics, fieldbus and “Safe Torque Off” safety function in an extremely compact single device. Lexium ILx Integrated Drives are available with all important motor technologies (servo, brushless DC, stepper).

100…370 W

24…48 VDC, 115 to 240 VAC

up to 9000 rpm

up to 12 Nm

RS485, CANopen, PROFIBUS DP, DeviceNet, EtherNet/IP, EtherCAT, Ethernet POWERLINK, Modbus TCP, Pulse/Direction

Safety function (STO) on board
(Lexium ILA, Lexium ILE, Lexium ILS)

Stand-alone device with controller inside (Lexium ILP)

Lexium Linear Motion is a comprehensive linear motion range comprising Lexium PAS portal axes, Lexium TAS linear tables, Lexium CAS cantilever and telescopic axes and Lexium MAX multi-axis systems.

Single axes:

Stroke up to 5.5 m
Load up to 150 kg
Speed up to 8 m/s

Multi axes:

Stroke up to 5.5 m
Load up to 130 kg
Speed up to 4 m/s
Available as individual components or completely pre-assembled, customised systems with drives and motors

Selection guide

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⇨ *Applications :*

Lexium Motion Controllers can be used as a stand-alone motion and automation controllers for machines without a PLC or as pure motion controllers for machines in which a PLC takes care of automation control.

Axis controller

Lexium Motion Controllers

Machines	Packaging machines Material handling machines Material working machines Assembling machines
Description	The compact LMC Lexium Motion Controllers are used to control multiple synchronised axes via a motion bus and feature high performance coupled with economy.
Technical information	Synchronisation of up to 4 axes in 2 ms Synchronisation of up to 8 axes in 4 ms PLCopen function blocks single / multi axis control Application function blocks (Rotary knife, Flying shear, Clamping, Grouping/Ungrouping)
Communication interfaces	Modbus, CANmotion, Profibus DP, DeviceNet, Ethernet TCP/IP (for programming)

Schneider Electric

Other versions: **please consult our Customer Care Centre.**

Motion controller

Controller type		Optimised	Standard	Extended	
Drive synchronisation	Up to 4 axes	2 ms			
CAN Motion bus	Up to 8 axes	4 ms			
Interpolation of drive position loops		250 µs			
Internal memory	RAM	1 MB			
	Flash Eeprom	1 MB			
	Protected RAM	60 Kb			
Expert application	Application function blocks	yes			
	Single-axis PLCopen control	yes			
	Multi-axis PLCopen control	yes			
	2D interpolation	yes			
Number of logic inputs		8 + 4 Fast inputs			
Number of logic outputs		8	8		
Communication	Modbus	yes	yes	yes	yes
	CANopen automation	–	yes	yes	yes
	Ethernet TCP/IP	–	yes	yes	yes
	Profibus DP V1	–	–	yes	–
	Device Net	–	–	–	yes
Reference		**LMC10**	**LMC20**	**LMC20A1307**	**LMC20A1309**

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Software solutions

Easy Motion… for configuring motion control functions

- Axis parameter setting
- Drive and controller adjustment and diagnostics
- Creation of position registers via the Teach function
- Management of axis operating modes and manual control
- Configuration of positioning tasks
- Editing cam profiles
- Application back up and restore

Motion Pro… for configuring and *programming* motion control functions

- Retains the same benefits as Easy Motion mode for motion control
- Creates the whole application, control system function and motion control function, using the programming editor conforming to standard IEC 61131
- Saves the machine signature
- Protection of application programs

Lexium 32 Servo Drives and Motors

Main functions		Lexium 32 Compact	Lexium 32 Advanced	Lexium 32 Modular
Communication	Integrated	Modbus serial link Pulse train	Modbus serial link CANopen, CANmotion machine bus	Modbus serial link Pulse train
	As an option	–	–	CANopen, CANmotion machine bus, DeviceNet, EtherNet/IP, PROFIBUS DP
	Operating modes	Manual mode (JOG) Electronic gearbox Speed control Current control	Homing Manual mode (JOG) Speed control Current control Position control	Homing Manual mode (JOG) Motion sequence Electronic gearbox Speed control Current control Position control
	Functions	Auto-tuning, monitoring, stopping, conversion		
		–	Stop window Rapid entry of position values	Stop window Rapid entry of position values Rotary axes Position register
24 V ⎓ logic inputs		6, reassignable	3, reassignable	4, reassignable
24 V ⎓ capture inputs *(1) (2)*		–	1	2
24 V ⎓ logic outputs *(1)*		5, reassignable	2, reassignable	3, reassignable
Analog inputs		2	–	
Pulse control input		1, configurable as: RS 422 link 5 V or 24 V push-pull 5 V or 24 V open collector		
ESIM PTO output		RS 422 link		
Safety functions	Integrated	"Safe Torque Off" STO		
	As an option	–		Safe Stop 1 (SS1) and Safe Stop 2 (SS2) Safe Operating Stop (SOS) Safe Limited Speed (SLS)
Sensor	Integrated	SinCos Hiperface® sensor		
	As an option	–		Resolver encoder Analog encoder Digital encoder
Architecture		Control via: Logic or analog I/O	Control via: Motion controller via CANopen and CANmotion machine bus	Control via: Schneider Electric or third-party PLCs via communication buses and networks
Type of servo drive		**LXM 32C**	**LXM 32A**	**LXM 32M**

Schneider Electric

Other versions: **please consult our Customer Care Centre.**

Main functions

Application type		High load, With robust adjustment of the movement	High dynamic range, Power density
Flange size		70, 100, 140 and 205 mm	55, 70, 100 and 140 mm
Continuous stall torque		1.2 to 84 Nm	0.5 to 33.4 Nm
Encoder type		Single turn SinCos: 32,768 points/turn and 131,072 points/turn Multiturn SinCos: 32,768 points/turn x 4096 turns and 131,072 points/turn x 4096 turns	Single turn SinCos: 131,072 points/turn Multiturn SinCos: 131,072 points/turn x 4096 turns
Degree of protection	Casing	IP 65 (IP 67 conformity kit as an option)	
	Shaft end	IP 50 or IP 65 (IP 67 conformity kit as an option)	
Type of servo motor		**Lexium BMH**	**Lexium BSH**

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Lexium 32 motion control

Servo drive/servo motor combinations

Lexium 32 servo drive/BMH or BSH servo motor combinations

Servo motors				Lexium 32C, 32A and 32M servo drives 100…120 V single-phase supply voltage with integrated EMC filter			
BMH (IP50, IP65 or IP67)		BSH (IP50, IP65 or IP67)		LXM 32●U90M2 Continuous output current: 3 A rms			
				Nominal operating point			Stall torques
Type of servo motor	Rotor inertia	Type of servo motor	Rotor inertia	Nominal torque	Nominal speed	Nominal power	M_0/M_{max}
	kgcm²		kgcm²	Nm	rpm	W	Nm/Nm
		BSH 0551T	0.06	0.49	3000	150	0.5/1.5
		BSH 0552T	0.10	0.77	3000	250	0.8/1.9
		BSH 0553T	0.13				
BMH 0701T	0.59						
		BSH 0701T	0.25				
		BSH 0702T	0.41				
BMH 0702T	1.13						
BMH 0703T	1.67						
		BSH 1001T	1.40				
BMH1001T	3.2						
BMH1002T	6.3						

Lexium 32 servo drive/BMH or BSH servo motor combinations

Servo motors				Lexium 32C, 32A and 32M servo drives 200…240 V single-phase supply voltage with integrated EMC filter			
BMH (IP50, IP65 or IP67)		BSH (IP 50, IP65 or IP67)		LXM 32●U45M2 Continuous output current: 1.5 A rms			
				Nominal operating point			Stall torques
Type of servo motor	Rotor inertia	Type of servo motor	Rotor inertia	Nominal torque	Nominal speed	Nominal power	M_0/M_{max}
	kgcm²		kgcm²	Nm	rpm	W	Nm/Nm
		BSH 0551T	0.06	0.45	6000	300	0.5/1.4
		BSH 0552T	0.10				
		BSH 0553T	0.13				
		BSH 0701T	0.25				
BMH 0701T	0.59						
		BSH 0702T	0.41				
		BSH 0703T	0.58				
BMH 0702T	1.13						
		BSH 1001T	1.40				
BMH 0703T	1.67						
BMH 1001T	3.2						
		BSH 1002T	2.31				
BMH 1002T	6.3						
BMH 1003T	9.4						
BMH 1401P	16.5						

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Other versions: **please consult our Customer Care Centre.**

LXM 32●U18M2 Continuous output current: 6 A rms				LXM 32●D30M2 Continuous output current: 10 A rms			
Nominal operating point			Stall torques	Nominal operating point			Stall torques
Nominal torque	Nominal speed	Nominal power	M_0/M_{max}	Nominal torque	Nominal speed	Nominal power	M_0/M_{max}
Nm	rpm	W	Nm/Nm	Nm	rpm	W	Nm/Nm
1.14	3000	350	1.2/3.3				
1.35	2500	350	1.4/4.2				
1.36	2500	350	1.4/3.5				
				2.07	2500	550	2.2/6.1
				2.3	2500	600	2.5/6.4
				3.1	2000	650	3.4/8.7
				2.75	2500	700	3.3/6.3
				3.3	2000	700	3.4/8.9
				3.5	2000	750	6/10.3

3

LXM 32●U90 M2 Continuous output current: 3 A rms				LXM 32●D18M2 Continuous output current: 6 A rms				LXM 32●D30M2 Continuous output current: 10 A rms			
Nominal operating point			Stall torques	Nominal operating point			Stall torques	Nominal operating point			Stall torques
Nominal torque	Nominal speed	Nominal power	M_0/M_{max}	Nominal torque	Nominal speed	Nominal power	M_0/M_{max}	Nominal torque	Nominal speed	Nominal power	M_0/M_{max}
Nm	rpm	W	Nm/Nm	Nm	rpm	W	Nm/Nm	Nm	rpm	W	Nm/Nm
0.74	6000	450	0.8/2.5								
0.84	6000	550	1.2/3								
0.94	5000	500	1.3/3.5								
1.1	4000	450	1.4/4								
				1.8	5000	950	2.2/7.2				
				2.1	4000	900	2.6/7.4				
				2.1	4000	900	2.5/7.4				
				2.2	4000	900	2.7/7.5				
				2.9	3000	900	3.4/10.2				
				2.8	3000	900	3.4/10.2				
								3.7	4000	1500	5.8/16.4
								4.6	3000	1450	6/18.4
								5.6	2500	1450	8.2/22.8
								6.9	2000	1450	10.3/30.8

Lexium 32 motion control

Servo drive/servo motor combinations

Lexium 32 servo drive/BMH or BSH servo motor combinations

Servo motors				Lexium 32C, 32A and 32M servo drives 380…480 V three-phase supply voltage with integrated EMC filter							
BMH (IP50, IP65 or IP67)		BSH (IP50, IP 65 or IP67)		LXM 32●U60N4 Continuous output current: 1.5 A rms				LXM 32●D12N4 Continuous output current: 3 A rms			
				Nominal operating point			Stall torques	Nominal operating point			Stall torques
Type of servo motor	Rotor inertia	Type of servo motor	Rotor inertia	Nominal torque	Nominal speed	Nominal power	M_0/M_{max}	Nominal torque	Nominal speed	Nominal power	M_0/M_{max}
	kgcm²		kgcm²	Nm	rpm	W	Nm/Nm	Nm	rpm	W	Nm/Nm
		BSH 0551P	0.06	0.48	6000	300	0.5/1.5				
		BSH 0552P	0.10	0.65	6000	400	0.8/2.5				
		BSH 0553P	0.13	0.65	6000	400	1.05/3.5				
BMH 0701P	0.59			1.1	3000	350	1.2/4.2				
BMH 0701P	0.59							1.3	5000	700	1.4/4.2
		BSH 0701P	0.25					1.32	5000	700	1.4/3.5
		BSH 0702P	0.41					1.64	5000	850	2.2/7.6
BMH 1001P	3.2							1.9	4000	800	3.3/10.8
BMH 0702P	1.13							2.2	3000	700	2.5/7.4
BMH 0703P	1.67										
		BSH 0703P	0.58								
		BSH 1001P	1.40								
BMH 1001P	3.2										
BMH 1002P	6.3										
		BSH 1002P	2.31								
BMH 1003P	9.4										
		BSH 1003P	3.2								
BMH 1401P	16.5										
		BSH 1004P	4.2								
		BSH 1401P	7.4								
BMH 1402P	32.0										
		BSH 1402T	12.7								
		BSH 1403T	17.9								
BMH 1403P	47.5										
		BSH 1404P	23.7								
BMH 2051P	71.4										
BMH 2052P	129										
BMH 2053P	190										

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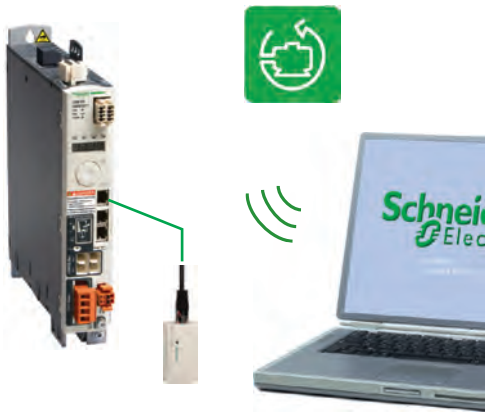
Other versions: **please consult our Customer Care Centre.**

LXM 32●D18N4 Continuous output current: 6 A rms				LXM 32●D30N4 Continuous output current: 10 A rms				LXM 32●D72N4 Continuous output current: 24 A rms			
Nominal operating point			Stall torques	Nominal operating point			Stall torques	Nominal operating point			Stall torques
Nominal torque	Nominal speed	Nominal power	M_0/M_{max}	Nominal torque	Nominal speed	Nominal power	M_0/M_{max}	Nominal torque	Nominal speed	Nominal power	M_0/M_{max}
Nm	rpm	W	Nm/Nm	Nm	rpm	W	Nm/Nm	Nm	rpm	W	Nm/Nm
2.4	5000	1300	3.4/10.2								
2.44	5000	1300	3.1/11.3								
2.7	4000	1100	3.3/9.6								
3.1	4000	1300	3.4/10.2								
3.9	4000	1600	6.2/18.4								
4	4000	1700	5.8/18.3								
				6.2	4000	2600	8.4/25.1				
				6.3	3000	2000	8/28.3				
				7.6	3000	2400	10.3/30.8				
				8.3	2500	2100	10/37.9				
				9.5	2500	2500	11.1/27				
								12.1	3000	3800	16.8/50.3
								12.3	3000	3900	19.5/59.3
								12.9	3000	4100	27.8/90.2
								14.2	3000	4500	24/71.8
								19	2500	5000	33.4/103.6
								25.8	2000	5400	34.4/103.4
								41.6	1500	6500	62.5/170
								52.2	1200	6500	84/232

	Multi-Loader configuration tool
Use	For downloading configurations from a PC or drive and duplicating them on another drive. The drives do not need to be powered-up. Supplied with: 1 cordset equipped with 2 RJ45 connectors 1 cordset equipped with one type A USB connector and one mini B USB connector 1 x 2 GB SD memory card 1 x female/female RJ 45 adaptor 4 AA 1.5 V LR6 round batteries
Reference	**VW3 A8 121**

	Single memory card	Pack of 25 memory cards
Use	Used to store parameters of the Lexium 32 servo drive. Another Lexium 32 servo drive can be commissioned immediately if the application is undergoing maintenance or duplication.	
Reference	**VW3 M8 705**	**VW3 M8 704**

	Memory card recorder
Use	Writes data from the Lexium 32 servo drive to the memory card. This recorder is not supplied by Schneider Electric.
Reference	**See the User's manual**



SoMove setup software

The SoMove setup software is used to configure, adjust, debug and maintain the Lexium 32 servo drive, as for all other Schneider Electric variable speed drives and starters.
It communicates via Bluetooth® wireless link with the servo drive, which is equipped with the Modbus-Bluetooth® adaptor (VW3 A8 114).

SoMove Mobile application for mobile phone

The SoMove Mobile software converts any compatible mobile phone into a remote graphic display terminal, offering an identical Human-Machine Interface.
Particularly suitable for on-site or remote maintenance operations, the SoMove Mobile software can be used to print out and save configurations, import them from a PC and export them to a PC, or to a servo drive equipped with the Modbus adaptor via the Bluetooth® wireless link.

		Communication modules
Lexium 32M can be connected to the following communication buses and networks: CANopen and CANmotion, DeviceNet, Profibus DP V1, EtherNet/IP		
Reference	CANopen / CANmotion module with 2 * RJ 45 connectors	**VW3 A3 608**
	CANopen / CANmotion module with SUB-D 9 connector	**VW3 A3 618**
	DeviceNet module	**VW3 M3 301**
	Profibus DP V1 module	**VW3 A3 607**
	EtherNet/IP module	**VW3 A3 616**
	Module CANopen / CANmotion avec bornier 5 points de vis	**VW3 A3 628**
	Module EtherCAT with 5 points screw terminal	**VW3 A3 601**

		Second encoder modules		
			Machine	Motor
Lexium 32M has an input for an additional encoder to connect third party motor (motor encoder) or to improve positioning accuracy (machine encoder)				
Reference	Module for resolver encoder	**VW3 M3 401**		x
	Module for digital encoder (A/B/I, BiSS, EndDat 2.2, SSI)	**VW3 M3 402**	x	
	Module for analog encoder (1 Vpp/Hall, 1 Vpp, Hiperface)	**VW3 M3 403**	x (Hiperface only)	x

		Safety module
eSM safety module allows Lexium 32M servo drives to access additionnal IEC/EN 61800-5-2 safety functions: SS1, SS2, SLS, SOS		
Reference	eSM safety module allows	**VW3 M3 501**

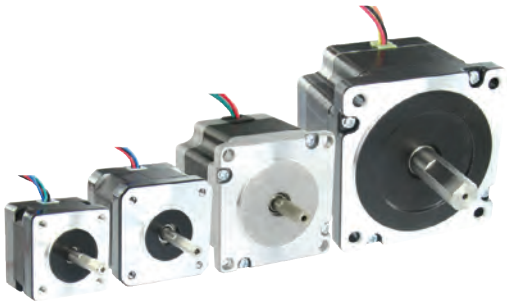
Connection elements

	Power cordsets		
Description	Cables equipped with one M23 industrial connector (servo motor end)		Cables equipped with one M40 industrial connector (servo motor end)
From servo motor	BMH 070●●, BMH 100●●, BMH 1401P, BSH 055●●, BSH 070●●, BSH 100●●, BSH 1401P	BMH 1402P, BMH 1403P	BMH 205●P, BSH 1402T, BSH 1403T, BSH 1404P
To servo drive	LXM 32●●●●●●	LXM 32●D72N4	LXM 32●D72N4
Composition	[(4 x 1.5 mm²) + (2 x 1 mm²)]	[(4 x 2.5 mm²) + (2 x 1 mm²)]	[(4 x 4 mm²) + (2 x 1 mm²)]
Length	3 m	3 m	3 m
Reference	**VW3 M5 101 R30**	**VW3 M5 102 R30**	**VW3 M5 103 R30**

	Encoder cordsets
Description	**SinCos Hiperface® encoder cables equipped with an M23 industrial connector** (servo motor end) **and an RJ45 connector** with 8 + 2 contacts (servo drive end)
From servo motor	BMH ●●●●●, BSH ●●●●●
To servo drive	LXM 32●●●●●●
Composition	[3 x (2 x 0.14 mm²) + (2 x 0.34 mm²)]
Length	3 m
Reference	**VW3 M8 102 R30**

Motion Control

Stepper drives and stepper motors



Assignment of BRS2 2-phase stepper motors and SD2 stepper motor drives

BRS2 2-phase stepper motors	SD21●●U20C	SD21●●U50C
	24…48 V; 3 A	24…48 V; 5 A
BRS236	0.07 Nm	–
BRS242	0.23…0.53 Nm	–
BRS257	0.64…1.69 Nm	0.64…1.69 Nm
BRS285	–	2.96…9.20 Nm

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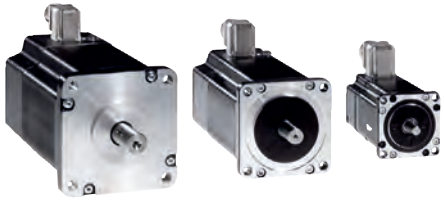

Assignment of BRS3 3-phase stepper motors and SD3 stepper motor drives

BRS3 3-phase stepper motors	SD326●U25	SD328●U25	SD326●U68	SD328●U68
	115 V / 230 V; 2.5 A; including mains filter		115 V / 230 V; 6.8 A; including mains filter and fan	
BRS368	1.7 Nm / 1.5 Nm		–	
BRS397	2.3 Nm / 2.0 Nm		–	
BRS39A	4.5 Nm / 4.0 Nm		–	
BRS39B	6.8 Nm / 6.0 Nm		–	
BRS3AC	–		13.5 Nm / 12.0 Nm	
BRS3AD	–		19.7 Nm / 16.5 Nm	

Assignment of stepper motors, stepper motor drives SD3 15

3-phase stepper motors	SD3 15
	24…48 VDC; max. 10 A
Motors with F winding	
BRS 364F	0.46 Nm / 0.40 Nm
BRS 366F	0.92 Nm / 0.80 Nm
BRS 368F	1.50 Nm / 1.30 Nm
BRS 397F	2.00 Nm / 1.85 Nm
BRS 39AF	4.20 Nm / 3.40 Nm
BRS 39BF	5.55 Nm / 4.80 Nm
Motors with H winding	
BRS 364H	0.51 Nm / 0.45 Nm
BRS 366H	1.02 Nm / 0.90 Nm
BRS 368F	1.70 Nm / 1.50 Nm
BRS 397H	2.26 Nm / 2.00 Nm
BRS 39AH	4.80 Nm / 4.00 Nm
BRS 39BH	6.50 Nm / 5.75 Nm

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Other versions: **please consult our Customer Care Centre.**

Integrated Drives		Lexium ILA	Lexium ILE	Lexium ILS	Lexium ILP / ILT
Type of process		Dynamic process and accurate positioning	Automatic format adjustement	Short distance movements with accurate positioning	
Type of technology		Integrated drive with servo motor	Integrated drive with dc brushless motor	Integrated drive with three-phase stepper motor	Integrated drive with two-phase stepper motor
Main characteristics		Highly dynamic Compact Integrated holding brake in option	Hight holding torque without power Integrated gearbox in option	Hight torque at low speed	
Dynamic		★★★★	★★	★★★	★★★
Precision and stability		★★★★	★★	★★★★	★★★★
Energy saving		★★★★★	★★★★	★★	★★
Motor inertia		Medium			
Control interface	Control signals	Input/output		Pulse/direction Input/output	Pulse/direction Input/output
	Bus and networks	CANopen, PROFIBUS DP, RS 485 serial link, DeviceNet, EtherCAT, Modbus TCP, Ethernet Powerlink, EtherNet/IP			CANopen, RS485
	Motion bus	–			
Association Drive/motor combinations	Nominal power	150...305W	100...350W	100...350W	100...350W
	Nominal speed	500...9000 min^{-1}	1500...7000 min^{-1}	0...1000 min^{-1}	0...1000 min^{-1}
	Nominal torque	0.26...0.78 Nm	0.18...0.5 Nm	0.45...6 Nm	0.11...5.87 Nm
Drive characteristics	Safety function	"Safe Torque Off"			
Motor characteristics	Type of sensor (resolution) (1)	Single turn SinCos encoder (16.384 increments/turn) Multiturn SinCos encoder (16.384 increments/turn × 4096 turns)	Absolute value encoder (12...1380 increments/turn)	Index pulse monitoring	Index pulse monitoring
	Motor flange size	57	66	57, 85	36, 42, 57, 85
Accessories		Cable, Connector kits, Installation sets, Commissioning tools, Planetary gearboxes			Cable, Connector kits, Installation sets, Commissioning tools
References		**ILA**	**ILE**	**ILS**	**ILP** / **ILT**

3

Lexium ILA with Servo Motor	Nominal Torque (Nm)	Maximum Torque (Nm)	Nominal Speed (Rpm)	Maximum Speed (Rpm)	Nominal Power (W)
ILS1 for CANopen, PROFIBUS DP, RS485, Pulse-Direction, Motion Sequence Mode					
ILA1●571P	0.26	0.6	5500	7500	150
ILA1●571T	0.26	0.43	7500	11500	200
ILA1●572P	0.45	0.72	4300	6200	200
ILA1●572T	0.41	0.61	5000	7500	215
ILA2 for DeviceNet, EtherCAT, EtherNet/IP, Modbus TCP, Ethernet Powerlink					
ILA2●571P	0.44	0.62	5100	7000	235
ILA2●571T	0.31	0.45	7000	9000	255
ILA2●572P	0.78	1.62	3400	4300	275
ILA2●572T	0.57	0.85	5100	6800	305

Lexium ILE with included spurwheel gearbox.
Ratios:18:1, 38:1, 54:1, 115:1

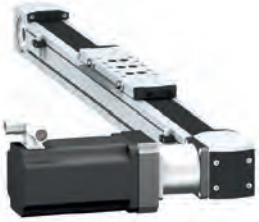
Lexium ILE with included worm gearbox with hollow shaft.
Ratios: 24:1, 54:1, 92:1, 115:1

Lexium ILE with Brushless DC Motor	Nominal Torque (Nm)	Detent Torque (Nm)	Nominal Speed (Rpm)	Maximum Speed (Rpm)
ILE1 for CANopen, PROFIBUS DP, RS485				
ILE1●661	0.24	0.08	4800	5000
ILE1●661 spurwheel gearing	up to 11.0	up to 8.0	44	44
ILE1●661 worm gearing	up to 10.6	up to 16.7	44	44
ILA2 for DeviceNet, EtherCAT, EtherNet/IP, Modbus TCP, Ethernet Powerlink				
ILE2●661	0.26	0.08	6000	7000
ILE2●661 spurwheel gearing	up to 12	up to 9.19	44	44
ILE2●661 worm gearing	up to 10.6	up to 16.7	44	44
ILE2●662	0.5	0.106	5000	7000

Lexium ILS with three-phase Stepper Motor	Maximum Torque (Nm)	Holding Torque (Nm)	Speed (Rpm)
ILS1 for CANopen, PROFIBUS DP, RS485, Pulse-Direction, Motion Sequence Mode			
ILS1●571●	0.45	0.51	1000
ILS1●572●	0.9	1.02	600
ILS1●573●	1.5	1.7	450
ILS1●851●	2.0	2.0	450
ILS1●852●	4.0	4.0	200
ILS1●853P	6.0	6.0	120
ILS1●853T	4.5	4.5	300
ILS1 for CANopen, PROFIBUS DP, RS485, Pulse-Direction, Motion Sequence Mode			
ILS2●571●	0.45	0.51	1100
ILS2●572●	0.9	1.02	900
ILS2●573●	1.5	1.7	600
ILS2●851●	2.0	2.0	600
ILS2●852●	4.0	4.0	380
ILS2●853P	6.0	6.0	200
ILS2●853T	4.5	4.5	300

Lexium ILP, Lexium ILT with two-phase Stepper Motor	Nominal Torque (Nm)	Holding Torque (Nm)	Maximum Speed (Rpm)
ILP for RS485 with programmable interface			
ILP2R361	0.11	0.11	1800
ILP2R421	0.19	0.19	1500
ILP2R422	0.33	0.33	1500
ILP2R423	0.39	0.39	1500
ILP2R571	0.63	0.63	1500
ILP2R572	0.86	0.86	1500
ILP2R573	1.44	1.44	1500
ILP2R574	1.77	1.77	1500
ILP2R851	2.13	2.13	1000
ILP2R852	3.12	3.12	1000
ILP2R853	5.87	5.87	1000
ILT for Pulse/Direction, CANopen			
ILT2●361	0.11	0.11	1800
ILT2●421	0.19	0.19	1500
ILT2●422	0.33	0.33	1500
ILT2●423	0.39	0.39	1500
ILT2●571	0.63	0.63	1500
ILT2●572	0.86	0.86	1500
ILT2●573	1.44	1.44	1500
ILT2●574	1.77	1.77	1500
ILT2●851	2.13	2.13	1000
ILT2●852	3.12	3.12	1000
ILT2●853	5.87	5.87	1000

Linear axes



Product		Lexium PAS B	Lexium PAS S
Axis type		Portal axes	
Movement	Number of directions	1	
	Movement type	Typically horizontal	
	Position of the load	On carriage	
Drive		Toothed belt	Ballscrew
Type of guide		Ball or roller	Ball
Main characteristics		High dynamic response, Long stroke length, High positioning speed	High precision movement (positioning, repeatability, guiding), High feed forces, High rigidity
Dynamic response		★★★★★	★★★
Precision		★★★	★★★★★
Maximum payload		100 kg	100 kg
Maximum driving force		2600 N	4520 N
Maximum speed of movement of the load		8 m/s	1.25 m/s
Maximum working stroke		5500 mm	3000 mm
Repeatability		± 0.05 mm	± 0.02 mm
Options		Choice of guide type: Ball (for applications requiring high forces and torques) or roller (simple, cost-effective solution), Wide range of sensors, Choice of carriage type for adapting to the load, Option to add carriages, Protective metal strip.	Choice of pitch , Protective metal strip, Wide range of sensors, Choice of carriage type for adapting to the load, Option to add carriages, Option to add ballscrew supports for longer axes
Reference		**PAS 4●B**	**PAS 4●S**

Multi-axis systems

Product		Lexium MAX H	Lexium MAX S
Axis type		**Double portal axes**	
Movement	Number of directions	1	
	Movement type	Combination of two parallel axes	
	Position of the load	On two parallel carriages	
Multi-axis system type		PAS 4●B axes + PAS 4●H support axis (driven by the load)	PAS 4●B + PAS 4●B axes (shaft-driven)
Drive		Toothed belt on one axis	Toothed belt on both axes
Type of guide		Ball or roller	Ball or roller
Main characteristics		Long stroke length, High dynamic response, High precision movement (positioning, guiding)	Long stroke length, High precision movement (positioning, guiding), High feed forces
Maximum payload		250 kg	300 kg
Maximum working stroke	On the X-axis	5500 mm	
	On the Y-axis	–	
	On the Z-axis	–	
Options		Choice of guide type: Ball (for applications requiring high forces and torques) or roller (simple, cost-effective solution), Protective metal strip, Anti-corrosion version, Anti-static belt, Wide range of sensors, Several different motor mounting options, Variable distance between the two axes	
Reference		**MAX H**	**MAX S**

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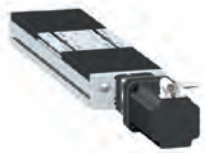
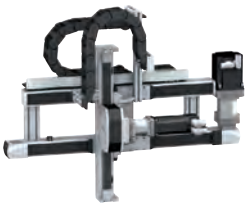
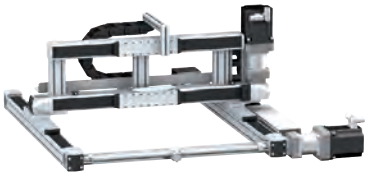
Other versions: **please consult our Customer Care Centre.**



	Lexium TAS	Lexium CAS 4	Lexium CAS 3	Lexium CAS 2
	Linear tables	Cantilever axes with mobile structure on profile	Cantilever axes with mobile structure on parallel rods	Telescopic axes
	1			
	Typically horizontal	Typically vertical		Typically horizontal
	On carriage	On the side of the profile or on the 2 end blocks	On the 2 end blocks	On carriage
	Ballscrew	Toothed belt	Toothed belt or rack	Toothed belt
	Double, ball	Ball or roller	Ball	Ball or roller
	High precision movement (positioning, repeatability, guiding), High feed forces, High rigidity, Feed movement without mechanical backlash	Long stroke length, High feed forces, Option to mount the load on the side of the profile or on the end blocks, High rigidity	Compact, Mobile structure with light travel weight	Long stroke length from a compact unit, High rigidity, High dynamic response
	★★	★★★★	★★★★	★★★★
	★★★★★★	★★★	★★★	★★
	150 kg	50 kg	18 kg	35 kg
	2580 N	2150 N	705 N	1500 N
	1 m/s	3 m/s	3 m/s	3 m/s
	1500 mm	1200 mm	500 mm	2400 mm
	± 0.02 mm	± 0.05 mm	± 0.05 mm	± 0.1 mm
	Choice of pitch , Several different motor mounting options	Choice of guide type: Ball (for applications requiring high forces and torques) or roller (simple, cost-effective solution), Protective metal strip, Anti-corrosion version, Wide range of sensors	Anti-corrosion version, Anti-static belt	Choice of guide type: Ball (for applications requiring high forces and torques) or roller (simple, cost-effective solution), Choice of carriage type for adapting to the load
	TAS 4	**CAS 4**	**CAS 3**	**CAS 2**

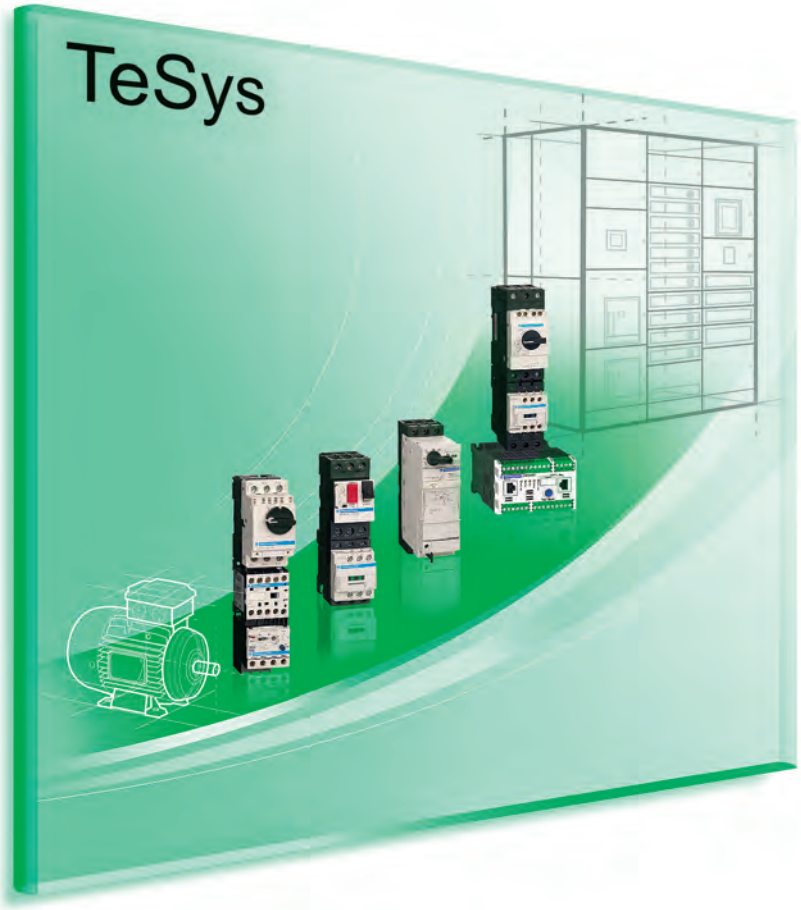
	Lexium MAX P	Lexium MAX R2	Lexium MAX R3
	Linear positioners	Portal robots	
	2		3
	Horizontal and vertical: Combination of one X-axis and one Z-axis	Horizontal: Combination of two perpendicular axes X and Y	Horizontal and vertical: Combination of two perpendicular axes X and Y and one Z-axis
	On the side or on the end blocks of the Z-axis profile	On the Y-axis carriage	On the side or on the end blocks of the Z-axis profile
	MAX S + CAS 4 axes MAX S + CAS 3 axes	MAX S + MAX H axes MAX S + PAS 4●B axes	MAX S + MAX H + CAS 4 axes MAX S + MAX H + CAS 3 axes
	Toothed belt on each axis		
	Ball or roller		
	Dynamic load positioning	Long stroke length on both axes	Long stroke length on three axes
	50 kg	130 kg	50 kg
	5500 mm		
	–	1500 mm	1500 mm
	1200 mm	–	1200 mm
	Choice of guide type: Ball (for applications requiring high forces and torques) or roller (simple, cost-effective solution), Wide range of sensors Supplied as standard: Protective metal strip , Anti-corrosion version		
	MAX P	**MAX R●2**	**MAX R●3**

Motor control

TeSys range provide you greater *simplicity*, *compactness*, *openness* and *flexibility*
... so many enhancements and new items to aid your productivity.

Accurate and reliable control of motors

4



Increase your productivity, with our solutions which help to simplify set-up.

Motor starters

- Ready-to-use component combinations, designed to work together in perfect harmony.
- Safe operation and level of coordination guaranteed by a major manufacturer.

Power circuit control

- A wide range of components.
- Solutions for a variety of power control applications: heating, changeover contactor pairs, resistive loads, upstream protection.

Contents

New

TeSys Motor starters up to 65 A

The new **TeSys GV3** Type E Starters, **LC1D 40/50/65** contactors, **LRD3** thermal relays are equiped with the new terminal block:

EverLink

Long lasting connection quality. Schneider Electric patented technology.

TeSys T
Motor management system

TeSys protected

TeSys T is an advanced motor management and protection system. It is able to guard against all motor malfunctions: overload, current peak, excessive consumption, etc.

TeSys U
Communication modules

With open communication across CANopen, Profibus DP, Modbus, AS-interface, Advantys STB, DeviceNet and Ethernet networks, TeSys U *has openness in mind*.

Motor control components

TeSys contactors ..... *4/2 to 4/11*
- Contactors, **TeSys K, D, F, B**
- Variable composition contactors, **TeSys CV**

TeSys protection components ..... *4/12 to 4/25*
- Thermal overload relays, **LR2K, LDR**
- Electronic thermal overload relays, **LR9**
- Electronic protection relays, **LT3**
- Motor management system, **TeSys T**
- Manual motor starters, group & type E, **GV2, GV3, GV7**
- Motor disconnect switches, **Vario**
- Fuse carriers, **DK, LS1**
- Disconnect switches, fusible & non-fused, **GS, LK**

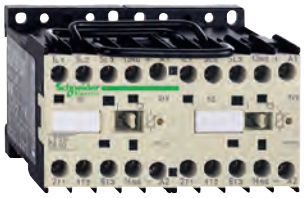
TeSys starters ..... *4/26 to 4/31*
- Type E self protected starter, **TeSys U**
- Controller, **TeSys U**
- Enclosed motor starters, **"Instakits"**

TeSys installation system ..... *4/32 to 4/33*
- For motor starter components with spring terminals, **TeSys Quickfit** technology

TeSys Application Information ..... *4/34 to 4/35*
- Group motor, Type E, Elevator ratings, Safety applications

Components for power control applications

..... *4/36 to 4/42*
- Heating, 3 and 4 pole resistive loads changeover contactor pairs, **TeSys K, D, F, B**
- Industrial control relays, **CA2/3/4K, CAD**



Connections

■ **screw clamp terminals**

Rated operational current	Ie max AC-3	6 A	9 A	12 A
(Ue - 440V)	Ie AC-1	-	20 A	-
Horsepower ratings	115/120 V 1 phase	0.5 hp	0.5 hp	0.5 hp
(UL/CSA ratings)	230/240 V 1 phase	1.0 hp	1.5 hp	1.5 hp
	208 V 3 phase	1.5 hp	3 hp	2 hp
	240 V 3 phase	1.5 hp	3 hp	3 hp
	480 V 3 phase	3 hp	5 hp	7.5 hp
	600 V 3 phase	3 hp	5 hp	10 hp
Contactor type (1)	ac	**LC1K06••**	**LC1K09••**	**LC1K12••**
	dc	**LP1K06••**	**LP1K09••**	**LP1K12••**
	dc low consumption	**LP4K06••**	**LP4K09••**	**LP4K12••**
Reversing contactor type (1)	ac	**LC2K06••**	**LC2K09••**	**LC2K12••**
(with mechanical interlock)	dc	**LP2K06••**	**LP2K09••**	**LP2K12••**
	dc low consumption	**LP5K06••**	**LP5K09••**	**LP5K12••**

■ **spring terminals**

Add the number **3** before the voltage code. Example **LC1K0610••** becomes **LC1K06103••**

■ **Slip-on connectors, 1 x 6.35 or 2 x 2.8**

Add the number **7** before the voltage code. Example **LC1K0610••** becomes **LC1K06107••**

■ **solder pins for printed circuit boards**

Add the number **5** before the voltage code. Example **LC1K0610••** becomes **LC1K06105••**

(1) Catalog number completed by adding 01 for N.C. auxiliary contact, or 10 for N.O. auxiliary contact, and adding the coil voltage code from the table below.

Example of complete catalog number: **LC1K0910BD.**

Standard control circuit voltages

ac supply

Contactors LC1K (0.8–1.15 Uc) *(0.85–1.1UC for M7, U7, Q7, N7, Y7 only)*

Volts	12	20	24	36	42	48	110	115	120	127	200/208		*220/230*		230	*230/240*
50/60 Hz	**J7**	**Z7**	**B7**	**C7**	**D7**	**E7**	**F7**	**FE7**	**G7**	**FC7**	**L7**		***M7***		**P7**	***U7***
Volts	256	277	*380/400*		400	*400/415*		440	480	500	575	600	*660/690*			
50/60 Hz	**W7**	**UE7**	***Q7***		**V7**	***N7***		**R7**	**T7**	**S7**	**SC7**	**X7**	***Y7***			

Example of complete catalog number: **LC1K0910G7**

dc supply

Contactors LP1K and LP2K (0.8–1.15 Uc)

Volts	12	20	24	36	48	60	72	100	110	125	155	174	200	220	230	240	250
Code	**JD**	**ZD**	**BD**	**CD**	**ED**	**ND**	**SD**	**KD**	**FD**	**GD**	**PD**	**QD**	**LD**	**MD**	**MPD**	**MUD**	**UD**

Low consumption

Contactors LP4K and LP5K (0.7–1.30 Uc), coil suppression as standard

Volts	12	20	24	48	72	110	120
Code	**JW3**	**ZW3**	**BW3**	**EW3**	**SW3**	**FW3**	**GW3**

Auxiliary contact blocks

■ instantaneous, screw clamp connections

	■ for LC1, LP1-K, LP4			■ for LC1, LP1-K				
Contact arrangement	2N/O	- 2N/C	1N/O 1N/C	4N/O	3N/O 1N/C	2N/C 2N/C	1N/O 3N/C	- 4N/C
Catalog number	**LA1-KN20**	**LA1-KN02**	**LA1-KN11**	**LA1-KN40**	**LA1-KN31**	**LA1-KN22**	**LA1-KN13**	**LA1-KN04**

■ electronic time delay

Relay outputs, with common point changeover contact, ∿ or ⎓ 24…48, 2 A maximum		
Control voltage 0.85…1.1Uc		
Maximum switching capacity 250 VA or 150 W		
Operating temperature -10…+ 60°C		
Reset time: 1.5 s for 0.5 s after the time delay period		
Type	On-delay	
Timing range	1…30 s	
Composition	1 C/O (form C)	
Voltage	∿ or ⎓ 24…48 V	∿ 110…240
Catalog number	**LA2-KT2E**	**LA2-KT2U**

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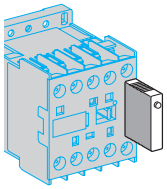

Suppressor modules

For LC1, LP1-K

Type	Varistor (∿ and ⎓)				Diode (⎓) + zener		RC (∿)
Voltage	12…24 V	32…48 V	50…129 V	130…250 V	12…24 V	32…48 V	220…250 V
Catalog number	**LA4-KE1B**	**LA4-KE1E**	**LA4-KE1FC**	**LA4-KE1UG**	**LA4-KC1B**	**LA4-KC1E**	**LA4-KA1U**

Connections

■ **screw clamp terminals or connectors**

Rated operational voltage		690 V				
Rated operational current	Ie max AC-3	9 A	12 A	18 A	25 A	32 A
Continuous current @600V max per UL / CSA		20 A	25 A	32 A	40 A	50 A
Horsepower ratings	115/120 V single phase	0.5 hp	1 hp	1 hp	2 hp	2 hp
CSA / UL ratings	220/230 V single phase	1 hp	2 hp	3 hp	3 hp	5 hp
	208 V three phase	2 hp	3 hp	5 hp	7.5 hp	10 hp
	240 V three phase	2 hp	3 hp	5 hp	7.5 hp	10 hp
	480 V three phase	5 hp	7.5 hp	10 hp	15 hp	20 hp
	600 V three phase	7.5 hp	10 hp	15 hp	20 hp	30 hp
Contactor type (1)		**LC1D09**	**LC1D12**	**LC1D18**	**LC1D25**	**LC1D32**
Reversing contactor type (with mechanical interlock) (1)		**LC2D09**	**LC2D12**	**LC2D18**	**LC2D25**	**LC2D32**

■ **spring terminals up to D32 only**

Add the number **3** before the voltage code. Example **LC1D09G7** becomes **LC1D093G7**

■ **ring tongue**

Add the number **6** before the voltage code. Example **LC1D09G7** becomes **LC1D096G7**

■ **slip-on connectors 2 x 6.35** (power) **and 1 x 6.35** (control) **up to D12 only**

Add the number **9** before the voltage code. Example **LC1D09G7** becomes **LC1D099G7**

(1) Catalog number to be completed by adding the coil voltage code from the table below. Example of complete catalog number: **LC1D09G7.**

LC1D183

LC1D186

LC1D189

Standard control circuit voltages

ac supply														
Volts	24	42	48	110	120	208	220	230	240	380	440	480	575	600
Contactors LC1D09–D150 (D09 through D32 and D150 available with 50/60 Hz only)														
50/60 Hz	**B7**	**D7**	**E7**	**F7**	**G7**	**LE7**	**M7**	**P7**	**U7**	**Q7**	**R7**	**T7**	**SC7**	**X7**
50 Hz	**B5**	**D5**	**E5**	**F5**	**G5**	**-**	**M5**	**P5**	**U5**	**Q5**	**R5**			
60 Hz	**B6**	**-**	**E6**	**F6**	**-**	**L6**	**M6**	**-**	**U6**	**Q6**	**R6**	**T6**	**S6**	**X6**
dc supply														
Volts	12	24	36	48	60	72	110	125	220	440				
Contactors LC1D09–D65A (coils with integral suppression device fitted as standard)														
0.7–1.25 Uc	**JD**	**BD**	**CD**	**ED**	**ND**	**SD**	**FD**	**GD**	**MD**	**RD**				
Contactors LC1D80														
0.85–1.1 Uc	**JD**	**BD**	**CD**	**ED**	**ND**	**SD**	**FD**	**GD**	**MD**	**RD**				
0.75–1.2 Uc	**JW**	**BW**	**CW**	**EW**	**-**	**SW**	**FW**	**-**	**MW**	**-**				
Contactors LC1D115 and D150 (coils with integral suppression device fitted as standard)														
0.75–1.2 Uc	**-**	**BD**	**-**	**ED**	**ND**	**SD**	**FD**	**GD**	**MD**	**RD**				
Low consumption														
Volts **dc**	5	12	20	24	48	110	120	250						
Contactors LC1D09–D32 (coils with integral suppression device fitted as standard)														
0.7–1.25 Uc	**AL**	**JL**	**ZL**	**BL**	**EL**	**FL**	**ML**	**UL**						

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Other versions: **please consult our Customer Care Centre.**

1 000 V on ∿ supply, 690 V on ⎓ supply					
40 A	50 A	65 A	80 A	115 A	150 A
60 A	70 A	80 A	110 A	175 A	200 A
3 hp	3 hp	5 hp	7.5 hp	–	–
5 hp	7.5 hp	10 hp	15 hp	–	–
10 hp	15 hp	20 hp	25 hp	30 hp	40 hp
10 hp	15 hp	20 hp	30 hp	40 hp	50 hp
30 hp	40 hp	40 hp	60 hp	75 hp	100 hp
30 hp	40 hp	50 hp	60 hp	100 hp	125 hp
LC1D40A	**LC1D50A**	**LC1D65A**	**LC1D80**	**LC1D115**	**LC1D150**
LC2D40A	**LC2D50A**	**LC2D65A**	**LC2D80**	**LC2D115**	**LC2D150**

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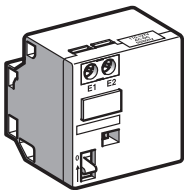
Mounting accessories for 3-pole reversing contactors

2 identical contactors with screw clamp terminals or connectors, horizontally mounted		
Mechanical interlock	Set of connections	Mechanical interlock
■ **with an electrical interlocking kit for the contactors**		
LC1D09–D32	**LAD9R1V**	included
■ **with integral electrical interlocking**		
LC1D80 (**ac**)	**LA9D8069**	**LA9D4002**
LC1D80 (**dc**)	**LA9D8069**	**LA9D8002**
LC1D115 and D150	**LA9D11569**	**LA9D11502**
■ **without electrical interlocking**		
LC1D09–D32	**LAD9R1**	included
LC1D40A - D65A	**LAD9R3**	included
LC1D80 (**ac**)	**LA9D8069**	**LA9D50978**
LC1D80 (**dc**)	**LA9D8069**	**LA9D80978**



Mechanical latch blocks

Clip-on front mounting, manual or electrical unlatching control						
For use on contactor	Catalog number	Standard control circuit voltages (50/60 Hz)				
		24 V	42/48 V	110/127 V	220/240 V	380/415 V
LC1D09 - D65A ac or dc, LC1DT20 - DT80 ac or dc	**LA6DK10•**	**B**	**E**	**F**	**M**	**Q**
LC1D80–D150 ac, **LC1D80** and **D115**	**LA6DK20•**	**B**	**E**	**F**	**M**	**Q**

Contact type			instantaneous, connection by screw terminals	
Mounting			Front mounting	Side mounting
Catalog number	Contact	1 “N/O”	**LADN10**	–
		1 “N/C”	**LADN01**	–
		1 “N/O” 1 “N/C”	**LADN11**	**LAD8N11**
		2 “N/O”	**LADN20**	**LAD8N20**
		2 “N/C”	**LADN02**	**LAD8N02**
		2 “N/O” 2 “N/C”	**LADN22**	–
		1 “N/O” 3 “N/C”	**LADN13**	–
		3 “N/O” 1 “N/C”	**LADN31**	–
		4 “N/O”	**LADN40**	–
		4 “N/C”	**LADN04**	–

4

Contact type		Time delay, connection by screw terminals		
Mounting		Front mounting		
Time Range		0.1…3 s	0.1…30 s	10…180 s
Catalog number	On-delay	**LADT0**	**LADT2**	**LADT4**
	Off-delay	**LADR0**	**LADR2**	**LADR4**

Maximum number of auxiliary contacts that can be fitted

Type	Number of poles and size		Instantaneous					Time delay
			Side mounting		Front mounting			Front mounting
			on left side	on right side	1 contact	2 contacts	4 contacts	
AC	3P	LC1D09…D32	1	– and	–	1	or 1	or 1
		LC1D40A…D65A	1	or 1 and	–	1	or 1	or 1
		LC1D80 (50/60Hz)	1	1 or	2	and 1	or 1	or 1
		LC1D80 (50 or 60Hz)	1	1 and	2	and 1	or 1	or 1
		LC1D115 and D150	1	– and	–	1	or 1	or 1
	4P	LC1DT20…DT40	1	– and	–	1	or 1	or 1
		LC1DT60A…D80A	1	or 1 and	–	1	or 1	or 1
		LC1D115	1	1 and	1	or 1	or 1	or 1
DC	3P	LC1D09…D32	–	–	–	1	or 1	or 1
		LC1D40A…D65A	1	or 1 and	–	1	or 1	or 1
		LC1D80	–	–	1	or 1	or 1	or 1
		LC1D115 and D150	1	– and	–	1	or 1	or 1
	4P	LC1DT20…DT40	–	–	–	1	or 1	or 1
		LC1DT60A…D80A	–	–	–	1	or 1	or 1
		LC1D115	1	1	–	and 1	or 1	or 1
DC low consumption	3P	LC1D09…D32	–	–	–	1	–	–
	4P	LC1DT20…DT40	–	–	–	1	–	–

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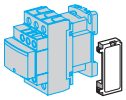
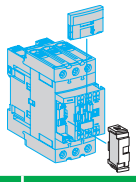
Other versions: **please consult our Customer Care Centre.**

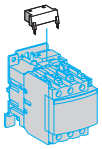
Suppressor modules



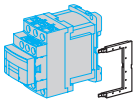
Type of module			RC circuits (Resistor-Capacitor)		
Mounting			Side clip-on	Front clip-on	Screw fixing
For use with contactor			D09…D32(3P) DT20…DT40(4P)	D40A…D65A(3P) DT60A…DT80A(4P)	D80…D150(3P) D40…D115(4P)
Catalog number	Voltage	24…48 VAC	**LAD4RCE**	**LAD4RC3E**	**LA4DA2E**
		50…127 VAC	**LAD4RCG**	**LAD4RC3G**	**LA4DA2G**
		110…240 VAC	**LAD4RCU**	**LAD4RC3U**	**LA4DA2U**
		380…415 VAC	–	**LAD4RC3N**	**LA4DA2N**



Type of module			Varistors (peak limiting)		
Mounting			Side clip-on	Front clip-on	Screw fixing
For use with contactor			D09…D32(3P) DT20…DT40(4P)	D40A…D65A(3P) DT60A…DT80A(4P)	D80…D150(3P) D40…D115(4P)
Catalog number	Voltage	24…48 VAC	**LAD4VE**	**LAD4V3E**	**LA4DE2E**
		50…127 VAC	**LAD4VG**	**LAD4V3G**	**LA4DE2G**
		110…240 VAC	**LAD4VU**	**LAD4V3U**	**LA4DE2U**
		24…48 VDC	–	–	**LAD4DE3E** (AC and DC)
		50…127 VDC	–	–	**LAD4DE3G** (AC and DC)
		110…240 VDC	–	–	**LAD4DE3U** (AC and DC)



Type of module			Flywheel diodes		
Mounting			Side clip-on	Front clip-on	Screw fixing
For use with contactor			D09…D32(3P) DT20…DT40(4P)	D40A…D65A(3P) DT60A…DT80A(4P)	D80…D150(3P) D40…D115(4P)
Catalog number	Voltage	24…250 VDC	**LAD4DDL**	**LAD4D3U**	**LAD4DC3U**



Type of module			Bidirectional peak limiting diode		
Mounting			Side clip-on	Front clip-on	Screw fixing
For use with contactor			D09…D32(3P) DT20…DT40(4P)	D40A…D65A(3P) DT60A…DT80A(4P)	D80…D150(3P) D40…D115(4P)
Catalog number	Voltage	24 VAC	**LAD4TB**	**LAD4T3B**	**LA4DB2B**
		24 VDC	**LAD4TBDL**	**LAD4T3B**	**LA4DB2S**
		72 VAC	**LAD4TS**	**LAD4T3S**	**LA4DB3B**
		72 VDC	**LAD4TSDL**	**LAD4T3S**	**LA4DB3S**
		125 VDC	**LAD4TGDL**	**LAD4T3G** (AC and DC)	–
		250 VDC	**LAD4TUDL**	**LAD4T3U** (AC and DC)	–
		600 VDC	**LAD4TXDL**	**LAD4T3R** (AC and DC)	–

Contactors
30…900 HP

Rated operational current	Ie max AC-3 (Ue ≤ 440V)	185 A	225 A	265 A	330 A	400 A	500 A
Continuous current @600V max per UL / CSA		200 A	250 A	285 A	370 A	420 A	700 A
Rated operational voltage		1 000 V	1 000 V	1 000 V	1 000 V	1 000 V	1 000 V
Horsepower ratings	208 V three phase	50 hp	(2)	60 hp	75 hp	100 hp	150 hp
(UL/CSA ratings)	240 V three phase	60 hp	(2)	75 hp	100 hp	125 hp	200 hp
	480 V three phase	125 hp	(2)	150 hp	200 hp	250 hp	400 hp
	600 V three phase	150 hp	(2)	200 hp	250 hp	300 hp	500 hp
Contactor type (1)		**LC1F185**	**LC1F225**	**LC1F265**	**LC1F330**	**LC1F400**	**LC1F500**
Reversing contactor type (1)		**LC2F185**	**LC2F225**	**LC2F265**	-		For customer assembly

(1) Basic catalog number to be completed by adding the coil voltage code from the table below. Example of complete catalog number: **LC1F185G7**.

(2) Current rated only.

4

Standard control circuit voltages

ac supply												
Volts	24	48	110	120	208	220	230	240	380	440	480	600
Contactors LC1F115–F225*(0.85–1.1UC)*												
50 Hz (coil LX1)	**B5**	**E5**	**F5**	**-**	**-**	**M5**	**P5**	**U5**	**Q5**	**-**	**-**	**-**
60 Hz (coil LX1)	**-**	**E6**	**F6**	**G6**	**L6**	**M6**	**-**	**U6**	**Q6**	**R6**	**Q5**	**-**
40–400 Hz (coil LX9)	**-**	**E7**	**F7**	**G7**	**L7**	**M7**	**P7**	**U7**	**Q7**	**R7**	**-**	**-**
Contactors LC1F265–F330 *(0.85–1.1UC)*												
40–400 Hz (coil LX1)	**B7**	**E7**	**F7**	**G7**	**L7**	**M7**	**P7**	**U7**	**Q7**	**R7**	**S7**	**X7**
Contactors LC1F400–F630 *(0.85–1.1UC)*												
40–400 Hz (coil LX1)	**-**	**E7**	**F7**	**G7** (1)	**L7**	**M7**	**P7**	**U7**	**Q7**	**R7**	**-**	**X7**
Contactor LC1F780 *(0.85–1.1UC)*												
40–400 Hz (coil LX1)	**-**	**-**	**F7**	**F7**	**L7**	**M7**	**P7**	**U7**	**Q7**	**R7**	**N7**	**-**
Contactor LC1F800 *(0.7–1.3UC)*												
40–400 Hz (coil LX1)	**-**	**-**	**F7**	**F7**	**L7**	**M7**	**P7**	**U7**	**Q7**	**R7**	**-**	**-**
Contactor LC1F1250 - F2100 *(0.85–1.1UC)*	**-**	**-**	**F7**	**F7**	**L7**	**M7**	**P7**	**U7**	**Q7**	**R7**	**N7**	
dc supply												
Volts	24	48	110	125	220	230	250	400	440			
Contactors LC1F115–F330 *(0.85–1.1UC)*												
(coil LX4F)	**BD**	**ED**	**FD**	**GD**	**MD**	**-**	**UD**	**-**	**RD**			
Contactors LC1F400–F630 *(0.85–1.1UC)*												
(coil LX4F)		**ED**	**FD**	**GD**	**MD**	**-**	**UD**	**-**	**RD**			
Contactor LC1F780												
(coil LX4F)	**-**	**-**	**FD**	**GD**	**MD**	**-**	**UD**	**-**	**RD**			
Contactor LC1F800												
(coil LX4F)	**-**	**-**	**FW**	**FW**	**MW**	**MW**	**-**	**QW**	**-**			
Contactor LC1F1250												
(coil LX4F)	**-**	**ED**	**FD**	**-**	**MD**	**-**	**UD**	**-**	**-**			
Contactor LC1F1400 to LC1F2100												
(coil LX4F)	**-**	**-**	**F**	**GD**	**MD**	**-**	**UD**	**-**	**RD**			
Example: For a 630 A contactor with a 110 V ∼ coil, order **LC1F630F7**												

(1) F7 for LC1F630

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Other versions: **please consult our Customer Care Centre.**

630 A	780 A	800 A	1250 A	1400 A	1700 A	2100 A
1 000 A	1 350 A	1 000 A	600 V	600 V	600 V	600 V
1 000 V	1 000 V	1 000 V	3	3	3	3
250 hp	-	-	(2)	(2)	(2)	(2)
300 hp	450 hp	450 hp	(2)	(2)	(2)	(2)
600 hp	900 hp	800 hp	(2)	(2)	(2)	(2)
800 hp	900 hp	900 hp	(2)	(2)	(2)	(2)
LC1F630	**LC1F780**	**LC1F800**	**LC1F1250**	**LC1F1400**	**LC1F1700**	**LC1F2100**

Auxiliary contact blocks

instantaneous						time delay 1N.O. + 1 N.C.		
Contact Arrangement N.O. N.C.	Catalog No.	Contact Arrangement N.O. N.C.	Catalog No.	Contact Arrangement N.O. N.C.	Catalog No.	Type	Range	Catalog No.
1 -	**LADN10**	1 1	**LADN11**	2 2	**LADN22**	On-delay	0.1–3 s	**LADT0**
- 1	**LADN01**	2 -	**LADN20**	1 3	**LADN13**		0.1–30 s	**LADT2**
		- 2	**LADN02**	4 -	**LADN40**		10–180 s	**LADT4**
				- 4	**LADN04**		1–30 s	**LADS2**
				3 1	**LADN31**	Off-delay	0.1–3 s	**LADR0**
				2 2	**LADC22**		0.1–30 s	**LADR2**
							10–180 s	**LADR4**

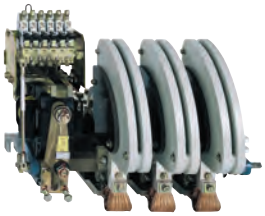
Mounting accessories for 3-pole reversing contactors for motor control

2 identical contactors, horizontally mounted

Mechanical interlock with an electrical interlocking kit for the contactors

Contactor type	Set of connections	Mechanical interlock
LC1F115	**LA9FF976**	**LA9FF970**
LC1F150	**LA9F15076**	**LA9FF970**
LC1F185	**LA9FG976**	**LA9FG970**
LC1F225	**LA9F22576**	**LA9FG970**
LC1F265	**LA9FH976**	**LA9FJ970**
LC1F330	**LA9FJ976**	**LA9FJ970**
LC1F400	**LA9FJ976**	**LA9FJ970**
LC1F500	**LA9FK976**	**LA9FJ970**
LC1F630 or **LC1F800**	**LA9FL976**	**LA9FL970**
LC1F1250 to **LC1F2100**	**-**	**-**

TeSys B Contactors
620…2100 HP



Rated operational current	Ie max AC-3 (Ue ≤ 440V)	750 A	1000 A	1500 A	1800 A
	Ie AC-1 (θ ≤ 40° C)	800 A	1250 V	2000 A	2750A
Rated operational voltage		1 000 V	1 000 V	1 000 V	1 000 V
Number of poles		1 to 4	1 to 4	1 to 4	1 to 4
Rated operational power	220/240 V	220 kW	280 kW	425 kW	500 kW
in category AC3	380/400 V	400 kW	500 kW	750 kW	900 kW
	415 V	425 kW	530 kW	800 kW	900 kW
	440 V	450 kW	560 kW	800 kW	900 kW
	500 V	500 kW	600 kW	700 kW	900 kW
	660/690 V	560 kW	670 kW	750 kW	900 kW
	1000 V	530 kW	530 kW	670 kW	750 kW
CSA approvals					
	Max operational current	800A	1000A	1500A	2000A
	Max horsepower @ 600 V	620 HP	1000 HP	1500 HP	2100 HP
4 instantaneous contact configurations					
2 N/C + 2 N/O, 3 N/O + 1 N/C, 1 N/O + 3 N/C or 4 N/O					
Contactor type*		**LC1-BL**	**LC1-BM**	**LC1-BP**	**LC1-BR**

* Basic reference to be completed by adding the coil voltage, followed by the instantaneous contact configuration.

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Standard control circuit voltages (for other voltages, please consult your Regional Sales Office)												
Volts	48	110	125	127	220	230	240	380	400	415	440	500
∼ 50…400 Hz	**-**	**F**	**-**	**G**	**M**	**P**	**U**	**Q**	**V**	**N**	**R**	**S**
⎓	**ED**	**FD**	**GD**	**-**	**MD**	**-**	**-**	**-**	**-**	**-**	**RD**	**-**

Example: To order a 1500 A contactor with 127 V c coil with 3 N/O + 1 N/C, select **LC1-BP33G31**

Mounting accessories

Description	For contactor	Reference
Bar support bracket	**LC1-BL** to **BR**	**LA9-B103**
for mounting on 120 or 150 mm centres		
Mechanical interlock and locking device components	**LC1-B**	**EZ2-LB0601**

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Other versions: **please consult our Customer Care Centre.**

Contactors variable composition

CV1-B : 80…1000 A, CV3-B : 80…500 A

Reference to compiled by the customer

Contactor type, according to required use													
∼ supply 690 V, ⎓ supply 220 V/pole			CV1-B										
∼ supply 1000 V, ⎓ supply 440 V/pole			CV3-B										
Contactor rating	CV1: 80 A	CV3: 80 A		F									
	CV1: 200 A	CV3: 170 A		G									
	CV1: 300 A	CV3: 250 A		H									
	CV1: 470 A	CV3: 320 A		J									
	CV1: 630 A	CV3: 500 A		K									
	CV1: 1000 A			L									
Number of poles (PN1 main poles for CV1 and PA3 main poles for CV3)													
Normally Open main poles	1 N/O				1								
	2 N/O				2								
	3 N/O				3								
	4 N/O				4								
	5 N/O				5								
Normally Closed main poles	1 N/C						1						
	2 N/C						2						
	3 N/C						3						
No main poles					0	Z	0	Z					
Operational current	10 A					E		E					
	20 A					N		N					
	40 A					P		P					
	80 A					F		F					
	125 A					R		R					
	170 A					W		W					
	200 A					G		G					
	250 A					S		S					
	300 A					H		H					
	320 A					T		T					
	470 A					J		J					
	500 A					V		V					
	630 A					K		K					
	1000 A					L		L					
Control circuit voltage	48 V								E				
	110 V								F				
	120 V								K				
	208 V								L				
	220 V								M				
	230 V								P				
	240 V								U				
	380 V								Q				
	400 V								V				
	440 V								R				
Operating frequency	50 Hz									5			
	60 Hz									6			
	50/60 Hz									7			
	⎓									D			
	⎓ + economy resistor									R			
Instantaneous auxiliary contacts													
Normally Open	1 N/O										1		
	2 N/O										2		
	3 N/O										3		
	4 N/O										4		
Normally Closed	1 N/C											1	
	2 N/C											2	
	3 N/C											3	
	4 N/C											4	
Without instantaneous contact											0	0	
On-delay	1 C/O												J
Off-delay	1 C/O												N

Example 1/ for single-phase capacitor switching: 400 V - 80 A - 1 N/O pole - Control circuit 220 V / 50 Hz, 1 N/O and 1 1N/C auxiliary contacts: **CV1-BF1F0ZM511**.

2/ for heating circuits, d.c. supply 800 V - 150 A - 2 N/O poles - Control circuit 48 V ⎓ , 1 N/O + 1 N/O On-delay auxiliary contacts: **CV3-BG2W0ZED10J**

Thermal overload relays
0.11…11.5 A

Thermal overload relays, model k adjustable from 0.11 to 12 A				
Connection by screw clamp terminals, direct mounting on contactors LC1K, manual or automatic reset				
Relay setting range	Fuses to be used with selected relay—international applications (1)			Catalog Number
Class 10 A	aM	gG	BS88	
0.11–0.16 A	0.25 A	0.5 A	-	**LR2K0301**
0.16–0.23 A	0.25 A	0.5 A	-	**LR2K0302**
0.23–0.36 A	0.5 A	1 A	-	**LR2K0303**
0.36–0.54 A	1 A	1.6 A	-	**LR2K0304**
0.54–0.8 A	1 A	2 A	-	**LR2K0305**
0.8–1.2 A	2 A	4 A	6 A	**LR2K0306**
1.2–1.8 A	2 A	6 A	6 A	**LR2K0307**
1.8–2.6 A	2 A	6 A	10 A	**LR2K0308**
2.6–3.7 A	4 A	10 A	16 A	**LR2K0310**
3.7–5.5 A	6 A	16 A	16 A	**LR2K0312**
5.5–8 A	8 A	20 A	20 A	**LR2K0314**
8–11.5 A	10 A	25 A	20 A	**LR2K0316**

Thermal overload relays for use on class 10 unbalanced loads: for above catalog numbers LR2K0305 to LR2K0316 only, replace the prefix LR2 with LR7.
Example LR7K0310.

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Accessories Prewiring kit		
Allowing direct connection of the N.C. contact	For use on	
of relay LRD01–35 or LR3D01– D35 to the contactor	LC1D09–D18	**LAD7C1**
	LC1D25–D32	**LAD7C2**
Terminal blocks (2)		
For clip-on mounting on 35 mm mounting rail (AM1DP200)	LRD01–35 and LR3D01–D35	**LAD7B10**
or screw clamp	LRD3•••, LR3D3•••, LRD35••	**LA7D3064** (3)
For independent mounting of the relay	LR2K••••	**LA7K0064**
Everlink Terminal blocks		
Separate terminal block	LRD-313••• LRD-365	**LAD9R3**
Terminal block adapter		
For mounting a relay beneath an LC1D115 or D150 contactor	LRD3•••, LR3D3•••, LRD35••	**LA7D3058**

(1) Short circuit protection for North American applications: circuit breakers selected in accordance with CEC and local codes; fuses selected with maximum of 400% full load current.
(2) Terminal blocks are supplied with terminals protected against direct finger contact and screws in the open “ready-to-tighten” position.
(3) To order a terminal block for connection by lug-clamps, the catalog number becomes LA7D30646.

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Other versions: **please consult our Customer Care Centre.**

Thermal overload relays

0.1…140 A

Thermal overload relays, TeSys D

adjustable from 0.1 to 140 A

Compensated relays with manual or automatic reset, with relay trip indicator, for a.c. or d.c.

	Relay setting range	Fuses to be used with selected relay international applications			With contactor	Catalog number
Connection by screw clamp terminals or connectors		aM	gG	BS88		
Class 10 A	0.10…0.16 A	0.25 A	2 A	-	LC1-D09…D32	**LRD 01**
	0.16…0.25 A	0.5 A	2 A	-	LC1-D09…D32	**LRD 02**
	0.25…0.40A	1 A	2 A	-	LC1-D09…D32	**LRD 03**
	0.40…0.63 A	1 A	1.6 A	-	LC1-D09…D32	**LRD 04**
	0,63…1 A	2 A	4 A	-	LC1-D09…D32	**LRD 05**
	1…1.7 A	2 A	4 A	6 A	LC1-D09…D32	**LRD 06**
	1.6…2.5 A	4 A	6 A	10 A	LC1-D09…D32	**LRD 07**
	2.5…4 A	6 A	10 A	16 A	LC1-D09…D32	**LRD 08**
	4…6 A	8 A	16 A	16 A	LC1-D09…D32	**LRD 10**
	5.5…8 A	12 A	20 A	20 A	LC1-D09…D32	**LRD 12**
	7…10 A	12 A	20 A	20 A	LC1-D09…D32	**LRD 14**
	9…13 A	16 A	25 A	25 A	LC1-D12…D32	**LRD 16**
	12…18 A	20 A	35 A	32 A	LC1-D18…D32	**LRD 21**
	16…24 A	25 A	50 A	50 A	LC1-D25…D32	**LRD 22**
	23…32 A	40 A	63 A	63 A	LC1-D25…D32	**LRD 32**
	30…38 A	50 A	80 A	80 A	LC1-D32	**LRD 35**
	55…70 A	80 A	125 A	125 A	D50…D80	**LRD 3361**
	63…80 A	80 A	125 A	125 A	D65…D80	**LRD 3363**
	80…104 A	100 A	160 A	160 A	D80... D80	**LRD 3365**
	80…104 A	125 A	200 A	160 A	D115... D150	**LRD 4365**
	95…120 A	125 A	200 A	200 A	D115... D150	**LRD 4367**
	110…140 A	160 A	250 A	200 A	D150	**LRD 4369**
	80…104 A	100 A	160 A	160 A	Separate amount	**LRD 33656**
	95…120 A	125 A	200 A	200 A	Separate amount	**LRD 33676**
	110…140 A	160 A	250 A	200 A	Separate amount	**LRD 33696**
Class 20	6 A	10 A	16 A		LC1-D09…D32	**LRD 1508**
	4…6 A	8 A	16 A	16 A	LC1-D09…D32	**LRD 1510**
	5.5…8 A	12 A	20 A	20 A	LC1-D09…D32	**LRD 1512**
	7…10 A	16 A	20 A	25 A	LC1-D09…D32	**LRD 1514**
	9…13 A	16 A	25 A	25 A	LC1-D12…D32	**LRD 1516**
	12…18 A	25 A	35 A	40 A	LC1-D18…D32	**LRD 1521**
	17…25 A	32 A	50 A	50 A	LC1-D25... D32	**LRD 1522**
	23…28 A	40 A	63 A	63 A	LC1-D25... D32	**LRD 1530**
	25…32 A	40 A	63 A	63 A	LC1-D25... D32	**LRD 1532**
	55…70 A	100 A	125 A	125 A	D65…D80	**LR2 D3561**
	63…80 A	100 A	160 A	125 A	D80	**LR2 D3563**
Connection by EverLink terminal blocks, with BTR screws						
Class 10 A	9…13 A	16 A	25 A	25 A	LC1-D40A…D65A	**LRD 313** (1)
	12…18 A	20 A	32 A	35 A	LC1-D40A…D65A	**LRD 318** (1)
	17…25 A	25 A	50 A	50 A	LC1-D40A…D65A	**LRD 325** (1)
	23…32 A	40 A	63 A	63 A	LC1-D40A…D65A	**LRD 332** (1)
	30…40 A	40 A	80 A	80 A	LC1-D40A…D65A	**LRD 340** (1)
	37…50 A	63 A	100 A	100 A	LC1-D40A…D65A	**LRD 350** (1)
	48…65 A	63 A	100 A	100 A	LC1-D40A…D65A	**LRD 365** (1)
Class 20	9…13 A	20 A	32 A	35 A	LC1-D40A…D65A	**LRD 313L** (1)
	12…18 A	25 A	40 A	40 A	LC1-D40A…D65A	**LRD 318L** (1)
	17…25 A	32 A	50 A	50 A	LC1-D40A…D65A	**LRD 325L** (1)
	23…32 A	40 A	63 A	63 A	LC1-D40A…D65A	**LRD 332L** (1)
	30…40 A	50 A	80 A	80 A	LC1-D40A…D65A	**LRD 340L** (1)
	37…50 A	63 A	100 A	100 A	LC1-D40A…D65A	**LRD 350L** (1)
	48…65 A	80 A	125 A	125 A	LC1-D40A…D65A	**LRD 365L** (1)

Short circuit protection for North American applications: circuit breakers selected in accordance with CEC and local codes; fuses selected with maximum of 400% full load current.

Class 10A with connection by lug-clamps:

Select overload relay with screw clamp terminals or connectors from the table above and add one of following suffixes:

- figure 6 for relays LRD01 to LRD35 and LRD313 to LRD365.
- figure A66 for relays LRD3361 to LRD3365.

Relays LRD43 are suitable as standard, for use with lug-clamps

Thermal overload relays for use with unbalanced loads Class 10A with connection by screw clamp terminals and lug-clamp terminals:

In the reference selected above, change LRD (except LRD 4●●●) by LR3D

Example: LRD01 becomes LR3D01

Example with screw clamp terminal: LRD340 becomes LR3D340

Example with lug-clamp terminal: LRD3406 becomes LR3D3406

(1) Independant mounting on a DIN rail, order an EverLink LAD96560 terminal block.

Electronic thermal overload relays
60…630 A

For use with contactor	LC1-D	LC1-F
Motor current	60…150 A	30…630 A
Basic reference, to be completed	**LR9-D**	**LR9-F**

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Relay setting range	Fuse to be used with selected relay		For mounting	Compensated and differential		
	international applications		beneath contactor LC1-			or not with alarm
	aM	gG		Class 10	Class 20	Class 10 or 20
60…100	100	160	D115 and D150	**LR9-D5367**	**LR9-D5567**	
90…150	160	250	D115 and D150	**LR9-D5369**	**LR9-F5569**	
30…50	50	80	F115…F185	**LR9-F5357**	**LR9-F5557**	**LR9-F57**
48…80	80	125	F115…F185	**LR9-F5363**	**LR9-F5563**	**LR9-F63**
60…100	100	200	F115…F185	**LR9-F5367**	**LR9-F5567**	**LR9-F67**
90…150	160	250	F115…F185	**LR9-F5369**	**LR9-F5569**	**LR9-F69**
132…220	250	315	F185…F400	**LR9-F5371**	**LR9-F5571**	**LR9-F71**
200…330	400	500	F225…F500	**LR9-F7375**	**LR9-F7575**	**LR9-F75**
300…500	500	800	F225…F500	**LR9-F7379**	**LR9-F7579**	**LR9-F79**
380…630	630	800	F400…F630 and F800	**LR9-F7381**	**LR9-F7581**	**LR9-F81**

Short circuit protection for North American applications: circuit breakers selected in accordance with CEC and local codes; fuses selected with maximum of 400% full load current.

Accessories

Remote control		
Function	Reset	Stop and/or Reset
Reset by flexible cable (length 0.5 m)	**LA7-D305**	
Adapter for door interlock mechanism		**LA7-D1020**
Operating head for pushbutton		
Spring return	**ZA2-BL639**	**ZA2-BL432**
Rod with snap-off end		
Adjustable from 17 to 120 mm	**ZA2-BZ13**	
Insulated terminal blocks		
For relays LR9-F5•57, F5•63, F5•67, F5•69, F57, F63, F67 and F69	Set of 2 blocks	
	LA9-F103	

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Other versions: **please consult our Customer Care Centre.**

Electronic protection relays for use with PTC thermistor probes

0…800 A

For use with contactor	LC1-D or LC1-F
Motor current	No limit
Basic reference, to be completed	**LT3-S**

Protection units with automatic reset with thermistor short-circuit detection

Connection		Voltage	Output contact	Reference
without fault memory				
by cage connectors	∼ 50/60 Hz	115 V	N/C	**LT3-SE00F**
		230 V	N/C	**LT3-SE00M**
	⎓	24 V	N/C	**LT3-SE00F**
On front panel: fault and voltage signalling indicator				
	∼ 50/60 Hz	115/230 V	N/C + N/O	**LT3-SA00M**
	⎓	24/48 V	N/C + N/O	**LT3-SA00ED**
	∼ 50/60 Hz or ⎓	24…230 V	2 C/O	**LT3-SA00MW**
with fault memory				
On front panel: fault and voltage signalling indicator, Test and Reset button				
	∼ 50/60 Hz	400 V	N/C + N/O	**LT3-SM00V**
		24/48 V	N/C + N/O	**LT3-SM00E**
		115/230 V	N/C + N/O	**LT3-SM00M**
	⎓	24/48 V	N/C + N/O	**LT3-SM00ED**
	∼ 50/60 Hz or ⎓	24…230 V	2 C/O	**LT3-SM00MW**

4

Accessories
PTC thermistor probes for LT3

Normal operating temperature (NOT)	90 °C	110 °C	120 °C	130 °C	140 °C	150 °C	160 °C	170 °C
Integrated triple probes	**DA1-TT090**	**DA1-TT110**	**DA1-TT120**	**DA1-TT130**	**DA1-TT140**	**DA1-TT150**	**DA1-TT160**	**DA1-TT170**
Normal operating temperature (NOT)	60 °C	70 °C	80 °C	90 °C	100 °C			
Surface probes	**DA1-TS060**	**DA1-TS070**	**DA1-TS080**	**DA1-TS090**	**DA1-TS100**			

Controllers

Type of fieldbus			Ethernet TCP/IP		Modbus	
Supply voltage			24 VDC	100…240 VAC	24 VDC	100…240 VAC
References	Current range	0.4…8 A	LTMR08EBD	LTMR08EFM	LTMR08MBD	LTMR08MFM
		1.35…27 A	LTMR27EBD	LTMR27EFM	LTMR27MBD	LTMR27MFM
		5…100 A	LTMR100EBD	LTMR100EFM	LTMR100MBD	LTMR100MFM

4

Type of fieldbus			Profibus DP		CANopen		DeviceNet	
Supply voltage			24 VDC	100…240 VAC	24 VDC	100…240 VAC	24 VDC	100…240 VAC
References	Current range	0.4…8 A	LTMR08PBD	LTMR08PFM	LTMR08CBD	LTMR08CFM	LTMR08DBD	LTMR08DFM
		1.35…27 A	LTMR27PBD	LTMR27PFM	LTMR27CBD	LTMR27CFM	LTMR27DBD	LTMR27DFM
		5…100 A	LTMR100PBD	LTMR100PFM	LTMR100CBD	LTMR100CFM	LTMR100DBD	LTMR100DFM

Extension module

Type of module	Extension 4 additional inputs + voltage measuring	
Inputs voltage	24 VDC	100…240 VAC
References	LTMEV40BD	LTMEV40FM

Control Unit

Type of terminal	Compact display
Supply voltage	24 VDC
References	LTMCU

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Motor management system

Current transformers

Type of transformer		External			
Operational current	primary	100 A	200 A	400 A	800 A
	secondary	1 A			
References		LT6CT1001	LT6CT2001	LT6CT4001	LT6CT8001

Earth fault toroids

Type of toroid	Closed						Split	
Maximum current	65 A	85 A	160 A	250 A	400 A	630 A	85 A	250 A
Internal diameter	Ø 30	Ø 50	Ø 80	Ø 120	Ø 200	Ø 300	Ø 46	Ø 110
References	50437	50438	50439	50440	50441	50442	50485	50486

PTC thermistor probe

Type of probe	Triple							
Operating temperature	90°C	110°C	120°C	130°C	140°C	150°C	160°C	170°C
References	DA1TT090	DA1TT110	DA1TT120	DA1TT130	DA1TT140	DA1TT150	DA1TT160	DA1TT170

Accessories (1)

Type of accessory	Connecting cable Controller / Extension module		
Length of cable	0.04 m	0.3 m	1 m
References	LTMCC004	LU9R03	LU9R10

Type of accessory	Connecting cable Controller / Display			Connection kit PC serial port
Length of cable	1 m	3 m	5 m	–
References	VW3A1104R10	VW3A1104R30	VW3A1104R50	VW3A8106

(1) For other connection accessories, see www.schneider-electric.com

TeSys
GV2/GV3

Manual motor starters
0.1 to 30HP

The GV range of products are 3-pole, horsepower rated, CSA22.2 no. 14 and UL 508 listed, manual motor starters. They include a manual disconnect, class 10 ambient-compensated thermal overload relay, and an instantaneous magnetic trip mechanism in one compact unit. Any GV manual starter can be used alone for local manual control of a motor up to 220A.

Manual motor starters GV2ME and GV2P for connection by screw clamp terminals GV2ME with pushbutton control, GV2P control by rotary knob

Horsepower ratings of 3-phase motors 50/60 Hz				Setting range of thermal trips A	Magnetic tripping current A	Catalog Number Group motor or manual starter	
200 V	230 V	460 V	575 V			Pushbutton 600 V max	Rotary Handle 600 V (Type E 480 V max)
-	-	-	-	0.1-0.16	1.5	**GV2ME01**	**GV2P01**
-	-	-	-	0.16-0.25	2.4	**GV2ME02**	**GV2P02**
-	-	-	-	0.25-0.40	5	**GV2ME03**	**GV2P03**
-	-	-	-	0.40-0.63	8	**GV2ME04**	**GV2P04**
-	-	-	0.5	0.63-1	13	**GV2ME05**	**GV2P05**
-	-	0.75	0.75	1-1.6	22.5	**GV2ME06**	**GV2P06**
0.5	0.5	1	1.5	1.6-2.5	33.5	**GV2ME07**	**GV2P07**
0.75	0.75	2	3	2.5-4	51	**GV2ME08**	**GV2P08**
1	1.5	3	5	4-6.3	78	**GV2ME10**	**GV2P10**
2	3	5	7.5	3-10	138	**GV2ME14**	**GV2P14**
3	3	10	10	9-14	170	**GV2ME16**	**GV2P16**
5	5	10	15	13-18	223	**GV2ME20**	**GV2P20**
5	7.5	15	20	17-23	327	**GV2ME21**	**GV2P21**
7.5	7.5	15	20	20-25	327	**GV2ME22**	**GV2P22**
7.5	10	20	25	24-32	416	**GV2ME32**	**GV2P32** (group motor installation only)

For common add on blocks and accessories for GV2/GV3 please see page 19.

The GV range may be used in group motor installations per CEC and NEC. Group motor applications do not require Type E devices but Type E devices can be used in Group applications if desired.

Manual motor starters
1 to 50HP
with EverLink terminal blocks

Thermal-magnetic circuit-breakers GV3-P for connection by EverLink terminal blocks (2)
Control by rotary knob

Horsepower ratings of 3-phase motors 50/60 Hz						Setting range	Catalog Number
1ph		3ph				Thermal trips (A)	Type E
115V	230V	200V	230V	460V	575V		600V max
1	2	3	3	7.5	10	9...13	**GV3P13**
1	3	5	5	10	15	12...18	**GV3P18**
2	3	7.5	7.5	15	20	17...25	**GV3P25**
2	5	10	10	20	30	23...32	**GV3P32**
3	5	10	10	30	30	30...40	**GV3P40**
3	7.5	15	15	40	40	37...50	**GV3P50**
5	10	20	20	50	50	48...65	**GV3P65**

(2) BTR screw of 4 mm

GV3 add-on blocks and accessories

Add-on blocks (front)	Fault signalling contact + instantaneous auxiliary contact	
Contact type	N/O (fault) + N/C	N/O (fault) + N/O
Catalog number	**GV-AED011**	**GV-AED101**

Accessories						
Type	for contactor for lug type terminals	IP20 cover for lug type terminals	Set of 3-pole 115 A busbars	2-pole busbars	"Wide spacing" UL 508 type E cover	Side by side mounting busbars
Catalog number	**LAD96575**	**LAD96570**	**GV3G364**	**GV36264**	**GV3G66**	**GV3S**

(3) Common add-on blocks and accessories GV2 / GV3, see page 19

(4) For spring terminal version add **3** to the end of the reference. Example **GV-AED011** becomes **GV-AED0113**

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Other versions: **please consult our Customer Care Centre.**

Circuit-breakers
Accessories

Accessories GV2				
Combination block				
For mounting on		LC1-K or LP1-K	LC1-D09…D38	LAD-31 and LC1-D09…D38
		GV2-AF01	**GV2-AF3**	**GV2-AF4**
Sets of 3-pole busbars				
63 A	Pitch	45 mm	54 mm	72 mm
Number of tap-offs	2	**GV2-G245**	**GV2-G254**	**GV2-G272**
	3	**GV2-G345**	**GV2-G354**	
	4	**GV2-G445**	**GV2-G454**	**GV2-G472**
	5		**GV2-G554**	
Protective end cover				
For unused busbar outlets		**GV1-G10**		
Terminal blocks				
For supply to one or more GV2-G busbar sets		connection from the top	can be fitted with current limiter GV1-L3 (GV2-ME and GV2-P)	
		GV1-G09	**GV1-G05**	
Padlockable external operator for GV2 and GV3 (150 to 290 mm)				
Padlocking		In “On” and “Off” position	In “Off” position	
Handle		black	red	
Legend plate		blue	yellow	
IP 54	For GV2-ME/P/L	**GV2-AP01**	**GV2-AP02**	
	For GV3-P	**GV3-AP01**	**GV3-AP02**	
TeSys rotating handles for		**GV2-P**	**GV3-P**	
Kit IP54 black handle		**GV2APN01**	**GV3APN01**	
IP54 kid red/yellow handle		**GV2APN02**	**GV3APN02**	
IP65 kit red/yellow handle		**GV2APN04**	**GV3APN04**	
Line Insulator				
	For GV2-P Type UL508E (not required by CSA)	**GV2-GH7**		
	For GV3-P Type UL508E (not required by CSA)	**GV3-G66**		

Add-on blocks common to GV2 / GV3							
Contact blocks							
Contact types		N/O or N/C	N/O + N/C	N/O + N/O	(fault) + N/C	(fault) + N/O	C/O common point
Instantaneous auxiliary contacts							
Mounting	front	**GV-AE1**	**GV-AE11**	**GV-AE20**			
	LH side		**GV-AN11**	**GV-AN20**			
Fault signalling contact + instantaneous auxiliary contact							
	LH side “F” fault				**GV-AD1001**	**GV-AD1010**	
	“O” fault				**GV-AD0101**	**GV-AD0110**	
Short-circuit signalling contact							
	LH side						**GV-AM11**
Electric trips							
Undervoltage or shunt trips (Replace • in catalog number with "S" for Shunt trip or "U" for Undervoltage trip)							
Side mounting (1 block on RH side of circuit-breaker)		50 Hz			60 Hz		
Voltage	24 V	**GV-A•025**			**GV-A•026**		
	110…115 V	**GV-A•115**			**GV-A•116**		
	120…127 V	**GV-A 125**					
	200…220 V				**GV-A•207**		
	220…240 V	**GV-A•225**			**GV-A•226**		
	380…400 V	**GV-A•385**			**GV-A•386**		
	480 V				**GV-A•415**		
	600 V				**GV-A•505**		
Padlocking device							
For use with up to 4 padlocks (padlocks not supplied) Ø 6 mm shank max		**GV2-V03**					

Manual motor starters
5 to 200 HP

Manual motor starters GV7R for connection by screw clamp terminals
Control by rocker lever

Horsepower ratings of 3-phase motors 50/60 Hz			Setting range of thermal trips	Catalog Number	
230 V	460V	575 V	A	25-35KA	65KA
5	10	15	12–20	**GV7RE20**	**GV7RS20**
7.5	15	20	15–25	**GV7RE25**	**GV7RS25**
10	30	30	25–40	**GV7RE40**	**GV7RS40**
15	30	40	30–50	**GV7RE50**	**GV7RS50**
30	60	75	48–80	**GV7RE80**	**GV7RS80**
30	75	100	60–100	**GV7RE100**	**GV7RS100**
50	100	150	90–150	**GV7RE150**	**GV7RS150**
75	150	200	132–220	**GV7RE220**	**GV7RS220**

Add-on blocks
Contact blocks

Auxiliary contacts						
Contact type		C/O				
		GV7AE11				
Thermal or magnetic fault discrimination						
		24–48 V or 24–72 V		110–240 V		
		GV7AD111		**GV7AD112**		
Electric trips						
Voltage	50/60 Hz	48 V	110–130 V	200–240 V	380–440 V	
	50 Hz					525 V
Undervoltage trip (1)		**GV7AU055**	**GV7AU107**	**GV7AU207**	**GV7AU387**	**GV7AU525**
Shunt trip (1)		**GV7AS055**	**GV7AS107**	**GV7AS207**	**GV7AS387**	**GV7AS525**

(1) For mounting of a GV7AD or a GV7AU or AS

Accessories

Terminal shields IP 405				
Supplied with the sealing accessory		**GV7AC01**		
Phase barriers				
Safety accessories		**GV7AC04**		
used when fitting of shields is impossible				
Insulating screens				
Ensure insulation between		**GV7AC05**		
the connections and the backplate				
Kit for combination with contactor				
Allowing link between the circuit-breaker and the contactor		LC1F115 to F185	LC1F225 and F26	LC1D115 and D150
		GV7AC06	**GV7AC07**	**GV7AC08**
Rotary handles				
Handle		black		red
Legend plate		black		yellow
■ **direct**	IP 40	**GV7AP03**		**GV7AP04**
■ **extended**	IP 55	**GV7AP01**		**GV7AP02**
Conversion accessory				
for mounting on enclosure door	IP 43	**GV7AP05**		
Locking device				
For circuit-breaker not fitted with a rotary handle		**GV7V01**		

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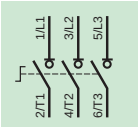
Other versions: **please consult our Customer Care Centre.**

Vario



Protection Components 12...175A

Motor disconnect switches

Varlo Switch Kits

Type								Door Mount				Rear Mount with Extension Shaft		Switch & Handle DIN Rail mount
Color								red/yellow	red/yellow	black/grey	black/grey	red/yellow	red/yellow	red/yellow
Front plate dimensions (mm)								60 x 60	90 x 90	60 x 60	90 x 90	90 x 90	60 x 60	–
Mounting								1 Hole	4 Hole	1 Hole	4 Hole	4 Hole	1 Hole	DIN Rail
Degree of protection								IP20	IP20	IP20	IP20	IP20	IP20	–
Amps		1 Phase, HP rating		3 Phase, HP rating										
UL/ CSA	IEC	120V	200V	208V	240V	480V	600V							
10	12	1	2	2	2	5	5	VCD02	VCF02	VBD02	VBF02	VCCF02	VCCD02	–
16	20	1.5	3	3	3	7.5	7.5	VCD01	VCF01	VBD01	VBF01	VCCF01	VCCD01	–
20	25	2	3	5	5	10	10	VCD0	VCF0	VBD0	VBF0	VCCF0	VCCD0	VVE0
20	32	2	3	5	5	10	10	VCD1	VCF1	VBD1	VBF1	VCCF1	VCCD1	VVE1
25	40	2	3	5	5	10	15	VCD2	VCF2	VBD2	VBF2	VCCF2	VCCD2	VVE2
45	63	5	7.5	7.5	10	20	30		VCF3		VBF3	VCCF3		VVE3
63	80	7.5	10	10	15	30	40		VCF4		VBF4	VCCF4		VVE4
100	125	15	20	20	25	50	50		VCF5		VBF5	VCCF5		
110	175	15	25	25	30	50	60		VCF6		VBF6	VCCF6		

Enclosed Varlo Switch

Amps		1 Phase, HP rating		3 Phase, HP rating				Non Metallic	Metallic		
UL/ CSA	IEC	120V	200V	208V	240V	480V	600V	Type 1/ 12	Type 1	Type 12	Type 4 / 4X (indoor use only)
20	32	2	3	5	5	10	10	VC1GU	9421V1G30	9421V1A30	9421V1W30
25	40	2	3	5	5	10	15	VC2GU	9421V2G30	9421V2A30	9421V2W30
45	63	5	7.5	7.5	10	20	30	VC3GU			
63	80	7.5	10	10	15	30	40	VC4GU			
100	125	15	20	20	25	50	50	VC5GU			
110	175	15	25	25	30	50	60	VC6GU			

Varlo Switch

Amps		1 Phase, HP rating		3 Phase, HP rating				Shaft Size	3 Pole	Add-On Power Pole
UL/ CSA	IEC	120V	200V	208V	240V	480V	600V			
10	12	1	2	2	2	5	5	6mm	V02	VZ02
16	20	1.5	3	3	3	7.5	7.5	6mm	V01	VZ01
20	25	2	3	5	5	10	10	6mm	V0	VZ0
20	32	2	3	5	5	10	10	6mm	V1	VZ1
25	40	2	3	5	5	10	15	6mm	V2	VZ2
45	63	5	7.5	7.5	10	20	30	6mm	V3	VZ3
63	80	7.5	10	10	15	30	40	6mm	V4	VZ4
100	125	15	20	20	25	50	50	6mm	V5	–
110	175	15	25	25	30	50	60	6mm	V6	–

Varlo Switch Accessories

Auxilliary Contacts (10A)

1 N.O. / 1 N.C. (early make, late break0	VZ7
2 N.O.	VZ20

Handle

Mounting		Single Hole				Four Hole					
Color		red yellow		black/grey		red/yellow			black/grey		
Front Plate Dimensions (mm)		45x45 mm	60x60 mm	45x45mm	60x60mm	45x45mm	60x60mm	90x90mm	45x45mm	60x60mm	90x90mm
Padlockable for base switch	V02 to V2	KCC1YZ	KCD1PZ		KAD1PZ	KCE1YZ	KCF1PZ			KAF1PZ	
	V3 to V4						KCF2PZ			KAF2PZ	
	V5 to V6							KCF3PZ			KAF3PZ
Non-Padlockable for base switch	V02 to V2	KCC1LZ	KDD1PZ	KAC1BZ	KBD1PZ	KCE1LZ	KDF1PZ		KAE1BZ	KBF1PZ	
	V3 to V4						KDF2PZ			KBF2PZ	
	V5 to V6							KDF3PZ			KBF3PZ

Shaft Kits & Plates

Base Switch	Maximum Panel Depth	Shaft Kit	Door Interlock Plate	Door Mounting Plate
V02 to V2	330mm	VZ17	KZ32	KZ83
	429mm	VZ30	KZ32	KZ83
V03 to V4	320mm	VZ18	KZ74	KZ81
	419mm	VZ30	KZ74	KZ81
V05 to V6	351mm	VZ18	KZ74	KZ81
	450mm	VZ31	KZ74	KZ81

Fuse carriers
0.5…125 A

Type			Fuse carriers without “blown fuse” indicator			
Rated operational voltage (Ui)			600 V (UL & CSA)	690 V (cURus certified component)		
Fuse size			Class CC	10 x 38 mm	14 x 51 mm	22 x 58 mm
Conventional thermal current (Ith)			30 A	32 A	50 A	125 A
Catalog number	Number of poles	1P	**DFCC1**	**DF101**	**DF141**	**DF221**
		N	–	**DF10N**	**DF14N**	**DF22N**
		1P+N	–	**DF101N**	**DF141N**	**DF221N**
		2P	**DFCC2**	**DF102**	**DF142**	**DF222**
		3P	**DFCC2**	**DF103**	**DF143C**	**DF223C**
		3P+N	–	**DF103N**	**DF143NC**	**DF223NC**

4

Type			Fuse carriers with “blown fuse” indicator			
Rated operational voltage (Ui)			600 V (UL & CSA)	690 V (cURus certified component)		
Fuse size			Class CC	10 x 38 mm	14 x 51 mm	22 x 58 mm
Conventional thermal current (Ith)			30 A	32 A	50 A	125 A
References	Number of poles	1P	**DFCC1V**	**DF101V**	**DF141V**	**DF221V**
		1P + N	–	**DF101NV**	**DF141NV**	**DF221NV**
		2P	**DFCC2V**	**DF102V**	**DF142V**	**DF222V**
		3P	**DFCC3V**	**DF103V**	**DF143CV**	**DF223CV**
		3P + N	–	**DF103NV**	**DF143NCV**	**DF223NCV**

Accessories

Type	Auxiliary early break and blown fuse signalling contacts			
Fuse carrier to be equipped	DF14 (not UL or CSA)		DF22 (not UL or CSA)	
Size of cartridge fuse or link	14 x 51 mm		22 x 58 mm	
Number of contacts	1	2	1	2
References	**DF14AM1**	**DF14AM2**	**DF22AM1**	**DF22AM2**

Type	Fuse carrier assembly kits				
Fuse carrier to be assembled	DFCC	DF8	DF10	DF14	DF22
Size of cartridge fuse or link	Class C	8.5 x 31.5 mm	10 x 38 mm	14 x 51 mm	22 x 58 mm
Kit contents	1 pin, 2 clips			1 pin, 3 clips	
References	**DF10AP**			**DF14AP**	**DF22AP**

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Other versions: **please consult our Customer Care Centre.**

Fuse carriers
0…32 A

Fuse Carriers				
Rated operational voltage with links, a.c. supply		600 V	690 V	690 V
Maximum continuous current for ambient temperature ≤ 40° C				
with CC or KTK-R (wire gauge/A)		2 - #8 AWG/30A max		
with links (mm²/A)			4/25A or 2.5/16A	6/32A or 4/25A or 2.5/16A
with aM fuses (mm²/A)			4/22A or 2.5/20A	6/32A or 4/22A or 2.5/20A
with gG fuses (mm²/A)			2.5/20A or 1.5/16A	6/32A or 2.5/20A or 1.5/16A
Conforming to standards	CSA/UL	●		
	NF EN 60947-3		●	●
	IEC 947-3		●	●
Product certifications			**BV UR**	**BV UR**
Fuse carrier type		**LS1D30**	**LS1D323**	**LS1D32**

Basic blocks connection			
Rating	30A	25A	32A
Cartridge fuse size	Type CC or KTK-R	10 x 38	10 x 38
Screw clamp connection			
3-pole	**LS1D30**		**LS1-D32**
4-pole			**LS1-D32+LA8-D324**
Spring terminal connection			
3-pole	**LS1D303**	**LS1D323**	

Add-on blocks Contact blocks						
For use on	LS1D30		LS1D32		LS1D323	
Contact type	N/O+N/C	N/O+N/O	N/O+N/C	N/O+N/O	N/O+N/C	N/O+N/O
Instantaneous auxiliary contacts						
Front mounting	**GVAE11**	**GVAE20**	**GVAE11**	**GVAE20**	**GVAE113**	**GVAE203**

Fusible and non-fused disconnects
30... 1200A

GS1/2 Fusible disconnect switch 30-800A				
Catalog Number	**S1DDU3**	**GS1DU3**	**GS2GU3N**	**GS2JU3N**
Switch Type	Compact Fused	Compact Fused	Fused	Fused
Fuses	CC	J	J	J
Amps	30	30	60	100
Poles	3	3	3	3
Operator Style	Thru-the-door	Thru-the-door	Thru-the-door	Thru-the-door
Max. HP 3 Phase:				
HP at 240V	7.5	7.5	15	30
HP at 480V	15	15	30	60
HP at 600V	20	20	50	75
Handle				
1,4,4X,12 Black	**GS2AH410**	**GS2AH410**	**GS2AH410**	**GS2AH430**
1,4,4X,12 Red / Yellow	**GS2AH420**	**GS2AH420**	**GS2AH420**	**GS2AH440**
Shaft				
320mm	**GS2AE8**	**GS2AE8**	**GS2AE8**	**GS2AE2**
400mm	**GS2AE81**	**GS2AE81**	**GS2AE81**	**GS2AE21**
Lugs (6 per kit)				
Catalog Number	**Standard**	**Standard**	**Standard**	**Standard**

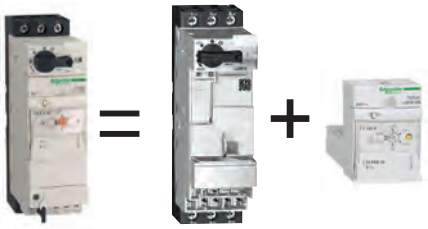
LK4 non-fused disconnect switch 30-1200A					
Catalog Number	**LK4DU3CN**	**LK4GU3CN**	**LK4JU3N**	**LK4MU3N**	**LK4QU3N**
Switch Type	Compact Non-fused	Compact Non-fused	Non-fused	Non-fused	Non-fused
Amps	30	60	100	200	400
Poles	3	3	3	3	3
Operator Style	Thru-the-door	Thru-the-door	Thru-the-door	Thru-the-door	Thru-the-door
Max. HP 3 Phase:					
HP at 240V	10	20	30	75	125
HP at 480V	20	40	75	150	250
HP at 600V	25	50	100	200	350
Handle					
1,4,4X,12 Black	**LK4AH410CN**	**LK4AH410CN**	**GS2AH430**	**GS2AH430**	**GS2AH430**
1,4,4X,12 Red / Yellow	**LK4AH420CN**	**LK4AH420CN**	**GS2AH440**	**GS2AH440**	**GS2AH440**
Shaft					
320mm	**LK4AE12CN (1)**	**LK4AE12CN (1)**	**GS2AE2**	**GS2AE2**	**GS2AE2**
400mm			**GS2AE21**	**GS2AE21**	**GS2AE21**
Lugs (6 per kit)					
Catalog Number	**Standard**	**Standard**	**GS1AW403**	**GS1AW403**	**GS1AW503**

*Note (1) Shaft Guide for compact Non-fused = LK4AEAH12CN

GS2MU3N	**GS2QU3N**	**GS2SU3**	**GS2TU3**
Fused	Fused	Fused	Fused
J	J	J	L
200	400	600	800
3	3	3	3
Thru-the-door	Thru-the-door	Thru-the-door	Thru-the-door
60	125	200	200
125	250	400	500
150	350	500	500
GS2AH430	**GS2AH430**	**GS2AH150**	**GS2AH150**
GS2AH440	**GS2AH440**	**GS2AH160**	**GS2AH160**
GS2AE2	**GS2AE2**	**GS2AE5**	**GS2AE5**
GS2AE21	**GS2AE21**	**GS2AE51**	**GS2AE51**
GS1AW403	**GS1AW503**	**GS1AW503**	**GS1AW503**

LK4SU3N	**LK4TU3N**	**LK4UU3N**	**LK4WU3N**
Non-fused	Non-fused	Non-fused	Non-fused
600	800	1000	1200
3	3	3	3
Thru-the-door	Thru-the-door	Thru-the-door	Thru-the-door
200	200	200	200
400	500	500	500
350	500	500	500
GS2AH150	**GS2AH170**	**GS2AH170**	**GS2AH170**
GS2AH160	**GS2AH180**	**GS2AH180**	**GS2AH180**
GS2AE6	**GS2AE6**	**GS2AE6**	**GS2AE6**
GS2AE61	**GS2AE61**	**GS2AE61**	**GS2AE61**
GS1AW503	**GS1AW903**	**GS1AW903**	**GS1AW903**

Type E Self Protected Motor Starters
and non combination motor starters



Power base

	Single Phase			Three Phase				Type E self protected combination motor controller (1)	
	120V	240V	200/208V	230/240V	480V	600V	Current rating	Non Reversing	Reversing (2)
Horsepower	1/2	2	3	3	7.5	10	12A	**LUB12**	**LU2B12****
CSA/UL	2	5	10	10	20	25	32A	**LUB32**	**LU2B32****

(1) Current limiter LUALB1 required for 600V type E applications, Phase barrier LU9SP0 required for UL approval

4

Control units

		Standard (3)	**Advanced** (3)			**Multifunction**
Setting Range (A)	Mounts on to	Class 10 three phase	Class 10 three phase	Class 10 single phase	Class 20 three phase	Class 5 – 35 three phase
0.15 – 0.6	12 and 32	**LUCA6X****	**LUCB6X****	**LUCC6X****	**LUCD6X****	**LUCM6XBL**
0.35 – 1.4	12 and 32	**LUCA1X****	**LUCB1X****	**LUCC1X****	**LUCD1X****	**LUCM1XBL**
1.25 – 5	12 and 32	**LUCA05****	**LUCB05****	**LUCC05****	**LUCD05****	**LUCM05BL**
3 – 12	12 and 32	**LUCA12****	**LUCB12****	**LUCC12****	**LUCD12****	**LUCM12BL**
4.5 – 18	32	**LUCA18****	**LUCB18****	**LUCC18****	**LUCD18****	**LUCM18BL**
8 – 32	32	**LUCA32****	**LUCB32****	**LUCC32****	**LUCD32****	**LUCM32BL**

Function characteristics

Standard = LUB... + LUCA...	Advanced = LUB... + LUCB/C/D...	Multifunction = LUB... + LUCM...
Thermal overload protection against: • short-circuit, overcurrent, • phase failure or imbalance, • insulation breaks (equipment only). Manual reset following thermal fault.	Thermal overload protection against: • short-circuit, overcurrent, • phase failure or imbalance, • insulation breaks (equipment only). Manual reset following thermal fault. Thermal overload test function.	Thermal overload protection against: • short-circuit, overcurrent, • phase failure or imbalance, • insulation breaks (equipment only). Manual reset following thermal fault. • Thermal overload test function. • Overtorque and no-load running, alarm, • Motor operation log, • Motor parameters display on LUCM.., PC or HMI • Integrated Modbus communication.

(2) Complete the references of the power bases according to the following table.	Example**: LU2B12**	**
(3) Complete the references of the control units according to the following table.	Example: **LUCA/B/D/M6X**	**

Standard control circuit voltages	
24 V DC	BL
24 V AC	B
48 V AC / 48...72 V DC	ES
110...240 V AC / 110...220 V DC	FU

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Other versions: **please consult our Customer Care Centre.**

Starter-controller for 3-phase motors

Function modules

Type of optional function	Thermal overload alarm	Thermal fault signalling			Motor load indication
Compatible with LUCA	NO	NO	NO	NO	NO
Compatible with LUCL	NO	NO	NO	NO	NO
Compatible with LUCB, LUCD	YES	YES	YES	YES	YES
Compatible with LUCM	NO	NO	NO	NO	YES
Output signal	1 NO	1 NO +1 NC	1 NC	1 NO	4…20 mA
Reset	NA	Manual	Automatic or remote		NA
References	**LUFW10**	**LUFDH11**	**LUFDA01**	**LUFDA10**	**LUFV2**

Communication modules

Type of communication	Modbus	Advantys STB	Profibus DP	CANopen	DeviceNet	AS-Interface	Parallel wiring
Only compatible with 24 V DC control units LUCA..BL, LUCB..BL, LUCD..BL, LUCM..BL	YES	YES	YES	YES	YES	YES	YES
Transfer speed	19.2 Kbps	Dpg. on NIM (1)	9,6…12 Mbps	20 K…1 Mbps	125…500 Kbaud	167 Kbps	NA
Number of slaves	31 per Modbus master	Dpg. on Network Interface Module	125 per Profibus DP module	128 per CANopen module	63 per DeviceNet module	62 per AS-Interface master	8 per LU9GC02 splitter box
Pre-wired coil connection (A1 A2)	LU9BN11C, LU9MRC	LU9BN11L, LU9MRL	LU9BN11L, LU9MRL	LU9BN11L, LU9MRL	LU9BN11L, LU9MRL	LU9BN11C, LU9MRC	LU9Rxx
Connecting cable to PC	VW3 A8 306 R●●	LU9RCD●●, LU9RDD●●	TSXPBSCA●●	TSXCANC●●	DeviceNet standard	XZCG0142	TSXCDP●●●
References	**LUFC033**	**LULC15**	**LULC07**	**LULC08**	**LULC09**	**ASILUFC51**	**LUFC00**

(1) Network Interface Module.

Information carried by the Modbus, Advantys STB or CANopen bus			
Type of control unit	**LUCA●●BL**	**LUCB●●BL, LUCD●●BL**	**LUCM●●BL**
Start and Stop commands	X	X	X
Starter status (ready, running, fault)	X	X	X
Thermal alarm		X	X
Remote reset via the bus		X	X
Indication of motor load		X	X
Signalling and fault differentiation		X	X
Alarms (overcurrent, …)			X
Remote programming and monitoring of all the functions			X
“Log” function			X
Monitoring function			X

Contact blocks

Type of contact block		Add-on		Auxiliary		
Signalling contacts	of any fault	NC (95-96)	NO (97-98)	–	–	–
	position of control handle	NO (17-18)	NO (17-18)	–	–	–
2 auxiliary contacts module		–	–	NO (33-34)	NC (31-32)	NC (31-32)
		–	–	NO (43-44)	NO (43-44)	NC (41-42)
References	Screw clamp terminals	**LUA1C11**	**LUA1C20**	**LUFN20**	**LUFN11**	**LUFN02**
	Without connections	**LUA1C110**	**LUA1C200**	–	–	–

Controller for 3-phase motors

MULTIFUNCTION protection

Function characteristics	Control base for use with contactors		Multifunction control unit
	TeSys D (LC1D..)	TeSys F (LC1F..)	Class 5 to 35
- Thermal overload protection against: short-circuit, overcurrent, phase failure or imbalance, insulation breaks (equipmemt only). - Manual, automatic or remote reset, - Thermal overload test function, - Overtorque and no-load running, alarm, - Motor operation log, - Motor parameters display on LUCM.., PC or HMI, - Integrated Modbus communication.	LUTM10BL	LUTM20BL	LUCMT1BL

ADVANCED protection

Function characteristics	Control base for use with contactors		Advanced control unit	
	TeSys D (LC1D..)	TeSys F (LC1F..)	Class 10	Class 20
- Thermal overload protection against: short-circuit, overcurrent, phase failure or imbalance, insulation breaks (equipmemt only). - Manual reset following thermal fault. - Thermal overload test function.	LUTM10BL	LUTM20BL	LUCBT1BL	LUCDT1BL

Current transformers

Type of transformer							
Supply voltage		24 V DC					
Operating current	Primary	30 A	50 A	100 A	200 A	400 A	800 A
	Secondary	1 A					
References		LUTC0301	LUTC0501	LUTC01001	LUTC02001	LUTC04001	LUTC05001

Above 32 A, the TeSys U controller provides a motor starter management system solution identical to that provided by the Te**Sys** U starter-controller.

Used in conjunction with a short-circuit protection device and a contactor, it provides a motor starter whose functions are the same as those of a Te**Sys** U starter-controller and, in particular, provides the following functions: overload protection, motor starter control and application monitoring.

It comprises a control unit, whose adjustment range is compatible with the secondary of current transformers, and a control base that also enables the fitting of a function module or communication module.

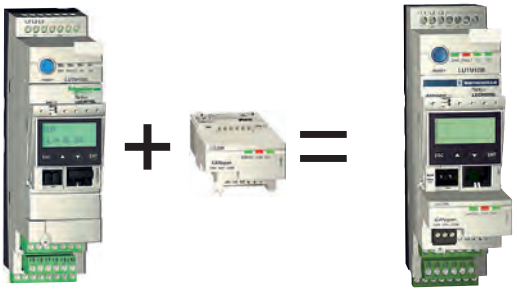
It requires a 24 V DC external power supply.

Schneider Electric

Other versions: **please consult our Customer Care Centre.**

Controller for 3-phase motors

Function modules



Type of optional function	Thermal overload alarm	Motor load indication
Compatible with LUCA	NO	NO
Compatible with LUCL	NO	NO
Compatible with LUCB, LUCD	YES	YES
Compatible with LUCM	NO	YES
Output signal	1 NO	4…20 mA
Reset	NA	NA
References	**LUFW10**	**LUFV2**

Communication modules

Type of communication	Modbus	Advantys STB	CANopen	DeviceNet	Parallel wiring
Only compatible with 24 V DC control units LUCA..BL, LUCB..BL, LUCD..BL, LUCM..BL	YES	YES	YES	YES	YES
Transfer speed	19.2 Kbps	Dpg. on NIM (1)	20 K…1 Mbps	125…500 Kbaud	NA
Number of slaves	31 per Modbus master	Dpg. on Network Interface Module	128 per CANopen module	63 per DeviceNet module	8 per LU9GC02 splitter box
Pre-wired coil connection (A1 A2)	LU9BN11C, LU9MRC	LU9BN11L, LU9MRL	LU9BN11L, LU9MRL	LU9BN11L, LU9MRL	LU9Rxx
Connecting cable to PC	VW3 A8 306 R●● LU9RDD●●	LU9RCD●●,	TSXCANC●●	DeviceNet standard	TSXCDP●●●
References	**LUFC033**	**LULC15**	**LULC08**	**LULC09**	**LUFC00**

Information carried by the Modbus, Advantys STB or CANopen bus		
Type of control unit	**LUCBT1BL, LUCDT1BL**	**LUCMT1BL**
Start and Stop commands	X	X
Starter status (ready, running, fault)	X	X
Thermal alarm	X	X
Remote reset via the bus	X	X
Indication of motor load	X	X
Signalling and fault differentiation	X	X
Alarms (overcurrent, …)		X
Remote programming and monitoring of all the functions		X
“Log” function		X
Monitoring function		X

Enclosed Motor Starters
0.5... 250 HP

Non Reversing

208V	230V	460V	575V	Non Combination		Combination Fusible		Combination Circuit Breaker	
Hp	Hp	Hp	Hp	Type 1	Type 12	Type 1	Type 12	Type 1	Type 12
2	2	5	7.5	LE1D093A62OG70	LE1D093A72OG70	LE1D098B62OG70	LE1D098B72OG70	LE1D099E62OG70	LE1D099E72OG70
3	3	7.5	10	LE1D123A62OG70	LE1D123A72OG70	LE1D128B62OG70	LE1D128B72OG70	LE1D129E62OG70	LE1D129E72OG70
5	5	10	15	LE1D183A62OG70	LE1D183A72OG70	LE1D188B62OG70	LE1D188B72OG70	LE1D189E62OG70	LE1D189E72OG70
7.5	7.5	15	20	LE1D253A62OG70	LE1D253A72OG70	LE1D258C62OG70	LE1D258C72OG70	LE1D259E62OG70	LE1D259E72OG70
10	10	20	25	LE1D323A62OG70	LE1D323A72OG70	LE1D328C62OG70	LE1D328C72OG70	LE1D329F62OG70	LE1D329F72OG70
10	10	30	30	LE1D403A62OG70	LE1D403A72OG70	LE1D408C62OG70	LE1D408C72OG70	LE1D409F62OG70	LE1D409F72OG70
10	15	40	40	LE1D503A62OG70	LE1D503A72OG70	LE1D508D62OG70	LE1D508D72OG70	LE1D509G62OG70	LE1D509G72OG70
20	20	40	50	LE1D653A62OG70	LE1D653A72OG70	LE1D658D62OG70	LE1D658D72OG70	LE1D659G62OG70	LE1D659G72OG70
25	30	60	60	LE1D803A62OG70	LE1D803A72OG70	LE1D808D62OG70	LE1D808D72OG70	LE1D809G62OG70	LE1D809G72OG70
30	40	75	75	LE1D113A62OG70	LE1D113A72OG70	LE1D118E62OG70	LE1D118E72OG70	LE1D119J62OG70	LE1D119J72OG70
40	50	100	100	LE1D153A62OG70	LE1D153A72OG70	LE1D158E62OG70	LE1D158E72OG70	LE1D159J62OG70	LE1D159J72OG70
50	60	125	125	LE1F183A62OG70	LE1F183A72OG70	LE1F188E62OG70	LE1F188E72OG70	LE1F189J62OG70	LE1F189J72OG70
60	75	150	150	LE1F263A62OG70	LE1F263A72OG70	LE1F268F62OG70	LE1F268F72OG70	LE1F269J62OG70	LE1F269J72OG70
75	100	200	200	LE1F333A62OG70	LE1F333A72OG70	LE1F338F62OG70	LE1F338F72OG70	LE1F339K62OG70	LE1F339K72OG70
100	125	250	250	LE1F403A62OG70	LE1F403A72OG70	LE1F408F62OG70	LE1F408F72OG70	LE1F409K62OG70	LE1F409K72OG70

Reversing

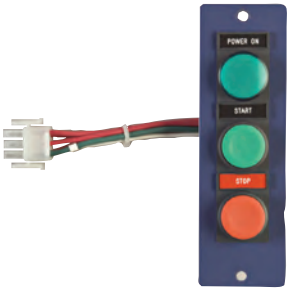
208V	230V	460V	575V	Non Combination		Combination Fusible		Combination Circuit Breaker	
Hp	Hp	Hp	Hp	Type 1	Type 12	Type 1	Type 12	Type 1	Type 12
2	2	5	7.5	LE2D093A62OG70	LE2D093A72OG70	LE2D098B62OG70	LE2D098B72OG70	LE2D099E62OG70	LE2D099E72OG70
3	3	7.5	10	LE2D123A62OG70	LE2D123A72OG70	LE2D128B62OG70	LE2D128B72OG70	LE2D129E62OG70	LE2D129E72OG70
5	5	10	15	LE2D183A62OG70	LE2D183A72OG70	LE2D188B62OG70	LE2D188B72OG70	LE2D189E62OG70	LE2D189E72OG70
7.5	7.5	15	20	LE2D253A62OG70	LE2D253A72OG70	LE2D258C62OG70	LE2D258C72OG70	LE2D259E62OG70	LE2D259E72OG70
10	10	20	25	LE2D323A62OG70	LE2D323A72OG70	LE2D328C62OG70	LE2D328C72OG70	LE2D329F62OG70	LE2D329F72OG70
10	10	30	30	LE2D403A62OG70	LE2D403A72OG70	LE2D408C62OG70	LE2D408C72OG70	LE2D409F62OG70	LE2D409F72OG70
10	15	40	40	LE2D503A62OG70	LE2D503A72OG70	LE2D508D62OG70	LE2D508D72OG70	LE2D509G62OG70	LE2D509G72OG70
20	20	40	50	LE2D653A62OG70	LE2D653A72OG70	LE2D658D62OG70	LE2D658D72OG70	LE2D659G62OG70	LE2D659G72OG70

1 Phase - Non Reversing

120V	240V	Non Combination	
Hp	Hp	Type 1	Type 12
0.3	1	LESD093A62OG70	LESD093A72OG70
0.5	2	LESD123A62OG70	LESD123A72OG70
1	3	LESD183A62OG70	LESD183A72OG70
2	3	LESD253A62OG70	LESD253A72OG70
2	5	LESD323A62OG70	LESD323A72OG70
3	5	LESD403A62OG70	LESD403A72OG70
3	7.5	LESD503A62OG70	LESD503A72OG70
5	10	LESD653A62OG70	LESD653A72OG70
7.5	15	LESD803A62OG70	LESD803A72OG70

Note: All starters listed are complete with 120VAC coils. For other control voltages, please consult your local Schneider Electric distributor.

Note: Overload relay must be ordered separately. Please consult you local Schneider Electric distributor for assistance.



Field Installable Operators	Description	Nameplate	Catalog Number
One Operator	Push button (double touch)	I-O	**LA9CA06IO**
	2 Position Selector Switch	OFF-ON	**LA9CA06DT**
	3 Position Selector Switch	HAND-OFF-AUTO	**LA9CA06ET**
	Pilot Light Full Voltage	POWER ON	**LA9CA06ST**
	Pilot Light Transformer	POWER ON	**LA9CA06FT***
	Pilot Light LED	POWER ON	**LA9CA16ST***
Two Operators	2 Push Buttons	START/STOP	**LA9CA06GT**
	2 Position Selector Switch + Full Voltage Pilot	OFF-ON/POWER ON	**LA9CA06WT**
	2 Position Selector Switch + Transformer Pilot	OFF-ON/POWER ON	**LA9CA06HT***
	2 Position Selector Switch + LED Pilot	OFF-ON/POWER ON	**LA9CA06WT***
	3 Position Selector Switch + Full Voltage Pilot	HAND-OFF-AUTO/POWER ON	**LA9CA06UT**
	3 Position Selector Switch + Transformer Pilot	HAND-OFF-AUTO/POWER ON	**LA9CA06JT***
	3 Position Selector Switch + LED Pilot	HAND-OFF-AUTO/POWER ON	**LA9CA16UT***
Three Operators	3 Push buttons	FORWARD/REVERSE/STOP	**LA9CA06LT**
	2 Push buttons + LED Pilot	START/STOP/POWER ON	**LA9CA06VT***
	2 Pos. Selector Switch + 2 Transformer Pilots (480 or 600 V)	OFF-ON/RUN/TRIP	**LA9CA06PT***
	2 Pos. Selector Switch + 2 LED Pilots (24, 120, or 240 V)	OFF-ON/RUN/TRIP	**LA9CA06PT***
	3 Pos. Selector Switch + 2 Transformer Pilots (480 or 600 V)	HAND-OFF-AUTO/RUN/TRIP	**LA9CA06QT***
	3 Pos. Selector Switch + 2 LED Pilots (24, 120, or 240 V)	HAND-OFF-AUTO/RUN/TRIP	**LA9CA06QT***

*Add the appropriate suffix to the catalogue number

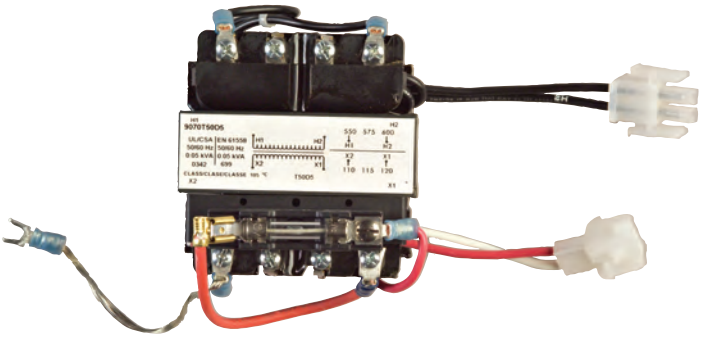
(volts)	**24V**	**120V**	**208/240V**	**480V**	**600V**
Code	B	G	M	T	X

Note LED type are only available for voltage codes: B,G &M. Above catalogue numbers specify green pilot lights as standard.
Dual pilot lights are green and amber. For other colours please consult the catalogue.

Adapter for local + Remote Control Description	Catalog number
3 wire adaptor	**LA9AADIS3**
4 wire adaptor	**LA9AADIS4**
5 wire adaptor	**LA9AADIS5**

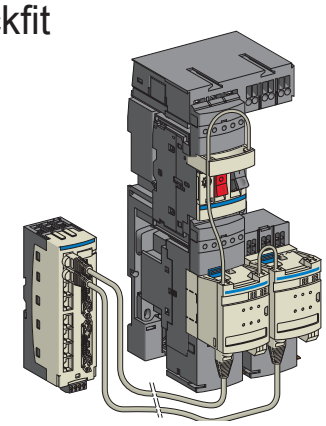
Control circuit transformer					
VA Rating	**For LE1 starters**		**Catalogue**		
50VA	D09-D32		**LA9TFD32***		
100VA	D40-D80		**LA9TFD80***		
	Primary				
Voltage	600V	480V	240V	208V	120V
Secondary 120V	X	T	M	L	-
24V	A	B	C	D	E

Replace * with Suffix from above table



Installation system

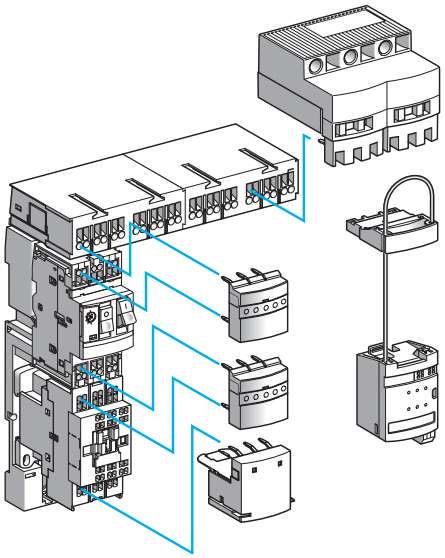
Presentation



TeSys Quickfit is a modular system which standardises and simplifies the implementation of motor starters with its pre-wired control and power circuits.
Installation of a motor starter becomes quick, simple, safe and flexible.
In addition, this system:
■ enables the motor starter to be customised at a later date,
■ reduces maintenance time and
■ optimises panel space by reducing the number of terminals and intermediate interfaces and the amount of ducting.

The motor starters concerned are those created by combining:
– GV2 ME or GV3 P circuit-breakers, with an operating limit of 80% of the maximum current at an ambient temperature of 60 °C, up to 690 V
– with 9 to 65 A TeSys D (LC1) contactors.

This offer comprises components for pre-wiring
■ the power part,
■ the control part.



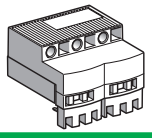
Components for pre-wiring the power part

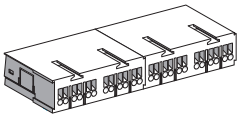
■ **a power kit** comprising, for each starter, a plate for mounting the contactor and the circuit-breaker, and two power connection modules,
■ **a power splitter box** for 2 or 4 starters,
■ **an upstream terminal block** for a power supply up to 60 A (16 mm²),
■ **a downstream terminal block** for connecting the motor power supply cables and the earth cables (6 mm²).

Components for pre-wiring the control part

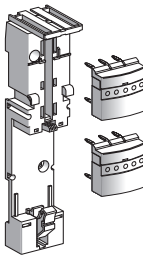
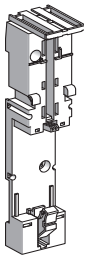
■ **a control circuit connection module** that mounts directly on the contactor and the circuit-breaker of each starter. This module integrates the status and control information of this particular motor starter.
■ **a parallel wiring module** enabling grouping of the information relating to each motor starter:
□ **HE 10,** intended for centralised applications. The information is transmitted to the PLC via the Advantys Telefast pre-wired system.
□ **STB,** intended for decentralised automation architectures. This module is integrated in an Advantys STB configuration for connection to the PLC via a fieldbus.

9…25 A power pre-wiring components





Type	Terminal block		60 A power splitter box	
	Upstream	Downstream	Extension by LAD32●	
Maximum c.s.a. of connection	16 mm²	6 mm²	–	–
Use	Splitter boxes supply	Motor cables	–	–
Number of starters	–	–	2	4
Reference	**LAD3B1**	**LAD331**	**LAD322**	**LAD324**

Type	Connection kit	Mounting plate for	Power connection
	For D.O.L. starter (1)	GV2 ME & contactor	module
Composition	1 mounting plate LAD311 for GV2ME 2 power connection modules LAD341	For 1 motor starter	
Reference	**LAD252**	**LAD311**	**LAD341**

(1) For a reversing starter order 2 connection kits **LAD252**

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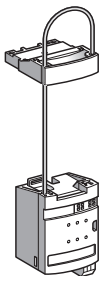
Other versions: **please consult our Customer Care Centre.**

Control-command pre-wiring components



Type	Connection module			
TeSys D coil voltage	12…250 V AC or 5…130 V DC		24 V DC	
Type of coil control relay	Electronic		Without relay	
Type of motor starter	Direct	Reversing	Direct	Reversing
Reference	**LAD9AP31**	**LAD9AP32**	**LAD9AP3D1**	**LAD9AP3D2**

Type	24 V DC parallel wiring module	
	Splitter box	Advantys STB parallel interface module
PLC/motor starter side connectors	2 x HE10/8 x RJ45	–/4 x RJ45
Reference	**LU9G02**	**STBEPI2145**

4

Accessories

Type		Connecting cables (1)	From splitter box LU9G02 to the PLC		
Connectors		2 x RJ45	2 HE10		Bare wires and HE10
Gauge / c.s.a.		–	22 / 0.324 mm²	28 / 0.080 mm²	22 / 0.324 mm²
Reference	L = 0.3 m	**LU9R03**	–	–	–
	0.5 m	–	**TSXCDP053**	–	–
	1 m	**LU9R10**	**TSXCDP103**	**ABFH20H100**	–
	2 m	–	**TSXCDP203**	**ABFH20H200**	–
	3 m	**LU9R30**	**TSXCDP303**	**ABFH20H300**	**TSXCDP301**
	5 m	–	**TSXCDP503**	–	**TSXCDP301**

(1) From connection module LAD9AP3● to splitter box LU9G02 or module STBEPI2145

Type	Connectors		Connecting cable
	Spring terminals	Self-stripping	
Use	External contact, auxiliary power supply		Between communication module APP1C● and splitter box LU9GG02
Reference	**APE1PRE21**	**APE1PAD21**	**APP2AH40H060**

Standard TeSys products can be used for elevator and safety applications when applied as followings:

Elevator approvals per CSA22.2 / CSA B44.1 / ASME 17.5

File LR43364

Single Phase	Three Phase					
240V	200/208V	230/240V	480V	600V	TeSys Series	Previous Generation
1.5	2	3	7.5	7.5	**LC1D12**	**LC1DFD****
3	5	7.5	15	20	**LC1D25**	**LC1DLD****
5	10	-	-	-	**LC1D32**	
7.5	-	15	25	30	**LC1D50**	**LC1DRD****
10	-	20	40	50	**LC1D65**	**LC1DTD****
15	-	25	50	50	**LC1D80**	**LC1DWD****
15	-	30	60	50	**LC1D150**	
20	30	30	75	75	**LC1F185**	**LC1FGD3**
-	40	40	-	-	**LC1F265**	
-	50	50	-	-	**LC1F330**	
-	60	60	-	-	**LC1F400**	
-	75	75	-	-	**LC1F500**	
-	100	100	-	-	**LC1F630**	

4

Contactors in Safety Circuits

Contactors are an integral part of safety applications. Schneider Electric offers a wide variety of contactors which are suitable for use in safety applications due to mechanically linked power contacts and mirror contacts.

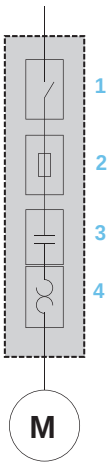
A number of standards have been published in recent years that use the concept of functional safety. Examples include IEC 61508, IEC 62061, IEC 61511, ISO 13849-1, and IEC 61800-5-2 which have all been adopted in Europe and published as ENs. Functional safety is a relatively recent concept that replaces the old `Categories' of behavior under fault conditions that were defined in EN 954-1, and were often mistakenly described as `Safety Categories'.

Now that EN 954-1 is withdrawn, the available alternatives are EN 62061 and EN ISO 13849-1. The performance of each safety function is specified as either a SIL (Safety Integrity Level) in the case of EN 62061 or PL (Performance Level) in the case of EN ISO 13849-1. In both cases the architecture of the control circuit which delivers the safety function is a factor, but unlike EN 954-1 these new standards require consideration of the reliability of the selected components.

In the past there has been a tendency for components specified to a high category of EN 954-1 to be chosen instead of components that have a lower category, but might actually have more suitable functions. This might be as a result of the misconception that the categories are hierarchical such that for example, category 3 is always “better” than category 2 and so on. Functional safety standards are intended to encourage designers to focus more on the functions that are necessary to reduce each individual risk, and what performance is required for each function, rather than simply relying on particular components.

For more information on Functional Safety, please visit our web site at:
www.schneider-electric.com under: Solutions > Machines for OEMs > Machine control solutions

Combination Starters – Type E & Type F



1 Motor disconnect (disconnect switch)
2 Motor Branch Circuit Protection (short circuit protection)
3 Motor controller (contactor)
4 Motor Overload Protection (thermal overload relay)

Combination Starters are the most common type of packaged motor starter. They are called 'Combination' because of their structure and their combined functions. The figure opposite shows the four combined functions that constitute a complete motor starter circuit, defined as a "Motor branch circuit" by the CEC and NEC. CSA 22.2 no 14 and UL508 currently give different types of combination starter that meet the requirements of a «Motor branch circuit».

Type E, called **"self-protected combination starter"**, covers all these functions and can be controlled manually (thermal-magnetic circuit-breaker) or remotely (starter-controller). Type E starters withstand faults within their declared nominal rating without sustaining damage, after which they can be put back into service. In addition, they can withstand more severe short-circuit and durability performance tests without welding or excessive wear of the contact tips.

Type F, called **"Combination motor starter"**, consists of a type E manual starter (thermal-magnetic circuit-breaker) combined with a contactor. These starters are evaluated by means of basic short-circuit tests, but are not considered as "self-protected". For this combination, the type E starter must be marked "Combination Motor Controller when used with ...", followed by the reference of the load side contactor.

At present, CSA does not recognize Type F combinations. Manual starters used with contactors can be used in Group Protection as described below.

UL508A & Control Panels

To help users properly coordinate their motor control equipment with their distribution system in the event of a fault, article 409 of the 2005 NEC requires panel builders to list the short-circuit withstand rating of their motor control panels. According to standard UL508A, manufacturers must use the short-circuit withstand value of the lowest rated device as the nominal withstand rating of the panel, unless the devices have been tested together for a higher coordinated rating. The minimum **"short-circuit current rating"** (SCCR), on motor control components for horsepower ratings of 50 hp or below is 5000 A. Using a **type E or type F** combination starter eliminates the coordination problems of using individual components for the "motor branch circuit protection", "motor controller" and "motor overload protection" functions. The panel builder uses the declared short-circuit current rating for the combination starter. This value is generally higher than 5000 A. This makes it easier to list the short-circuit current ratings and to check the compatibility of a UL508A motor control panel within a given distribution system.

Group Protection

Both the CEC and NEC allow a single short-circuit protection device to be used for more than one motor circuit if the components used are marked and listed for such use. Components suitable for use in group protection, known as **"motor group installations"**, can be marked in one of the following two ways:

Case n° 1
The contactor and the motor overload relay are both listed as suitable for group installation. An inverse time circuit-breaker can be used as the short-circuit protection device if it is also listed as suitable for group installation. The panel builder must therefore make sure that the short-circuit protection device selected (fuses or inverse time circuit-breaker) does not exceed the value allowed by rule 28-206 of the CEC or article 430.40 of the NEC for the smallest overload relay used in the circuit. Once these conditions have been met, the panel builder can reduce the size of the conductor connecting the short-circuit protection device to the individual motor contactor/overload relay, to one third of the size of the upstream circuit conductor supplying the protection device. The panel builder must limit the length of the motor starter conductor (connecting the short-circuit protection device to the motor contactor/overload relay) to a maximum of 7.5 m (25 feet).

Case n° 2 (Not approved under the CEC for US export applications only)
The motor contactor and overload relay are listed as suitable for **"tap conductor protection"** in group installations. This category allows the panel designer to reduce the size of the conductor connecting the short-circuit protection device to the individual motor contactor/overload relay, to one tenth of the size of the upstream circuit conductor supplying the protection device. The designer must limit the length of this conductor to a maximum of 3.05 m (10 feet). In both cases, the supply circuits must not be less than 125 % of the connected motor FLA (Full Load Amps) rating. For panel builders, using **type F** combination starters in group installations simplifies group motor considerations. Each starter is a fully coordinated motor branch circuit. The panel builder follows the same NEC requirements for sizing the supply conductors as those required for single motor branch circuits. The size of the supply conductors can be reduced in accordance with the specifications of article 430.28. This allows the same flexibility in conductor sizing as that offered in article 430.53 (D), without a requirement to check the short-circuit protection rating marked on the components and the overload relay limit. A UL508A panel does not need a short-circuit protection device when each motor starter installed is a **type F**. The upstream short-circuit protection device supplying the starter protects the panel. The panel builder only has to consider the panel/enclosure disconnect requirements specified by the NEC or local codes.

Resistive Loads and changeover contactor pairs

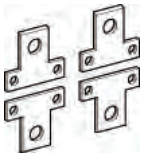
0…2750 A

Maximum operational current (device in open air)

Contactors			LC1-/LP1-K09	LC1-/LP1-K12	LC1-D09	LC1-D12	LC1-D18	LC1-D25	LC1-D32	LC1-D40A
■ 3-pole										
■ 4-pole					DT20	DT25	DT32	DT40		
LC2- changeover contactor pairs, factory assembled			K09004	K12004	DT20	DT25	DT32	DT40		DT60A
UL/CSA Maximum continuous		A	20	20	20	25	32	40	50	60
Operational current in AC-1, in A,	≤ 40° C	A	20	20	20	25	32	40	50	60
according to ambient temperature	≤ 60° C	A	20	20	20	25	32	40	50	60
	≤ 70° C									
Maximum operational	220/230 V	kW	8	8	8	9	11	14	18	21
power ≤ 60° C	240 V	kW	8	8	8	9	12	15	19	23
	380/400 V	kW	14	14	14	15	20	25	31	37
	415 V	kW	14	14	14	17	21	27	34	41
	440 V	kW	15	15	15	18	23	29	36	43
	500 V	kW	17	17	17	20	23	33	41	49
	660/690 V	kW	22	22	22	27	34	43	54	65

4

Increase in operational current
by parallel connection of poles (Not for CSA/UL applications)
Apply the following coefficients to the currents or powers above; these coefficients take into account an often unbalanced distribution of current between the poles:
- 2 poles in parallel K = 1.6
- 3 poles in parallel K = 2.25
- 4 poles in parallel K = 2.8



Connection accessories for heating applications

Paralleling links for:			Reference
■ **TeSys K**	2 poles	with screw clamp terminals	**LA9-E01**
	4 poles	with screw clamp terminals	**LA9-E02**
■ **TeSys D**	2 poles	D09…D38	**LA9-D2561**
		DT20 and DT25 (4P)	**LA9-D1261**
		DT32…DT40 (4P)	**LAD-D96061**
		D40A…D65A	**LAD-9P32**
		D80	**LA9-D80961**
	3 poles	D09…D38	**LAD-9P3** (1)
		D40A…D65A	**LAD-9P33**
		D80	**LA9-D80962**
	4 poles	DT20…DT25	**LA9-D1263**
		D40A…D65A	**2 x LAD-9P33**
		D80	**LA9-D80963**
■ **TeSys F**	2 to 2	**LC1-F1154**	**LA9-FF602**
		LC1-F1504, F1854	**LA9-FG602**
		LC1-F2254, F2654, F3304, F4004	**LA9-FH602**
		LC1-F5004	**LA9-FK602**
		LC1-F6304	**LA9-FL602**

(1) Link that can be split, allowing parallel connection of 2 poles

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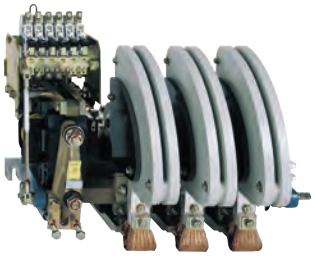
Other versions: **please consult our Customer Care Centre.**



	LC1-	**LC1-**	**LC1-**	**LC1-**	**LC1-**	**LC1-**	**LC1-**	**LC1-**	**LC1-**	**LC1-**	**LC1-**	**LC1-**	**LC1-**	**LC1-**	**LC1-**	**LC1-**	**LC1-**
	D50A	**D65A**	**D80**	**D115**	**F185**	**F225**	**F265**	**F330**	**F400**	**F500**	**F630**	**F780**	**F800**	**BL**	**BM**	**BP**	**BR**
		DT80A	**D80004**	**D115004**	**F1854**	**F2254**	**F2654**										
	70	80	110	175	200	250	285	370	420	700	1000	1350	1000	800	1250	2000	2750
	80	80	125	200	275	315	350	400	500	700	1000	1600	1000	800	1250	2000	2750
	80	80	125	200	275	280	300	360	430	580	850	1350	850	700	1100	1750	2400
					180	200	250	290	340	500	700	1100	700	600	900	1500	2000
	29	29	45	80	90	100	120	145	170	240	350	550	350	300	425	700	1000
	31	31	49	83	100	110	125	160	180	255	370	570	370	330	450	800	1100
	50	50	78	135	165	175	210	250	300	430	600	950	600	500	800	1200	1600
	54	54	85	140	170	185	220	260	310	445	630	1000	630	525	825	1250	1700
	58	58	90	150	180	200	230	290	330	370	670	1050	670	550	850	1400	2000
	65	65	102	170	200	220	270	320	380	660	750	1200	750	600	900	1500	2100
	86	86	135	235	280	300	370	400	530	740	1000	1650	1000	800	1100	1900	2700

Accessories for changeover contactor pairs
0…2750 A

Mounting accessories for changeover contactor pairs (for customer assembly)					
Contactor type	Set of power connections	Mechanical interlock	Contactor type	Set of power connections	Mechanical interlock
2 contactors, vertically mounted					
■ **4-pole changeover pairs** with locking device components					
LC1-B		**EZ2-LB0601**			
2 identical contactors, horizontally mounted					
■ with electrical interlocking kit for the contactors					
LC1-DT20…**DT40**	**LAD-T9R1V** (1)				
■ mechanical interlock with integral electrical interlocking					
LP1-D80004	**LA9-D8070**	**LA9-D8002**	**LC1-D115004**	**LA9-D11570**	**LA9-D11502**
■ without electrical interlocking (2)					
LC1-DT20…**DT32**	**LAD-T9R1** (2)		**LC1-DT40** and **DT60**	**LAD-T9R2** (2)	
LP1-D80004	**LA9-D8070**	**LA9-D80978**			
2 contactors of identical rating, horizontally mounted					
■ **4-pole changeover pairs**					
LC1-F1154	**LA9-FF977**	**LA9-FF970**	**LC1-F1504**	**LA9-F15077**	**LA9-FF970**
LC1-F1854	**LA9-FG977**	**LA9-FG970**	**LC1-F2254**	**LA9-F22577**	**LA9-FG970**
LC1-F2654	**LA9-FH977**	**LA9-FJ970**	**LC1-F3304**	**LA9-FJ977**	**LA9-FJ970**
LC1-F4004	**LA9-FJ977**	**LA9-FJ970**	**LC1-F5004**	**LA9-FK977**	**LA9-FJ970**
LC1-F6304	**LA9-FL977**	**LA9-FL970**			
■ **3-pole changeover pairs** with electrical interlocking					
LC1-D115 and **D150**	**LA9-D11571**	**LA9-D11502**			
reversers assembled using 2 contactors, vertically mounted					
■ **4-pole changeover pairs using contactors of identical rating** (3)			■ **3 or 4-pole changeover pairs using contactors of different rating**		
			At bottom	At top	
LC1-F1154 or **F1505**	(3)	**LA9-FF4F**	**LC1-F115** or **F1154**	**LC1-F185** or **F1854**	**LA9-FG4F**
LC1-F1854	(3)	**LA9-FG4G**	or **LC1-F150** or **F1504**	**LC1-F225** or **F2254**	**LA9-FG4F**
LC1-F2254	(3)	**LA9-FG4G**		**LC1-F265** or **F2654**	**LA9-FH4F**
LC1-F2654 or **F3304**	(3)	**LA9-FH4H**		**LC1-F300** or **F3304**	**LA9-FH4F**
LC1-F4004	(3)	**LA9-FJ4J**		**LC1-F400** or **F4004**	**LA9-FJ4F**
LC1-F5004	(3)	**LA9-FK4K**		**LC1-F500** or **F5004**	**LA9-FK4F**
LC1-F6304	(3)	**LA9-FL4L**		**LC1-F630**, **F6304** or **F800**	**LA9-FL4F**
LC1-F7804	(4)	**LA9-FX971** (4)	**LC1-F185** or **F1854**	**LC1-F265** or **F2654**	**LA9-FH4G**
			or **LC1-F225** or **F2254**	**LC1-F330** or **F3304**	**LA9-FH4G**
				LC1-F400 or **F4004**	**LA9-FJ4G**
				LC1-F500 or **F5004**	**LA9-FK4G**
				LC1-F630, **F6304** or **F800**	**LA9-FL4G**
			LC1-F265 or **F2654**	**LC1-F400** or **F4004**	**LA9-FJ4H**
			or **LC1-F330** or **F3304**	**LC1-F500** or **F5004**	**LA9-FK4H**
				LC1-F630, **F6304** or **F800**	**LA9-FL4H**
			LC1-F400 or **F4004**	**LC1-F500** or **F5004**	**LA9-FK4J**
				LC1-F630, **F6304** or **F800**	**LA9-FL4J**
			LC1-F500 or **F5004**	**LC1-F630**, **F6304** or **F800**	**LA9-FL4K**

(1) Including mechanical interlock.

(2) Order separately 2 auxiliary contact blocks LAD-N•1 to obtain electrical interlocking between the two contactors.

(3) Power connections to be made by the customer.

(4) Double mechanical interlock mechanism with 2 interlock connecting rods and 4 power connecting links.

CA2K, CA3K and CA4K

CA2KN40••

Control relays

■ Mounting on 35 mm DIN 3 track or 4 screw direct mounting ■ Screws in open "ready-to-tighten" position	Control Circuit Supply	Control Circuit Consumption	Type of Termination	Contact Configuration N.O.	Contact Configuration N.C.	Catalog Number (1)
■ NEMA A600, Q600 ■ IEC AC15, DC13	ac	4.5 VA	screw clamp	4	0	CA2KN40••
				3	1	CA2KN31••
				2	2	CA2KN22••
	ac	4.5 VA	spring terminals	4	0	CA2KN403••
				3	1	CA2KN313••
				2	2	CA2KN223••
	ac	4.5 VA	Slip-on 1 x 6.35 or 2 x 2.8	4	0	CA2KN407••
				3	1	CA2KN317••
				2	2	CA2KN227••
	ac	4.5 VA	solder pins for printed circuit board	4	0	CA2KN405••
				3	1	CA2KN315••
				2	2	CA2KN225••
	dc	3 W	screw clamp	4	0	CA3KN40••
				3	1	CA3KN31••
				2	2	CA3KN22••
	dc	3 W	spring terminals	4	0	CA3KN403••
				3	1	CA3KN313••
				2	2	CA3KN223••
	dc	3 W	Slip-on 1 x 6.35 or 2 x 2.8	4	0	CA3KN407••
				3	1	CA3KN317••
				2	2	CA3KN227••
	dc	3 W	solder pins for printed circuit board	4	0	CA3KN405••
				3	1	CA3KN315••
				2	2	CA3KN225••
Low consumption control relays						
■ Compatible with programmable controller outputs ■ LED indicator incorporated ■ Wide range coil (70 to 130% Uc), suppressor fitted as standard	dc	1.8 W	screw clamp	4	0	CA4KN40•••
				3	1	CA4KN31•••
				2	2	CA4KN22•••
■ Mounting on 35 mm DIN 3 track or 4 screw direct mounting ■ Screws in open "ready-to-tighten" position	dc	1.8 W	spring terminals	4	0	CA4KN403•••
				3	1	CA4KN313•••
				2	2	CA4KN223•••
	dc	1.8 W	Slip-on 1 x 6.35 or 2 x 2.8	4	0	CA4KN407•••
				3	1	CA4KN317•••
				2	2	CA4KN227•••
	dc	1.8 W	solder pins for printed circuit board	4	0	CA4KN405•••
				3	1	CA4KN315•••
				2	2	CA4KN225•••

(1) Complete the catalog number by adding the proper voltage code from the table below. Example: **CA4KN227BW3.**

CA2-K control relays (0.8–1.15 Uc) *(0.85–1.1UC)*

Volts ac, 50/60 Hz	12	24	36	42	48	110	120	127	208	*220/230*	230	*230/240*	*380/400*	400	*400/415*	440	480	500	*660/690*
Code	**J7**	**B7**	**C7**	**D7**	**E7**	**F7**	**G7**	**FC7**	**L7**	**M7**	**P7**	**U7**	**Q7**	**V7**	**N7**	**R7**	**T7**	**S7**	**Y7**

Up to and including 240 V. Coil with integral suppression device available: add 2 to the code required. Example: J72.

CA3-K control relays (0.8–1.15 Uc)

Volts dc	12	20	24	36	48	60	72	100	110	125	200	220	230	240	250
Code	**JD**	**ZD**	**BD**	**CD**	**ED**	**ND**	**SD**	**KD**	**FD**	**GD**	**LD**	**MD**	**MPD**	**MUD**	**UD**

Coil with integral suppression device available: add **3** to the code required. Example: **JD3**

CA4-K, low consumption control relays (wide range coil : 0.7–1.3 Uc)

Volts dc	12	24	48	72
Code	**JW3**	**BW3**	**EW3**	**SW3**

Instantaneous auxiliary contact blocks

■ Clip-on front mounting, 1 block per control relay ■ Auxiliary contact module not suitable for safety circuits	Type of Connection	Contact Configuration		Catalog Number
		N.O.	N.C.	
	screw clamp	2	0	**LA1KN20**
		0	2	**LA1KN02**
		1	1	**LA1KN11**
		4	0	**LA1KN40** (1)
		3	1	**LA1KN31** (1)
		2	2	**LA1KN22** (1)
		1	3	**LA1KN13** (1)
		0	4	**LA1KN04** (1)
	spring terminals	2	0	**LA1KN203**
		0	2	**LA1KN023**
		1	1	**LA1KN113**
		4	0	**LA1KN403** (1)
		3	1	**LA1KN313** (1)
		2	2	**LA1KN223** (1)
		1	3	**LA1KN133** (1)
		0	4	**LA1KN043** (1)
	Slip-on 1 x 6.35 or 2 x 2.8	2	0	**LA1KN207**
		0	2	**LA1KN027**
		1	1	**LA1KN117**
		4	0	**LA1KN407** (1)
		3	1	**LA1KN317** (1)
		2	2	**LA1KN227** (1)
		1	3	**LA1KN137** (1)
		0	4	**LA1KN047** (1)

(1) Not to be used on CA4KN relays

Electronic time delay contact blocks

- Relay output, with common point changeover contact, 240 Vac/Vdc, 2 A maximum.
- Control voltage: 0.85–1.1 Uc.
- Maximum switching capacity: 250 VA or 150 W.
- Operating temperature: - 10 to + 60 °C (+14° F to 140° F).
- Reset time: 1.5 sec. during the time delay period, 0.5 sec. after the time delay.
- Clip-on front mounting, 1 block per control relay

Voltage	Type	Timing Range	Composition C.O.	Catalog Number
24–48 Vac/ Vdc	On-delay	1–30 seconds	1	**LA2KT2E**
110–240 Vac	On-delay	1–30 seconds	1	**LA2KT2U**

CAD32••

Instantaneous control relays

Terminal Type	Number of Contacts	Contact Configuration N.O.	Contact Configuration N.C.	Catalog Number (1)
screw clamp	5	5	0	**CAD50••**
		3	2	**CAD32••**
spring terminal	5	5	0	**CAD503••**
		3	2	**CAD323••**
ring tongue	5	5	0	**CAD506••**
		3	2	**CAD326••**

(1) Complete the catalog number by adding the proper voltage code from the table below. Example: **CAD50G7**.

AC 50/60 Hz coil									
Volts	12	24	48	120	208	240	277	480	600
Code	**J7**	**B7**	**E7**	**G7**	**LE7**	**U7**	**W7**	**T7**	**X7**

DC coil (coils have built in suppression as standard)											
Volts	12	24	36	48	60	72	110	125	220	250	440
Code	**JD**	**BD**	**CD**	**ED**	**ND**	**SD**	**FD**	**GD**	**MD**	**UD**	**RD**

DC low consumption coil (coils have built in suppression as standard)					
Volts	5	12	24	48	72
Code	**AL**	**JL**	**BL**	**EL**	**SL**

Instantaneous auxiliary contact blocks (for use in normal operation environments)

Number of Contacts	Max. Number per Device (clip-on mounting) Front	Left Side Only	Termination Type	Contact Composition N.O.	N.C.	Catalog Number
2	1	–	Screw Clamp	2	0	**LADN20**
				1	1	**LADN11**
				0	2	**LADN02**
2	1	–	Spring Terminal	2	0	**LADN203**
				1	1	**LADN113**
				0	2	**LADN023**
2	–	1 (not for DC devices)	Screw Clamp	2	0	**LAD8N20**
				1	1	**LAD8N11**
				0	2	**LAD8N02**
4	1	–	Screw Clamp	4	0	**LADN40**
				3	1	**LADN31**
				2	2	**LADN22**
				1	3	**LADN13**
				0	4	**LADN04**
4	1	–	Spring Terminal	4	0	**LADN403**
				3	1	**LADN313**
				2	2	**LADN223**
				1	3	**LADN133**
				0	4	**LADN043**
4	1	–	Screw Clamp	2	2	**LADC22** (4)
4	1	–	Spring Terminal	2	2	**LADC223** (4)

Instantaneous auxiliary contact blocks with dust and damp protected contacts (for use in particularly harsh industrial environments)

Number of Contacts	Max. Number per Device Front Mounting	Contact Composition Sealed N.O.	N.C.	(1)	Normal N.O.	N.C.	Catalog Number
2	1	2	–	–	–	–	**LA1DX20**
		–	2	–	–	–	**LA1DX02**
		2	–	2	–	–	**LA1DY20**
4	1	2	–	–	2	–	**LA1DZ40**
		2	–	–	1	1	**LA1DZ31**

(1) Grounding terminal points (2 terminals jumpered together)

Time delay auxiliary contact blocks

Number and Type of Contacts	Max. Number per Device Front Mounting	Time Delay Type	Termination Type	Range	Catalog Number
1 N.C. and 1 N.O.	1	On-Delay	screw clamp	0.1 to 3 sec. (2)	**LADT0**
				0.1 to 30 sec.	**LADT2**
				10 to 180 sec.	**LADT4**
				1 to 30 sec. (3)	**LADS2**
1 N.C. and 1 N.O.	1	On-Delay	spring terminal	0.1 to 3 sec. (2)	**LADT03**
				0.1 to 30 sec.	**LADT23**
				10 to 180 sec.	**LADT43**
				1 to 30 sec. (3)	**LADS23**
1 N.C. and 1 N.O.	1	Off-Delay	screw clamp	0.1 to 3 sec. (2)	**LADR0**
				0.1 to 30 sec.	**LADR2**
				10 to 180 sec.	**LADR4**
1 N.C. and 1 N.O.	1	Off-Delay	spring terminal	0.1 to 3 sec. (2)	**LADR03**
				0.1 to 30 sec.	**LADR23**
				10 to 180 sec.	**LADR43**

(2) With extended scale from 0.1 to 0.6 s.

(3) With switching time of 40 ms ± 15 ms between opening of the N.C. contact and closing of the N.O. contact.

(4) Includes 1 N.O. & 1 N.C. overlapping contact

5

Schneider Electric offers complete and compact ranges of power supplies (switch mode or filtered rectified) and transformers.
With the Phaseo range, your installations will be equipped with a high quality AC or DC power supply compliant with international standards.

Phaseo

Phaseo offers universal power supplies and protection modules with a very wide operating range to provide continuity of service for your installations.
An innovative offer, Phaseo integrates numerous features which set the standard across this market.

5 Power Supplies

WARNING
This document is a selection of the top selling products.

Power supplies

Regulated switch mode, filtered rectified power supplies
Accessories
Phaseo ABL8, ABL1 ..... 5/2 to 5/5

Transformers

9070 Industrial control transformers ..... 5/6 & 5/7

Connection

Terminal blocks
AB1 ..... 5/8 & 5/9
Cable ends
DZ5/AZ5 ..... 5/10

Power supplies

Regulated switch mode - Rail mounting

Type of power supply	7 to 60 W Single-phase					
Rated input voltage	100…240 VAC					
Rated output voltage	24 V				5 V	12 V
Rated power / Rated output current	7.5 W / 0.3 A	15 W / 0.6 A	30 W / 1.2 A	60 W / 2.5 A	20 W / 4 A	25 W / 2 A
Reset	Auto					
Conformity to IEC 61000-3-2	Without					
Certifications	cULus, cCSAus, TUV, CE, C-Tick					
Dimensions W x D x H (mm)	36 x 59 x 90		54 x 59 x 90	72 x 59 x 90	54 x 59 x 90	
Fixing (mm)	DIN rail 35x7.5 or 35x15 or on panel mount by screw					
References	**ABL8MEM24003**	**ABL8MEM24006**	**ABL8MEM24012**	**ABL7RM24025**	**ABL8MEM05040**	**ABL8MEM12020**

5

Type of power supply	72 to 240 W Single-phase - Wide input range		
Rated input voltage	100…120 VAC and 200…500 VAC		
Rated output voltage	24 V		
Rated power / Rated output current	72 W / 3 A	120 W / 5 A	240 W / 10 A
Permissible temporary inrush current (boost)	1.5 In during 4 s		
Reset	Auto or manual		
Conformity to IEC 61000-3-2	Yes		
Diagnostic relay (output voltage > 21.6V)	No	Yes	
Certifications	cCSAus, CB scheme, CE		
Dimensions W x D x H (mm)	44 x 120 x 143	56 x 120 x 143	85 x 140 x 143
Fixing (mm)	DIN rail 35x7.5 or 35x15		
References	**ABL8RPS24030**	**ABL8RPS24050**	**ABL8RPS24100**

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Other versions: **please consult your Schneider Electric agency.**

	60 to 144 W single-phase			
	100…240 VAC			
	24 V		12 V	48 V
	72 W / 3 A	120 W / 5 A	60 W / 5 A	144 W / 2.5 A
	Auto		Auto or manual	
	No		Yes	
	cULus, cCSAus, TUV, CE, C-Tick			
	27 x 120 x 120	54 x 120 x 120		
	DIN rail 75x7.5, 35x7.5 or 35x15			
	ABL8REM24030	**ABL8REM24050**	**ABL7RP1205**	**ABL7RP4803**

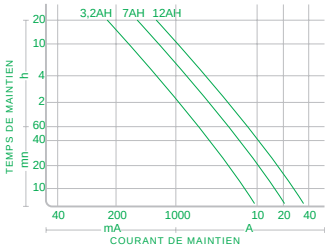
	480 to 960 W single and 3-phases		
	100…120 VAC and 200…240 VAC	3 x 380…500 VAC	
	24 V		
	480 W / 20 A		960 W / 40 A
	1.5 In during 4 s		
	Auto or manual		
	Yes		
	Yes		
	cCSAus, CB scheme, CE		
	145 x 140 x 143	95 x 155 x 143	165 x 155 x 143
	DIN rail 35x7.5 or 35x15		
	ABL8RPM24200	**ABL8WPS24200**	**ABL8WPS24400**

Type of module	Converters DC/DC	
Compatibility	Output connection of power supplies ABL8RPS24…, ABL8WPS24…, ABL4RSM24... and ABL4WSR24...	
Rated output voltage	5 V	12 V
Rated output current	6 A	2 A
Certifications	cCSAus, CB scheme, CE	
Dimensions W x D x H (mm)	44 x 140 x 146	
Fixing (mm)	DIN rail 35x7.5 or 35x15	
References	**ABL8DCC05060**	**ABL8DCC12020**

Phaseo Slim

Power supplies

Function modules for regulated switch mode power supplies.



Type of module		Microcuts and cuts network solutions. (1)		
Compatibility		Output connection of Universal power supplies ABL8RPS24…, ABL8WPS24…, ABL4RSM24..., ABL4WSR24...		
Technology		Buffer module	battery backup module + battery	
Rated output voltage		40 A	20 A	40 A
Holding time 1A		2 s typique	adjustable from 10 s to 24 H (battery depending)	
Holding time for maximum current output		100 ms typique	adjustable from 10 s to 30 mn (battery depending)	adjustable from 10 to 10 mn (battery depending)
Certifications		cCSAus, CB scheme, CE		
Dimensions W x D x H (mm)		85 x 140 x 146	86 x 175 x 143	86 x 175 x 143
Fixing (mm)		DIN rail 35x7.5 or 35x15 (1)		
References Control module		**ABL8BUF24400**	**ABL8BBU24200**	**ABL8BBU24400**
References battery	3,2AH (2)	–	**ABL8BPK24A03**	**ABL8BPK24A03**
	7AH (2)	–	**ABL8BPK24A07**	**ABL8BPK24A07**
	12AH (2)	–	**ABL8BPK24A12**	**ABL8BPK24A12**

(1) Battery module except 7AH and 12AH. For battery module 3.2AH with ABL1A02 kit.

(2) Battery to be chosen according to the graph page 6/2

5

Type of module	Redundancy power supplies solutions
Compatibility	Connection of 2 power supplies inputs ABL4... or ABL8RP, ABL8WP up to 20 A (1 power supply 40A)
Rated output voltage	24 V
Rated output current	40 A
Certifications	cCSAus, CB scheme, CE
Dimensions W x D x H (mm)	44 x 140 x 146
Fixing (mm)	DIN rail 35x7.5 ou 35x15
References	**ABL8RED24400**

Type of module	Starter protection solution
Compatibility	Output connection of Universal power supplies ABL8RPS24100..., ABL8RPM24200..., ABL8WPS24..., ABL4RSM24... and ABL4WSR24...
Rated output current	10A par voie
Calibres	1 / 2.5 / 4 / 5 / 7 / 8 / 10 A
Number of channels	4
Diagnostic relay	Yes
Manual switch off (1 per channel)	Two-pole
Certifications	cCSAus, CB scheme, CE
Dimensions (mm)	71 x 109 x 110
Fixing (mm)	DIN rail 35x7.5 or 35x15 or on panel mount by screw
References	**ABL8PRP24100**

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Other versions: **please consult your Schneider Electric agency.**

Power supplies

Regulated switch mode. Panel mounting

Type of power supply		60W to 240W					
Input voltage		85…264 VAC				85…132 VAC / 170…264 VAC	
Output voltage		12 VDC		24 VDC		24 VDC	
Rated power / Rated output currrent		60 W / 5 A	100 W / 8.3 A	60 W / 2.5 A	100 W / 4.2 A	150 W / 6.2 A	240 W / 10 A
Certifications		UL, c CSA us, CE, Ctick					
Dimensions W x D x H (mm)		150 x 38 x 98	200 x 38 x 98	150 x 38 x 98	200 x 38 x 98	200 x 50 x 98	200 x 65 x 98
Fixing (mm)		Panel mount by scew, by bracket ABL1A01 (1) , on DIN rail 35mm by panel ABL1A02 (1).					
References	Without filter	**ABL1REM12050**	**–**	**ABL1REM24025**	**ABL1REM24042**	**ABL1REM24062**	**ABL1REM24100**
	With filter (2)	–	**ABL1RPM12083**	**–**	**ABL1RPM24042**	**ABL1RPM24062**	**ABL1RPM24100**

(1) has to order separately.

(2) Anti harmonic IEC/EN 61000-3-2

Industrial control transformers

For control circuits

Type of power supply	Control Circuit Transformers					
Rated UL/CSA	50VA	75VA	100VA	150VA	200VA	250VA
Rated CE	50VA	75VA	100VA	150VA	200VA	160VA
Inrush UL VA at 20% Power fctor / at 40% Power factor						
95% of secondary voltage	193/151	271/210	339/266	666/529	588/459	1416/1057
90% of secondary voltage	266/215	396/318	499/404	893/731	815/659	1910/1494
85% of secondary voltage	339/282	520/430	659/549	1120/942	1041/866	2388/1936
Certif cation	"UL-E612939, CSA LR 37055, EN61558/01.89 (TUV)"					
Catalogue Number						
Non fused	9070T50*	9070T75*	9070T100*	9070T150*	9070T200*	9070T250*
Fused (primary and secondary)	9070TF50*	9070TF75*	9070TF100*	9070TF150*	9070TF200*	9070TF250*

** Complete the catalogue number by adding the voltage code from Table 1.*

Table 1 - Voltage Codes

Primary Voltage	Secondary Voltage	Voltage Code	Accessory key
120	120	D24	I
120	12/24	D13	I
208	24	D14	I
208	120	D3	I
277	24	D25	I
277	120	D4	I
380	110	D6	I
415	110	D17	I
480	240	D12	I
480	277	D22	I
600	120	D5	I
600	12/24	D36	I
600	120/240	D37	I
120/240	24	D23	I
208/230/460	115	D20	II
208/240/277/380/480	24	D19	III
208/277	120	D51	I
208/277/380	95/115	D18	II
230/460/575	95/115	D32	II
240/480	24	D2	I
240/480	120	D1	I
240/480	120/240	D31	I
240/480	24/120	D15	I
380/400/415	12/24	D52	I
380/400/415	115/230	D33	I

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Other versions: **please consult your Schneider Electric agency.**

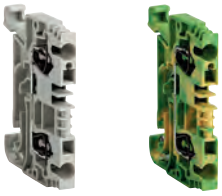
300VA	350VA	500VA	750VA	1000VA	1500VA	2000VA	3000VA	5000VA
200VA	300VA	350VA	500VA	750VA	1000VA	1500VA	2000VA	3000VA
1634/1194	1894/1392	3197/2374	3770/2887	6587/4706	19324/15066	31384/24794	26539/19355	53111/39368
2184/1681	2592/2005	4104/3195	5515/4391	9079/6886	23983/19361	38777/31630	39934/30721	85265/66309
2709/2169	3261/2621	4981/4019	7231/5945	11430/9051	28607/23756	46161/38667	52713/42216	116277/93882
					"UL-E61293, cULE61239, EN61558/01.89 (TUV)"			
9070T50*	9070T350*	9070T500*	9070T750*	9070T1000*	9070T1500*	9070T2000*	9070T3000*	9070T5000*
9070TF50*	9070TF350*	9070TF500*	9070TF750*	9070TF1000*	9070TF1500*	9070TF2000*	-	-

Accessories		Accessory Key I	Accessory Key II	Accessory Key III	Description
Finger safe covers					
	9070FSC-1	25-200VA	25-100VA	n/a	2 covers per kit
	9070FSC-2	250-5000VA	150-5000VA	n/a	
	9070FSC-23	n/a	n/a	25-5000	
Field Installable Fuse Options					
	Primary Only				
	9070FB-2A	25-200VA	25-150VA	n/a	2 pole fuse block, 1-1/2in x 13/32in midget fuse
	9070FB-2B	250-2000	200-1500	25-1500	
	Primary and Secondary				
	9070FB-3A	25-200VA	25-150VA	n/a	3 pole fuse blk , 1-1/2in x 13/32in midget fuse
	9070FB-3B	250-2000	200-1500	25-1500	
	Secondary Only				
	9070FB-1A	25-200VA	25-150VA	n/a	1 pole fuse blk , 1-1/2in x 13/32in midget fuse
	9070FB-1B	250-2000	200-1500	25-1500	
	9070SF25A	25-200VA	25-150VA	n/a	1 pole fuse blk , 1-1/4in x 1/4in fuse
	9070SF25B	250-2000	200-1500	25-1500	
	9070SF41A (1)	25-200VA	25-150VA	n/a	secondary fuse clip , 1-1/2in x 13/32in midget fuse
	9070SF41B (1)	n/a	200-2000	25-2000	
Fuse Pullers					
	9070FP1		All		used with fuse blk , 1-1/2in x 13/32in fuses

(1) Cannot be installed on voltage codes D13, D15, D18, D31, D32, D33, D35, D36, D37, D39, D52.

Terminal blocks

Spring clamp technology



Clip-on mounting on 35 mm rails		Terminal blocks (sold in lots of 100)	End covers (sold in lots of 100)	Commoning link (sold in lots of 100)
2.5 mm² c.s.a.	Conducting	**AB1RRN235U2GR**	**AB1RRNAC242GR**	**AB1RRAL22 (1)**
	Protective earth conductor	**AB1RRNTP235U2**	**AB1RRNTPAC242**	–
4 mm² c.s.a.	Conducting	**AB1RRN435U2GR**	**AB1RRNAC442GR**	**AB1RRAL42** (1)
	Protective earth conductor	**AB1RRNTP435U2**	**AB1RRNTPAC442**	–
6 mm² c.s.a.	Conducting	**AB1RRN635U2GR**	**AB1RRNAC642GR**	**AB1RRNAL62** (2)
	Protective earth conductor	**AB1RRNTP635U2**	**AB1RRNTPAC642**	–
10 mm² c.s.a.	Conducting	**AB1RRN1035U2GR** (3)	**AB1RRNAC1042GR**	**AB1RRNAL102**
	Protective earth conductor	**AB1RRNTP1035U2** (3)	**AB1RRNTPAC1042**	–
16 mm² c.s.a.	Conducting	**AB1RRN1635U2GR** (3)	**AB1RRNAC1642GR**	**AB1RRNAL162**
	Protective earth conductor	**AB1RRNTP1635U2** (3)	**AB1RRNTPAC1642**	–
35 mm² c.s.a.	Conducting	**AB1RRN3535U2GR** (4)	–	**AB1RRAL352**
	Protective earth conductor	**AB1RRNTP3535U2** (4)	–	–

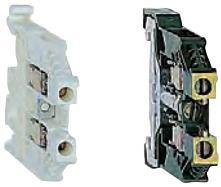
(1) For a 3, 4, 5 or 10-pole commoning link replace the last number of the reference (2) by **3**, **4**, **5** or **10** respectively. (Example: AB1RRAL22 becomes A1BRRAL23)

(2) For a 3, 4, 5 or 10-pole commoning link replace the last number of the reference (2) by **3**, **4**, **5** or **10** respectively. (Example: AB1RRNAL62 becomes A1BRRNAL64)

(3) Sold in lots of 50

(4) Sold in lots of 10

Screw clamp technology



Clip-on mounting on 35 mm rails		Terminal blocks (sold in lots of 100)	End covers (sold in lots of 100)	Commoning link (sold in lots of 100)
2.5 mm² c.s.a.	Conducting	AB1VV235U	**AB1AC24**	**AB1ALN22** (1)
	Protective earth conductor	AB1TP235U	**AB1AC25**	–
4 mm² c.s.a.	Conducting	AB1VV435U	**AB1AC24**	**AB1ALN42** (1)
	Protective earth conductor	AB1TP435U	**–**	–
6 mm² c.s.a.	Conducting	AB1VV635U	**AB1AC6**	**AB1ALN62** (1)
	Protective earth conductor	AB1TP635U	**–**	–
10 mm² c.s.a.	Conducting	AB1VVN1035U (2)	**AB1ACN10**	**AB1ALN102** (1)
	Protective earth conductor	AB1TP1035U (2)	**–**	–
16 mm² c.s.a.	Conducting	AB1VVN1635U (2)	**AB1ACN16**	**AB1ALN162** (1)
	Protective earth conductor	AB1TP1635U (2)	**–**	–
35 mm² c.s.a.	Conducting	AB1VVN3535U (3)	_	**AB1ALN352** (1)
	Protective earth conductor	AB1TP3535U (3)	**–**	–
70 mm² c.s.a.	Conducting	AB1VVN7035U (3)	_	**AB1ALN702**
150 mm² c.s.a.	Conducting	AB1VVN15035U (4)	_	**AB1ALN1502** (1)

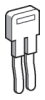
(1) For a 3, 4, 5 or 10-pole commoning link replace the last number of the reference (2) by **3**, **4**, **5** or **10** respectively. (Example: AB1ALN22 becomes AB1ALN23)

(2) Sold in lots of 50

(3) Sold in lots of 20

(2) Sold in lots of 10

Insulation displacement technology



Clip-on mounting on 35 mm rails		2-way terminal blocks (sold in lots of 100)	End covers (sold in lots of 10)	2-pole commoning link (1) (sold in lots of 10)
1 mm² c.s.a.	Conducting	**AB1AA135U2GR**	**AB1AAAC122GR**	**AB1RRAL22**
	Protective earth conductor	**AB1AATP135U2**	**AB1AAAC122VE**	–
2.5 mm² c.s.a.	Conducting	**AB1AA235U2GR**	**AB1AAAC122GR**	**AB1RRAL22**
	Protective earth conductor	**AB1AATP235U2**	**AB1AAAC122VE**	–

(1) For a 3, 4, 5 or 10-pole commoning link replace the last number of the reference (2) by **3**, **4**, **5** or **10** respectively. (Example: AB1RAL22 becomes AB1RAL23).

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Other versions: **please consult your Schneider Electric agency.**

Terminal blocks

Screw clamp technology

Mounting on 35mm 7 or Square D track	Terminal block (Sold in lots of 50)	End barrier (Sold in lots of 10)	2-pole jumper (Sold in lots of 10)
#22–10 AWG	9080GM6	9080GM6B	9080GH700 (3)
#22–8 AWG	9080GR6	9080GM6B	9080GH72
#22–10 AWG	9080GK6	9080GK6B (1)	9080GH72
#18–4 AWG	9080GC6	9080GC6B	9080GH74
#12 AWG–1/0	9080GD6 (2)	9080GD6B	9080GH76
#6 AWG–250 kcmil	9080GE6 (2)	–	–

(1) Sold in lots of 50.

(2) Sold in lots of 10.

(3) Sold in lots of 20.

Power Distribution Blocks

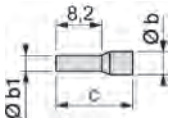
Splitter Blocks	Aluminum Lugs				Copper Lugs	
Main wire (Number of wires in)	(1) #14–2 AWG	(1) #14–2/0 AWG	(1) #6–350 kcmil	(1) #6–600 kcmil	(1) #18–1/0 AWG	(1) #6–250 kcmil
Branch wire (Number of wires out)	(1) #14–2 AWG	(1) #14–2/0 AWG	(1) #6–350 kcmil	(1) #6–600 kcmil	(1) #18–1/0 AWG	(1) #6–250 kcmil
Maximum voltage rating	600	600	600	600	600	600
Maximum current rating—Cu wire	115	175	310	420	150	255
1-pole	9080LBA161101	9080LBA162101	9080LBA163101	9080LBA164101	9080LBC162101	9080LBC163101
2-pole	–	9080LBA262101	–	–	–	–
3-pole	9080LBA361101	9080LBA362101	9080LBA363101	9080LBA364101	9080LBC362101	9080LBC363101

Splitter Blocks	Aluminum Lugs					
Main wire (Number of wires in)	(1) #14–2 AWG	(1) #14–2/0 AWG	(1) #6–400 kcmil	(1) #6–400 kcmil	(1) #6–400 kcmil	(1) #4–500 kcmil
Branch wire (Number of wires out)	(4) #18–10 AWG	(4) #14–4 AWG	(4) #14–2 AWG	(6) #14–2 AWG	(8) #14–2 AWG	(12) #14–2 AWG
Maximum voltage rating	600	600	600	600	600	600
Maximum current rating—Cu wire	115	175	335	335	335	380
1-pole	9080LBA161104	9080LBA162104	9080LBA163104	9080LBA163106	9080LBA164108	9080LBA165112
2-pole	9080LBA261104	9080LBA262104	9080LBA263104	9080LBA263106	9080LBA264108	9080LBA265112
3-pole	9080LBA361104	9080LBA362104	9080LBA363104	9080LBA363106	9080LBA364108	9080LBA365112

DZ5/AZ5 Insulated cable ends

Conforming to NFC 63-023 (1)

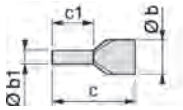
mm²	Øb	Øb1	c
22	3	1.4	13
20	3.1	1.6	13
18	3.4	1.8	13.5
16	4	2.1	13.5
14	4.6	2.7	14.5



Type			Single cable ends (2) Sold in lots of 10 x 100		
Packaging			Individual or "strings" of bags	Dispenser pack	Markable cable ends
Conductor AWG	22	White	DZ5CE005	AZ5CE005	DZ5CA005
in mm²	20	Grey	DZ5CE007	AZ5CE007	DZ5CA007
	18	Red	DZ5CE010	AZ5CE010	DZ5CA010
	16	Black	DZ5CE015	AZ5CE015	DZ5CA015
	14	Blue	DZ5CE025	AZ5CE025	DZ5CA025

(2) UL certif ed products. Not CSA certif ed.

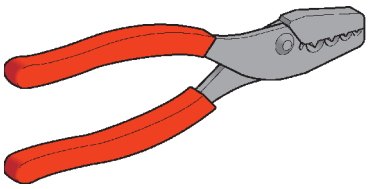
mm²	Øb	Øb1	c	c1
20	2.8 x 5	1.8	15	8
18	3.4 x 5.4	2.05	15	8
16	3.6 x 6.6	2.3	15	8
14	4.2 x 7.8	2.9	18.5	10



Type			Double cable ends Sold in lots of 5 x 100
Packaging			Dispenser pack
Conductor c.s.a.	2 x 20	Grey	AZ5DE007D
in mm²	2 x 18	Red	AZ5DE010D
	2 x 16	Black	AZ5DE015D
	2 x 14	Blue	AZ5DE025D

(1) For insulated cable ends conforming to DIN46228, please refer to your Schneider Electric agency.

Cabling accessories



Type	Pliers/cutters				
Functions	Stripping	Cutting/stripping	Crimping	Crimping (ratchet)	Crimping
For cable AWG	28-12	20-12	22-6	0.25 to 6 mm²	8-2
References	AT1PA7	AT2PE1	AT1PA2	AT2PA5	AT2PA4

Schneider Electric

Other versions: **please consult your Schneider Electric agency.**

5

6

From simple connectors to integrated I/O platforms, monobloc products to modular solutions, Modicon I/O presents an extensive range of interfaces and I/O for any application.

Modicon I/O

The compact dimensions and pre-wired system characteristic of the Modicon I/O range allow you to optimise installation time, minimise costs and the risk of error, as well as simplify maintenance.

6 Interfaces and I/O

WARNING
This document is a selection of the top selling products.

Distributed I/O

IP20

Optimum modular I/O system, for simple machines, **Modicon OTB** 6/2

Modular I/O system for complexes machines or installations, **Modicon TM5** 6/3

Modular I/O with device integration capabilities, **Modicon STB** ..... 6/4 to 6/7

IP67

Modular I/O system for machines or installations in harsh environment, **Modicon TM7** 6/8

Distributed I/O with embedded control

IP20

Block I/O, **Modicon Momentum** ..... 6/9 to 6/12

Pre-wired interfaces

IP20

Sub-bases, **Modicon ABE7** ..... 6/13 to 6/15

IP67

Passive splitter boxes, **Modicon ABE9** 6/16

Accessories and Cabling

Connection cables and jumper cables 6/17

Interface modules

Discrete Type of bus		CANopen Machine bus	Ethernet TCP/IP network (2)	Modbus Series network
Number of I/Os		20 I/O		
Number of inputs		12 inputs 24 VDC IEC type 1		
Number of outputs		6 relay outputs and 2 solid state 24 VDC outputs		
Connection method		Removable terminal block		
Number of I/O expansion modules (1)		7 discrete or analogue input/output modules, or connection accessories		
Maximum I/O configuration		With interface module base: 132 with screw terminal I/O expansion; 244 with HE10 connector I/O expansion; up to 48 analogue channels		
Supply voltage		24 VDC		
Counting	**5 kHz**	2 channels, 32 bits (0…4 294 967 295 points) dedicated discrete inputs -up counting/down counting with preset		
	20 kHz	2 channels, 32 bits (0…4 294 967 295 points) up/down counting, up counting, down counting, frequency meter		
Pulse generator, 7 kHz		2 PWM function channels (output with pulse width modulation) or PLS function (pulse generator output)		
Dimensions W x D x H (mm)		55 x 70 x 90		
References		**OTB1C0DM9LP**	**OTB1E0DM9LP**	**OTB1S0DM9LP**

(1) for the references of discrete I/O and analogue expansion modules, refer to the Twido or Modicon OTB catalogue

(2) Transparent Ready : Class A10

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Accessories

Type of accessory	Commoning modules	Documentation
Usage	For grouping input or output commons, max 8 A	User guides for Modicon hardware and software, and Modicon Configuration Software for Modicon OTB/FTB/FTM. Provided on CD.
Positioning	Inter-module	–
Reference	**OTB9ZZ61JP**	**FTXES01**

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Other versions: **please consult our Customer Care Centre.**

IP 20 Distributed I/O, modular system

CANopen electronic interface module

Type of module	Bus base	CANopen electronic interface module	Power distribution electronic module	Terminal block
Max. number of addressable I/O modules	40 with 240 Digital Input, 240 Digital Output, 20 Input Analog & 20 Output Analog (1)			
Baud rate	10 K…1 Mbps			
Power supply	24 VDC			
Module color	White	White	Grey	Grey
Description	For TM5NCO1 and TM5SPS3 electronic modules	CANopen bus communication with CANopen protocol	For the CANopen bus interface and slice I/O expansion modules	12 spring terminals
References	**TM5ACBN1**	**TM5NCO1**	**TM5SPS3**	**TM5ACTB12PS**

(1) Only 3 configurations maximum on CANopen fieldbus

Digital and analogue I/O expansion blocks (2)

Type of module	Input Digital	Input Analog		Output Digital		Output Analog
Number of inputs	12 sink	–	–	–	–	–
Number of outputs	–	–	–	12 source	4 relay	–
Number of inputs	–	4	4	–	–	–
Number of outputs	–	–	–	–	–	4
Nominal input current	24 VDC	–	–	–	–	–
Nominal output current	–	–	–	24 VDC	30 VDC/ 230 VAC	–
Type	–	Thermal probe	Voltage / Current	–	–	Voltage / Current
Associated bus sub-bases (3)	TM5ACBM11	TM5ACBM11	TM5ACBM11	TM5ACBM11	TM5ACBM12	TM5ACBM11
Associated terminal block (3)	TM5ACTB12	TM5ACTB12	TM5ACTB12	TM5ACTB12	TM5ACTB32	TM5ACTB12
References	**TM5SDI12D**	**TM5SAI4PH**	**TM5SAI4L**	**TM5SDO12T**	**TM5SDO4R**	**TM5SAO4L**

(2) Wide range of I/O expansion modules (digital I/O, analog, expert, non-functioning dummy, remote I/O modules…), please consult our catalogue pages on www.schneider-electric.com.
(3) To be ordered separately

Communication modules

Type of module NIM		EtherNet Modbus TCP	Modbus TCP, dual port	EtherNet/IP
Baud rate		10 Mbps	10/100 Mbps	10/100 Mbps
Transparent Ready	Class	B20	B15	N/A
	Embedded Web server	Standard services	Standard services	Standard services
	Ethernet services	SNMP agent, FDR, BootP & DHCP client	SNMP agent, RSTP, BootP & DHCP client	SNMP agent, BootP & DHCP client
Max. number of addressable I/O modules		32 per island	32 per island	32 per island
Dimensions W x D x H (mm)		40 x 70 x 128.3	40 x 70 x 128.3	40 x 70 x 128.3
Reference	Standard	**STBNIP2212**	**STBNIP2311**	**STBNIC2212**

Type of module NIM		Machine bus CANopen	Fieldbus Fipio	InterBus	Profibus DP
Max. number of addressable I/O modules		32 per island (1) (2)	32 per island (1)	32 per island (1) (2)	32 per island (1) (2)
Baud rate		10 K…1 Mbps	1 Mbps	0.5 Mbps	9.6 K…12 Mbps
Dimensions W x D x H (mm)		40 x 70 x 128.3			
Reference	Standard	**STBNCO2212**	**STBNFP2212**	**STBNIB2212**	**STBNDP2212**
	Basic	**STBNCO1010**	–	**STBNIB1010**	**STBNDP1010**

(1) On 1 primary segment and 6 expansion segments max.

(2) 12 max on 1 primary segment for basic versions.

Type of module		Other networks Modbus Plus	DeviceNet	
Max. number of addressable I/O modules		32 per island	32 per island	12 per island
Baud rate		1 Mbps	125, 250 or 500 Kbps	125, 250 or 500 Kbps
Dimensions W x D x H (mm)		40 x 70 x 128.3		
Reference	Standard	**STBNMP2212**	**STBNDN2212**	–
	Basic	–	–	**STBNDN1010**

Connection accessories

Type of accessory		Removable terminals for 24 VDC power supply	DeviceNet
Use		All communication modules	Network link DeviceNet module
Reference	Screw terminals	**STBXTS1120** (1)	**STBXTS1111**
	Spring terminals	**STBXTS2120** (1)	**STBXTS2111**

(1) To be ordered separately, sold in lots of 10 only for spares parts.(STBXTS●120 are delivered systematicaly with STBN●●●●●●)

Marking label sheets	**STBXMP6700**
Screwdriver	**STBXTT0220**

Connection accessories: See www.schneider-electric.com

Power distribution modules (1)

Type of module			PDM				Auxiliary Power supply
Connection by removable terminals			Screw STBXTS1130 (2) (3) Spring STBXTS2130 (2) (3)				Screw STBXTS1120 (2) Spring STBXTS2120 (2)
Supply voltage			24 VDC		115…230 VAC		24 VDC
Maximum current	Inputs (4)		4 A at 30°C, 2.5 A at 60°C	–	5 A at 30°C, 2.5 A at 60°C	–	–
	Outputs (4)		8 A at 30°C, 5 A at 60°C	–	10 A at 30°C, 5 A at 60°C	–	–
	Inputs/Outputs (4)		–	4 A at 30°C, 2.5 A at 60°C	–	4 A at 30°C, 2.5 A at 60°C	–
	Logic internal 5 V		–	–	–	–	1.2 A
Sensor/actuator bus voltage range			19.2…30 VDC		85…265 VAC		–
Dimensions W x D x H (mm)			18.4 x 70 x 128.3				
Reference	Module (5)	Standard	**STBPDT3100K**	–	**STBPDT2100K**	–	**STBCPS2111K**
		Basic	–	**STBPDT3105K**	–	**STBPDT2105K**	
	Base		**STBXBA2200**		**STBXBA2200**		**STBXBA2100**

(1) Process power supplies see chapter 6 “Power supply”
(2) To be ordered separately, sold in lots of 10.
(3) PDM connector keying pin kit STBXMP7810.
(4) PDM fuse kit STBXMP5600.
(5) Kit reference including module, base and terminal

Bus extension modules for standard range

Type of module			“EOS” End of segment	“BOS” Beginning of segment	Extension for CANopen connection devices
Connection by removable terminals			– –	Screw STBXTS1120 (1) Spring STBXTS2120 (1)	Screw STBXTS1110 (2) Spring STBXTS2110 (2)
Use			For placing at end of segment (except for the last)	For placing at head of each extension segment	For placing at end of last segment
Dimensions W x D x H (mm)			18.4 x 70 x 128.3		
Reference	Module (3)	Standard	**STBXBE1100K**	**STBXBE1300K**	**STBXBE2100K**
	Base		**STBXBA2300K**	**STBXBA2400**	**STBXBA2000**

(1) To be ordered separately, sold in lots of 10.
(2) To be ordered separately, sold in lots of 20.
(3) Kit reference including module, base and terminal

Software and memory card

Type		Modicon STB, OTB, FTM, FTB configuration software (PC connection cable supplied)					Removable memory card
Software User Guide		Single station	3 pack	10 pack	Unlimited Site	System Aliance Integrator	–
Memory size		–					32 KB
Reference		**STBSPU1000**	**STBSPU1003**	**STBSPU1011**	**STBSPU1130**	**STBSPU1010**	**STBXMP4440**
	Hardware User Guide	**STBSUS8800**					

Connection accessories

Type of accessory	Island bus expansion cable				
Length	0.3 m	1 m	4.5 m	10 m	14 m
Reference	**STBXCA1001**	**STBXCA1002**	**STBXCA1003**	**STBXCA1004**	**STBXCA1006**
	Bus termination module or plug		Programmation connection cable L= 2 m		
Reference	**STBXMP1100**		**STBXCA4002**		

Connection accessories: See www.schneider-electric.com

Type of module			Discrete inputs						
Connection by removable terminals (1)		Screw (2)	STBXTS1100			STBXTS1180	STBXTS1110		
		Spring (2)	STBXTS2100			STBXTS2180	STBXTS2110		
Number of channels			2	4	6	16	2	2 (isolated)	2
Input voltage			24 VDC				115 VAC		230 VAC
Dimensions W x D x H (mm)			13.9 x 70 x 128.3				18.4 x 70 x 128.3		
Reference	Module (6)	Standard	**STBDDI3230K**	**STBDDI3420K**	**STBDDI3610K**	–	**STBDAI5230K**	**STBDAI5260K**	**STBDAI7220K**
		Basic	–	**STBDDI3425K**	**STBDDI3615K**	**STBDDI3725KS/KC*** **STBDDI3725****	–	–	–
	Base (3)		**STBXBA1000**			**STBXBA3000**	**STBXBA2000**		

* KS with base and screw terminals,
KC with base and spring terminals
** Without base and terminal

Type of module			Discrete solid state outputs						
Connection by removable terminals (1)		Screw (2)	STBXTS1100						STBXTS1180
		Spring (2)	STBXTS2100						STBXTS2100
Number of channels			2		4		6		16
Output voltage			24 VDC		24 VDC		24 VDC		24 VDC
Output current			0.5 A	2 A	0.25 A	0.5 A	0.25 A	0.5 A	0.5 A
Dimensions W x D x H (mm)			13.9 x 70 x 128.3						
Reference	Module (6)	Standard	**STBDDO3200K**	**STBDDO3230K**	–	**STBDDO3410K**	–	**STBDDO3600K**	–
		Basic	–	–	**STBDDO3415K**	–	**STBDDO3605K**	–	**STBDDO3705KS/KC*** **STBDDO3705****
	Base (3)		**STBXBA1000**						**STBXBA3000**

* KS with base and screw terminals,
KC with base and spring terminals
** Without base and terminal

Type of module			Discrete outputs			
			Triac		Relay	
Connection by removable terminals (1)		Screw (2)	STBXTS1100			
		Spring (2)	STBXTS2100			
Number of channels			2	2 (isolated)	2 NO/NC and common	2NC+NO
Output voltage			115…230 VAC	115 VAC	24 VDC ou 115…230 VAC	
Output current			2 A à 30°C, 1 A à 60°C		2 A per contact	7 A per contact
Dimensions W x D x H (mm)			18.4 x 70 x 128.3			28.1 x 70 x 128.3
Reference	Module (6)	Standard	**STBDAO8210K**	**STBDAO5260K**	**STBDRC3210K**	**STBDRA3290K**
	Base (3)		**STBXBA2000**			**STBXBA3000**

(1) To be ordered separately, sold in lots of 20.
(2) I/O connector keying pin kit STBXMP7800
(3) Module keying pin kit STBXMP7700
(4) if connection on Telefast2 order STBXTS6510 or connection on Telefast Twido order STBXTS5510
(5) if connection on Telefast2 order STBXTS6610 or connection on Telefast Twido order STBXTS5610
(6) Kit reference including module, base and terminal
Connection accessories: See www.schneider-electric.com

Analog modules

Type of module (1)			Analog inputs (*)							
Connection by removable terminals			Screw STBXTS1100 (2) / Spring STBXTS2100 (2)							
Number of channels			2				4		8	2
Input signal			- 10…+10 V	0…+10 V	0…20 mA	4…20 mA	4...20 / 0...20 mA	Selectable	Selectable	Multirange (3)
Resolution			11 bits + sign	10 bits	12 bits	10 bits	15 bits + sign			
Dimensions W x D x H (mm)			13.9 x 70 x 128.3				18.4 x 70 x 128.3			13.9 x 70 x 128.3
Reference	Module (8)	Standard	–	–	STBACI1230K	–	STBACI0320K	STBAVI0300K	STBACI1400K (5)	STBART0200K
			STBAVI1270K	–	–	–	STBACI8320K (4)	–	STBAVI1400K (6)	–
		Basic	–	STBAVI1255K	–	STBACI1225K	–	–	–	–
	Base		STBXBA1000				STBXBA2000			STBXBA1000

(*) For other references, see catalogue or visit our website: www.schneider-electric.com

Type of module (1)			Analog outputs							
Connection by removable terminals			Screw STBXTS1100 (2) / Spring STBXTS2100 (2)							
Number of channels			1	2						
Output signal			4…20 mA	0...+10 , - 10...+10 V	0…+10 V	-10 V…+10 V	0…20 mA	4…20 mA	4…20 mA	Selectable (6)
Resolution			15 bits + sign	11 bits + sign or 12 bits	10 bits	9 bits + sign	12 bits	10 bits	15 bits + sign	
Dimensions W x D x H (mm)			18.4 x 70 x 128.3	13.9 x 70 x 128.3					18.4 x 70 x 128.3	
Reference	Module (8)	Standard	STBACO0120K	STBAVO1250K	–	–	STBACO1210K	–	STBACO0220K	STBAVO0200K
		Basic	–	–	STBAVO1255K	STBAVO1265K	–	STBACO1225K	–	–
	Base		STBXBA2000	STBXBA1000					STBXBA2000	

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Application-specific modules

Type of module (1)			For motor starters TeSys model U	Counter
Connection by connector			4 RJ45	Spring STBXTS2150 (2)
Number of inputs/outputs			12 I / 8 O	4 I / 2 O
Input voltage			24 VDC	24 VDC
Output voltage/current			24 VDC/0.1 A per channel	24 VDC/0.5 A
Number of channels			4 starters-controllers	1 counter channel 40 kHz
Dimensions W x D x H (mm)			28.1 x 70 x 128.3	
Reference	Module (8)	Standard	STBEPI2145K	STBEHC3020K
	Base		STBXBA3000	
	Connection cables		(7)	–

(1) Grounding kit (conseilled for counter > 40 kHz): STBXSP3000 (connecting support) + STBXSP3010 (1.5…6 mm² cables) + STBXSP3020 (5…11 mm² cables)

(2) To be ordered separately, sold in lots of 20.

(3) Multirange temperature probe thermocouples B, E, J, K, R, S, T. Thermal probe Pt 100, Pt 1000, Ni 100, Ni 1000, cu 10, ± 80 mV.

(4) 4 HART-tolerant channels (5) Input signal selectable / channel 0…20 mA and 4…20 mA (6) Input signal selectable / channel 1…5 VDC, 0…5 VDC, 0…10 VDC, ± 5 VDC and ± 10 VDC

(7) LU9R03 (0,3 m), LU9R10 (1 m), 490NTW00002 (2 m), LU9R30 (3 m), 490NTW00005 (5 m), 490NTW00012 (12 m)

(8) Kit reference including module, base and terminal

CANopen interface I/O blocks

Type of module	CANopen interface blocks with digital I/O		
Number of channels	8 I/O	16 I/O	16 I/O
Number, type of inputs	8 sink (1)	16 sink (1)	16 sink (1)
Number, type of outputs	8 transistor / source (2)	16 transistor / source (2)	16 transistor / source (2)
Sensor / actuator connection	8 female M8 connectors	16 female M8 connectors	8 female M12 connectors
Communication bus	CANopen TM7 bus	CANopen TM7 bus	CANopen TM7 bus
References	**TM7NCOM08B**	**TM7NCOM016B**	**TM7NCOM016A**

(1) Sink inputs: positive logic (2) Source outputs: positive logic

Digital I/O expansion blocks

Type of module		Analog I/O expansion blocks		
Input voltage		24 VDC IEC type 1		
Output voltage		24 VDC		
Type of inputs		Sink (positive logic)		
Type of ouputs		Transistor / source (positive logic)		
Diagnostics		By expansion block, channel, communication on TM7 bus		
Communication bus		TM7 bus		
Output current		0.5 A		2A
Sensor / actuator connection		M8 connectors	M12 connectors	M8 connectors
References	8 inputs	**TM7BDI8B**	–	–
	8 configurable I/O	**TM7BDM8B**	–	–
	16 inputs	**TM7BDI16B**	**TM7BDI16A**	–
	16 configurable I/O	**TM7BDM16B**	**TM7BDM16A**	–
	8 outputs	–	–	**TM7BDO8TAB**

Analog I/O expansion blocks

Type of module		Analog I/O expansion blocks			
Input range		Voltage	Current 0…20 mA	Temperature probe Pt100 / Pt1000	J, K, S thermocouple
Output range		Voltage -10… + 10 V DC	Current 0…20 mA	-	-
Type of inputs		Sink (positive logic)			
Type of ouputs		Transistor / source (positive logic)			
Diagnostics		By expansion block, channel, communication on TM7 bus			
Communication bus		TM7 bus			
Sensor / actuator connection		M12 connectors			
Resolution		11 bit + sign	12 bit	16 bit	16 bit
References	2 inputs/2 outputs	**TM7BAM4VLA**	**TM7BAM4CLA**	–	–
	4 inputs	**TM7BAI4VLA**	**TM7BAI4CLA**	**TM7BAI4TLA**	**TM7BAI4PLA**
	4 outputs	**TM7BAO4VLA**	**TM7BAO4CLA**	–	–

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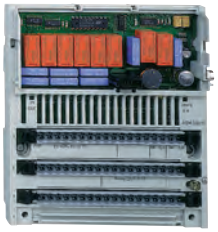
Other versions: **please consult our Customer Care Centre.**

Discrete I/O modules

Type of module	Multibus discrete inputs			
Connection	By screw terminals 170XTS00100 or spring terminals 170XTS00200 (to be ordered separately)			
Input voltage	24 VDC		120 VAC	230 VAC
Number of channels	16 (1 common point)	32 (2 common points)	16 (2 common points)	
Dimensions W x D x H (mm)	125 x 47.5 x 141.5 (with communication modules or processors) 144 x 70 x 141.5 (with M1/M1E processors and optional modules)			
Reference	**170ADI34000**	**170ADI35000**	**170ADI54050**	**170ADI74050**

Type of module		Multibus discrete outputs					
		Solid state		Triac			
Connection		By screw terminals 170XTS00100 or spring terminals 170XTS00200 (to be ordered separately)					
Output voltage		24 VDC		120 VAC		230 VAC	
Number of protected channels		16 (2 common pts)	32 (2 common pts)	8 (2 common pts)	16 (2 common pts)	8 (2 common pts)	16 (2 common pts)
Output current	Per channel	0,5 A	0,5 A	2 A	0,5 A	2 A	0,5 A
	Per group of channels	4 A	8 A	4 A	4 A	4 A	4 A
	Per module	8 A	16 A	8 A	8 A	8 A	8 A
Dimensions W x D x H (mm)		125 x 47.5 x 141.5 (with communication modules or processors) 144 x 70 x 141.5 (with M1/M1E processors and optional modules)					
Reference		**170ADO34000**	**170ADO35000**	**170ADO53050**	**170ADO54050**	**170ADO73050**	**170ADO74050**



Type of module		Multibus discrete I/O							
		Solid state					Relay		Triac
Connection		By screw terminals 170XTS00100 or spring terminals 170XTS00200 (to be ordered separately)							
Number of channels	Inputs	16 (1 common pt)	16 (4 com. pts)	16 (1 com. pt)	10 (1 common pt)				
	Input logic	Positive	Positive (2)	Negative	Positive			–	
	Outputs	16 (1 common pt)	16 (2 common pts)		8/4 (1 com. pt)	12	8 (2 common pts)		8 (1 com. pt)
Input voltage		12…48 VDC	24 VDC						120 VAC
Output voltage		12…48 VDC	24 VDC				24…230 VAC/20…115 VDC		120 VAC
Output current	Per output	0,5 A	0,5 A		2 A	0,5 A	2 A		0,5 A
	Per group of channels	–	4 A		4 A	4/2 A	8 A		4 A
	Per module	8 A	8 A		8 A	6 A	16 A		4 A
Dimensions W x D x H (mm)		125 x 47.5 x 141.5 (with communication modules or processors) 144 x 70 x 141.5 (with M1/M1E processors and optional modules)							
Reference		**170ADM85010**	**170ADM35010**	**170ADM35015**	**170ADM37010**	**170ADM39010**	**170ADM39030**	**170ARM37030**	**170ADM69051**

(2) For a version with high-speed positive logic, replace **0** at the end of the reference with **1**. E.g. **170ADM35010** becomes **170ADM35011**

Connection accessories: See www.schneider-electric.com

Analog I/O modules

Type of module	Multibus analog inputs		
Connection	By screw terminals 170XTS00100 or spring terminals 170XTS00200 (to be ordered separately)		
Number of channels	8 isolated	16 with common point	4 isolated
Input signal	± 5 V, ± 10 V, ± 20 mA, 1…5 V, 4…20 mA	± 5 V, ± 10 V, 4...20 mA	Multi-range ± 25 mV, ± 10 mV (1)
Resolution	14 bits + sign, 15 bits unipolar	12 bits + sign	15 bits + sign
Dimensions W x D x H (mm)	125 x 47.5 x 141.5 (with communication modules or processors) 144 x 70 x 141.5 (with M1/M1E processors and optional modules)		
Reference	**170AAI03000**	**170AAI14000**	**170AAI52040**

(1) Temperature probe: Pt 100, Pt 1000, Ni 100, Ni 1000, Thermocouple: B, E, J, K, N, R, S, T.

Type of module		Multibus analog outputs		Analog I/O and multibus discrete I/O			
Connection		By screw terminals 170XTS00100 or spring terminals 170XTS00200 (to be ordered separately)					
Number of channels	Inputs	–		4 differential + 4 discrete		6 with com pt + 8 discrete (24 VDC)	
	Outputs	4		2 + 2 discrete (24VDC)	2 + 2 discrete (12VDC)	4 with com pt + 8 discrete (24 VDC)	
Input signal		± 10 V, 0...20 mA	± 10 V, 4...20 mA	± 5 V, ± 10 V, ± 20 mA, 1…5 V, 4…20 mA		0…10 V	± 10 V
Output signal		–		± 10 V, 4...20 mA		0…10 V	± 10 V
Resolution		12 bits + sign		12...14 bits dep. on signal		14 bits	14 bits
Dimensions W x D x H (mm)		125 x 47.5 x 141.5 (with communication modules or processors) 144 x 70 x 141.5 (with M1/M1E processors and optional modules)					
Reference		**170AAO12000**	**170AAO92100**	**170AMM09000**	**170AMM09001**	**170ANR12090**	**170ANR12091**

6

Application-specific I/O modules

Type of module	High-speed counter	Discrete I/O with Modbus port
Connection	By screw terminals 170XTS00100 or spring terminals 170XTS00200 (to be ordered separately)	
Type of inputs for	Incremental or absolute encoders	RS 485 Modbus port
Operating voltage	24 VDC	120 VAC
Counting frequency	200 kHz	–
Number of channels	2 independent	–
Number of discrete I/O	2 x 3 inputs/2 x 2 outputs	6 inputs/3 outputs
Dimensions W x D x H (mm)	125 x 47.5 x 141.5 (with communication modules or M1/M1E processors) 144 x 70 x 141.5 (with M1/M1E processors and optional modules)	
Reference	**170AEC92000**	**170ADM54080**

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Other versions: **please consult our Customer Care Centre.**

Communication modules

Type of module	Ethernet TCP/IP network		Fipio fieldbus	InterBus (1) fieldbus	Profibus DP fieldbus
Speed	10 Mbps	10/100 Mbps	1 Mbps	0.5 Mbps	9.6 K…12 Mbps
Manager PLC	–		Premium	-	-
Redundancy	No		No	No	No
Standard services	Modbus TCP/IP		–	–	–
Reference	**170ENT11002**	**170ENT11001**	**170FNT11001**	**170INT11000** (1)	**170DNT11000**

(1) Generation 4, twisted pair medium: **170INT11003,** with optical fiber medium: **170INT12000**

Type of module	Other networks Modbus Plus		DeviceNet
Speed	1 Mbps		0.5 Mbps
Manager PLC	Premium or Quantum	Quantum	–
Redundancy	No	Yes	No
Standard services	–	–	–
Reference	**170PNT11020**	**170PNT16020**	**170LNT71000**

Optional modules for M1/M1E processors

Type of module (2)	Modbus Plus		Asynchronous serial link
Communication ports	1 Modbus Plus	2 redundant Modbus Plus	RJ45
Real-time clock	Integrated, ± 13 sec/day accuracy		
Connection	By 9-way SUB-D connector		
Reference	**172PNN21022**	**172PNN26022**	**172JNN21032**

(2) Include save battery of the M1/M1E processors application and data memories.

Connection accessories

Type	RS 232C communication cable		
Length	1 m	3 m	6 m
Reference	**110XCA28201**	**110XCA28202**	**110XCA28203**

Power supply module (3)

Type of power supply module for	Momentum processors
Input voltage	120 or 230 VAC (selected by jumper)
Output voltage	24 VDC
Output current	0.7 A
Dimensions W x D x H (mm)	73 x 44.5 x 146
Reference	**170CPS11100**

(3) Process power supplies see chapter 6 “Power supply”

Type of processor		M1			
Number of I/O	Discrete	2048 I/O		2048 I/2048 Q	8192 I/O
	Registers	2048 words		4096 words	26048 words
Integrated communication ports	Modbus	1 RS 232C	1 RS 232C + 1 RS 485	1 RS 232C	1 RS 232C + 1 RS 485
	Ethernet TCP/IP	–			
	I/O bus (1)	–		1 I/O port	–
Transparent Ready	Embedded Web server	–			
Memory capacity	RAM	64 Kb		256 Kb	512 Kb
	Flash	256 Kb		256 Kb	512 Kb
	User, 984 LL language (2)	2.4 K		12 K	18 K
	User, IEC language (3)	–		160 K	240 K
	Data	2 K		4 K	24 K
Cycle time		1 ms/K	1 ms/K	0.63 ms/K	1 ms/K
Reference		**171CCS70000**	**171CCS78000**	**171CCS76000**	**171CCC78010**

(1) I/O bus derived from InterBus bus.
(2) ProWORX 32 or Concept programming software.
(3) Concept programming software.

Type of processor		M1	M1E			
Number of I/O	Discrete	8192 I/O				
	Registers	26048 words				
Integrated communication ports	Modbus	1 RS 232C	1 RS 485		–	
	Ethernet TCP/IP	–	1 integrated Ethernet port			
	I/O bus (1)	1 I/O port	–		1 I/O port	
Transparent Ready	Embedded Web server	–	Standard services (class A10)			
Memory capacity	RAM	512 Kb	544 Kb			
	Flash	512 Kb		1 Mb	512 Kb	1 Mb
	User, 984 LL language (2)	18 K				
	User, IEC language (3)	240 K	–	200 K	–	200 K
	Data	24 K				
Cycle time		1 ms/K	0.3 ms/K			
Reference		**171CCC76010**	**171CCC98020**	**171CCC98030**	**171CCC96020**	**171CCC96030**

Type of processor		171 CBB97030
Integrated communication ports	Modbus	1 RS 232/485
	Ethernet TCP/IP	4 integrated Ethernet port
Transparent Ready	Embedded Web server	Standard services (class B)
Memory capacity	RAM	512 Kb
	Flash	1 Mb
	User, 984 LL language (2)	18 K
	User, IEC language (3)	200 K
	Data	24 K
Cycle time		0.25 ms/K
Reference		**171CBB97030**

Connection accessories: See www.schneider-electric.com

Passive I/O sub-bases «Discrete»

Type of connection sub-base		Optimum			
Number of channels		16	16		
Max. current per channel		0.5 A	0.5 A		
Control voltage / output voltage		24 VDC / 24 VDC	24 VDC / 24 VDC		
LED per channel		–	With		
Number of terminals per channel/on row number		1/2	1/1	2/2	3/3
Dimensions W x D x H (mm)		55 x 59 x 67	106 x 60 x 49		
References		–	**ABE7H16C11**	**ABE7H16C21**	**ABE7H16C31**
	Cable L = 1 m	**ABE7H20E100** (1)	–	–	–
	Cable L = 2 m	**ABE7H20E200** (1)	–	–	–
	Cable L = 3 m	**ABE7H20E300** (1)	–	–	–
Connection cable recommended for Modicon, TSX Micro and Premium PLCs, L = 1 m (2)			**ABFH20H100**		

(1) Connection cable supplied for PLCs.

(2) For a 2 m length cable, replace the number 1 in the reference by 2, and for a 3 m length, by 3. (Example: ABFH20H**1**00 becomes ABFH20H**2**00).

Type of connection sub-base	Universal					
Number of channels	16					
Max. current per channel	0.5 A					
Control voltage / output voltage	24 VDC / 24 VDC					
LED per channel	–	With	–	–	With	With
Number of terminals per channel/on row number	1/1	1/1	1/2	2/2	2/2	3/3
Dimensions W x D x H (mm)	125 x 58 x 70		84 x 58 x 70	125 x 58 x 70		
References	**ABE7H16R10**	**ABE7H16R11**	**ABE7H16R50**	**ABE7H16R20**	**ABE7H16R21**	**ABE7H16R31**
Connection cable recommended for Modicon, TSX Micro and Premium PLCs, L = 1 m: **ABFH20H100** (2)						

(2) For a 2 m length cable, replace the number 1 in the reference by 2, and for a 3 m length, by 3. (Example: ABFH20H**1**00 becomes ABFH20H**2**00).

Type of connection sub-base			For counter and analogue channels	Passive distribution with shielding continuity	Distribution and supply of analogue channels
Number of channels			1 counter channel (3)	8	8
Max. current per channel			25 mA	25 mA	25 mA
Control voltage / output voltage			24 VDC / 24 VDC		
Number of terminals per channel			2	2 or 4	2 or 4
Dimensions W x D x H (mm)			143 x 58 x 70	125 x 58 x 70	125 x 58 x 70
References			**ABE7CPA01**	**ABE7CPA02**	**ABE7CPA03**
Connection cable recommended for Modicon PLCs (4)	TSX Micro	L = 2.5 m	**TSXCCPS15**	–	–
	Premium	L = 3 m	**TSXCAP030**		

(3) Or 8 inputs + 2 outputs, analogue .

(4) Connection cables available for other PLCs, please refer to your Schneider Electric agency.

Telefast pre-wired system – IP20 sub-bases

Sockets with plug-in relays and terminals

Type of connection sub-base	With soldered solid-state relay inputs		With soldered solid-state relay outputs		With soldered electro-mechanical relay outputs	
Number of channels	16		16		16	
Max. current per channel	12 mA		0.5 A		2 A	5 A
Input voltage / output voltage	24 VDC / -	110 VAC / -	- / 24 VDC		- / 5…30 VDC, 250 VAC	
Number of contacts	–		–		1 N/O	
Polarity distribution	–		–		(1)	Volt-free
Number of terminals per channel	2					
Dimensions W x D x H (mm)	206 x 58 x 77					
References	**ABE7S16E2B1**	**ABE7S16E2F0**	**ABE7S16S2B0**(2)	**ABE7S16S1B2**	**ABE7R16S111**	**ABE7R16S210**
Connection cable recommended for Modicon, TSX Micro and Premium PLCs, L = 1 m: **ABFH20H100** (3)						

(1) Contact common per group of 8 channels.

(2) With fault detection signal (can only be used with modules with protected outputs).

(3) For a 2 m length cable, replace the number 1 in the reference by 2, and for a 3 m length, by 3. (Example: ABFH20H**1**00 becomesABFH20H**2**00).

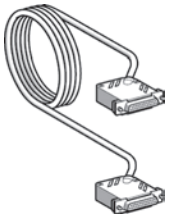
Type of connection sub-base	With plug-in electromechanical relays					
Number of channels	16					
Max. current per channel	5 A	2.5 A			4 A	5 A
Control voltage / output voltage	24 VDC / 5…24 VDC, 230 VAC					
Number of contacts	1 N/O			1 C/O		2 C/O
Polarity distribution	(4)	(5)	Volt-free			
Number of terminals per channel	2	2 or 3			2 to 6	
Dimensions W x D x H (mm)	110 x 54 x 89	211 x 64 x 89			272 x 74 x 89	
References	**ABE7R16T111**	**ABE7R16T212**	**ABE7R16T210**	**ABE7R16T230**	**ABE7R16T330**	**ABE7R16T370**
Connection cable recommended for Modicon, TSX Micro and Premium PLCs, L = 1 m: **ABFH20H100** (6)						

(4) Contact common per group of 4 channels.

(5) Common on both poles.

(6) For a 2 m length cable, replace the number 1 in the reference by 2, and for a 3 m length, by 3. (Example: ABFH20H**1**00 becomes ABFH20H**2**00).

Connection cables for PLCs (7)



Input/Output functions		Discrete	Analogue	Analogue and counter	Counter	Axis control
References	Cable L = 1 m	**ABFH20H100**	–	–	–	–
	Cable L = 2 m	**ABFH20H200**	**ABFY25S200**	–	–	**TSXCXP213**
	Cable L = 2.5 m	–	–	**TSXCCPS15**	**TSXCCPH15**	–
	Cable L = 3 m	**ABFH20H300**	**TSXCAP030**	–	–	–
	Cable L = 6 m	–	–	–	–	**TSXCXP613**

(7) Modicon, TSX Micro and Premium PLCs.

For other connection cables and accessories, please refer to your Schneider Electric agency.

Sub-bases for input/output module

Type of connection sub-base	Discrete outputs			
				Relay
Number of channels	16	16	16	16
Type of outputs	16 I (1 common for 16 channels)	16 O (1 common for 16 channels)	16 O, fuse protected (1 common for 16 channels)	16 O (1 common for 4 channels)
Voltage / current of outputs	24 VDC / 5 mA	24 VDC / 0.1 A		Relay: 5...30 VDC, 250 VAC / 3 A
LED per channel	–		With	–
Number of terminals per channel/row number	2/2			
Dimensions W x D x H (mm)	106 x 60 x 49		130 x 62.5 x 83	
References	**ABE7E16EPN20**	**ABE7E16SPN20**	**ABE7E16SPN22**	**ABE7E16SRM20**

Connection cables for Twido and Modicon M238

Type of cable			For linking Twido base and Modicon Telefast sub-base	For linking discrete I/O expansion modules Twido or Modicon M238 and Modicon Telefast sub-base
For use with			TWDLMDA20DTK/40DTK	TM2DI16DK/32DK/DDO16TK/32TK
Type of connectors			HE10, 26-pin, at either end	HE10, 20-pin, at either end
References	Cable	L = 0.5 m	**ABFT26B050**	**ABFT20E050**
		L = 1 m	**ABFT26B100**	**ABFT20E100**
		L = 2 m	**ABFT26B200**	**ABFT20E200**

Accessories

Type of accessory	Optional clip-in terminals	
Number of linked terminals	20	12 + 8
References	**ABE7BV20**	**ABE7BV20TB**

IP67 passive splitters boxes

Type of connection			To PLC using multicore cable	
Number of channels			4	8
Type of female connector			M12, 5-pin	M12, 5-pin
Max. number of signals			8	16
Max. current per channel			4 A	
Max. current per splitter box			16 A (1 mm²)	
Product certification			cULus	
Dimensions W x D x H (mm)			50.2 x 42 x 92.2	50.2 x 42 x 149.2
References	**Without LEDs**	Cable L = 5 m	**ABE9C1240L05**	**ABE9C1280L05**
		Cable L = 10 m	**ABE9C1240L10**	**ABE9C1280L10**
	With LEDs (1)	Cable L = 5 m	**ABE9C1241L05**	**ABE9C1281L05**
		Cable L = 10 m	**ABE9C1241L10**	**ABE9C1281L10**

(1) Green LED: power supply status, yellow LED: channel status.

Type of connection		To PLC using M23 connector	
Number of channels		4	8
Type of female connector		M12, 5-pin	M12, 5-pin
Max. number of signals		8	16
Max. current per channel		4 A	
Max. current per splitter box		16 A	
Product certification		cULus	
Dimensions, W X D x H		50.2 x 36.5 x 92.2	50.2 x 36.5 x 149.2
References	Without LEDs	**ABE9C1240C23**	**ABE9C1280C23**
	With LEDs (1)	**ABE9C1241C23**	**ABE9C1281C23**

(1) Green LED: power supply status, yellow LED: channel status.

Accessories

Type of accessory		Splitter boxes w/o cable		Terminal connectors		Sealing plugs
		Without LEDs	With LEDs	Cable L = 5 m	Cable L = 10 m	(sold in lots of 10)
References	4-channel	**ABE9C1240M**	**ABE9C1241M**	**ABE9XCA1405**	**ABE9XCA1410**	–
	8-channel	**ABE9C1280M**	**ABE9C1281M**	**ABE9XCA1805**	**ABE9XCA1810**	–
	for Ø12 connector	–	–	–	–	**FTXCM12B**

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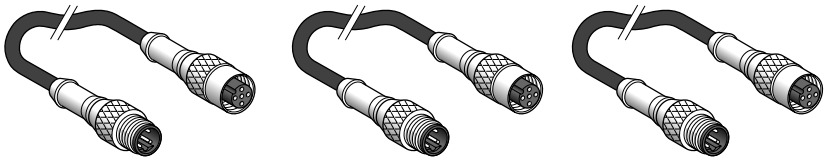
Other versions: **please consult our Customer Care Centre.**

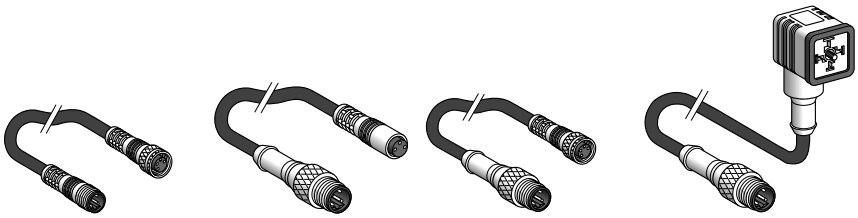
Accessories for sensors/actuators

M12 / M12 jumper cables



Type			Male / Female jumper cables		
Type of male connector, interface side			M12, 4-pin, straight, screw thread	M12, 4-pin, straight, screw thread	M12, 5-pin, straight, screw thread
Type of female connector, sensor side			M12, 3-pin, straight, screw thread	M12, 4-pin, straight, screw thread	M12, 5-pin, straight, screw thread
Cable			PUR, black	PUR, black	PUR, black
References	Cable	L = 1 m	**XZCR1511040A1**	**XZCR1511041C1**	**XZCR1511064D1**
		L = 2 m	**XZCR1511040A2**	**XZCR1511041C2**	**XZCR1511064D2**

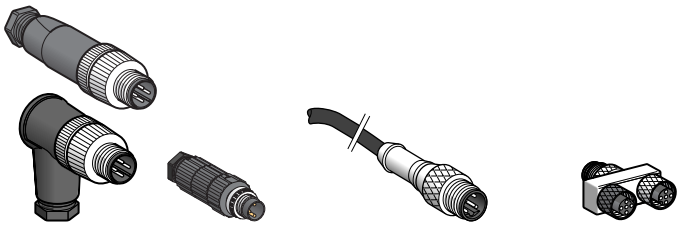
M8/M8, M8/M12 and M12/DIN jumper cables



Type			Male / Female jumper cables			
Type of male connector, interface side			M8, 3-pin straight, screw thread	M12, 3-pin straight, screw thread	M12, 3-pin straight, screw thread	M12, 3-pin straight, screw thread
Type of female connector, sensor side			M8, 3-pin straight, screw thread	M8, 3-pin straight, clip together	M8, 3-pin straight, screw thread	DIN 43650A elbowed, screw thread
Cable			PUR, black	PUR, black	PUR, black	PUR, black
References	Cable	L = 1 m	**XZCR2705037R1**	**XZCR1501040G1**	**XZCR1509040H1**	**XZCR1523062K1**
		L = 2 m	**XZCR2705037R2**	**XZCR1501040G2**	**XZCR1509040H2**	**XZCR1523062K2**

6

Pre-wired connectors and splitter box



Type			Connectors		Pre-wired connectors	Splitter box “Y”	
Type of male connector, interface side			M12, 4-pin	M8, 3-pin	M12, 5-pin, straight, screw thread	1 x M12	1 x M12
Type of female connector, sensor side			–	–	–	2 x M12	2 x M8
Cable			–	–	PUR, black	–	
References	Straight connector, screw thread		**XZCC12MDM40B**	**XZCC8MDM30V**	–	**FTXCY1212**	**FTXCY1208**
	Elbowed connector, screw thread		**XZCC12MCM40B**	–	–	–	–
	Cable	L = 0.5 m	–	–	**XZCP1564L05**	–	–
		L = 2 m	–	–	**XZCP1564L2**	–	–

Modicon FactoryCast

Modicon FactoryCast PLC modules and the Modicon FactoryCast Gateway combine the benefits of open Web technologies with the reliability of industrial control.
In the areas of distributed infrastructure, RTU installations, industry, machinery and energy, the Modicon FactoryCast ranges offer an ideal solution for all your remote diagnostics and maintenance, monitoring, control and programming needs.

OPC FOUNDATION MEMBER

7

Schneider Electric's communication solutions for industrial networks monitor your control system applications to give you precise control and maintenance data in real time.
Remote intelligent modules or in-rack modules for PLCs, standalone products and devices - the Modicon FactoryCast, AS-Interface and Modicon Connexium ranges provide access to advanced functions, flexible tools and services for optimising communication between all your automation products.

AS-Interface

AS-Interface is a quick expandable cabling system which connects all components in a control system with just a single cable. Intelligent, it features built-in communication management.

Modicon Connexium

Designed for open industrial solutions, Modicon Connexium products are the Ethernet-ready network hubs, switches, transceivers, gateways and cables which provide you with integrated Ethernet solutions to unite everything in your installation, from device level all the way to your corporate intranet. Modicon Connexium boosts network performance and reliability.

7 Networks connectivity and Web servers

WARNING
This document is a selection of the top selling products.

ConneXium cabling system

Hub, Transceiver, IP 67 Switch 7/2
Switches ..... 7/3 to 7/6
Gateways & Converters ..... 7/7 to 7/8
Cables & Connectors 7/9

AS-Interface cabling system

Modicon interfaces for generic products ..... 7/12 and 7/13
IP20 interfaces
IP67 interfaces

Dedicated components ..... 7/14 and 7/15
For control
For dialogue

Installation system ..... 7/16 to 7/18
Master modules, power supply units
Cables, repeaters
Accessories

Tools 7/19
Adjustment and addressing terminals

Safety solutions
Safety monitors
Safety interfaces

see Chapter 8 "Machine safety"

Servers and Gateways

Data server software,
OPC Factory Server 7/20
Embedded Web Servers,
FactoryCast and FactoryCast HMI ..... 7/21 and 7/22
Web Gateways for Remote control,
FactoryCast Gateway and FactoryCast HMI Gateway 7/23

Ethernet TCP/IP, Transparent Ready

Cabling system: ConneXium Hub, Transceiver and Switch

Hub			
Interfaces	Copper cable ports	Number and type	4 x 10BASE-T ports
		Shielded connectors	RJ45
		Medium	Shielded twisted pair, category CAT 5E
		Total length of pair	100 m
Power supply	Voltage		24 V (18…32) DC, safety extra low voltage (SELV)
Degree of protection			IP 30
Dimensions W x H x D			40 x 125 x 80 mm
Conformity to standards			cUL 60950, UL 508 and CSA 142, UL 1604 and CSA 213 Class 1 Division 2, CE, GL
			FM 3810, FM 3611 Class 1 Division 2 , C-TICK
Reference			**499 NEH 104 10**

Transceiver			
Interfaces	Copper cable ports	Number and type	1 x 100BASE-TX port
		Shielded connectors	RJ45
		Medium	Shielded twisted pair, category CAT 5E
		Total length of pair	100 m
	Fiber optic ports	Number and type	1 x 100BASE-FX port
		Connectors	SC
		Medium	Multimode optical fiber
		Length of optical fiber	
		50/125 µm fiber	3000 m (1)
		62.2/125 µm fiber	3000 m (1)
		Attenuation analysis	
		50/125 µm fiber	8 dB:
		62.2/125 µm fiber	11 dB:
Power supply	Voltage		24 V (18…32) DC, safety extra low voltage (SELV)
Degree of protection			IP 20
Dimensions W x H x D			47 x 135 x 111 mm
Conformity to standards			cUL 60950, UL 508 and CSA 142, UL 1604 and CSA 213 Class 1 Division 2, CE, GL , C-TICK
Reference			**499 NTR 101 00**

(1) Length dependent on the attenuation analysis and attenuation of the optical fiber (typical value: 2000 m).

IP 67 switch			Twisted pair, unmanaged
Interfaces	Copper cable ports	Number and type	5 x 10BASE-T/100BASE-TX ports
		Shielded connectors	M12 (type D)
		Medium	Shielded twisted pair, category CAT 5E
		Total length of pair	100 m with rated cable
Power supply	Voltage		24 VDC (18…32 VDC), safety extra low voltage (SELV)
Degree of protection			IP 65/67
Dimensions W x H x D			60 x 126 x 31 mm
Conformity to standards			cUL 508 and CSA 22.2 14 , C-TICK
Reference			**TCS ESU 051 F0**

Switches			Copper twisted pair, unmanaged			
Interfaces	Copper cable ports	Number and type	3 x 10BASE-T/ 100BASE-TX ports	4 x 10BASE-T/ 100BASE-TX ports	5 x 10BASE-T/ 100BASE-TX ports	8 x 10BASE-T/ 100BASE-TX ports
		Shielded connectors	Type RJ45			
		Medium	Shielded twisted pair, category CAT 5E			
		Total length of pair	100 m			
	Fiber optic ports	Number and type	–	1 x 100BASE-FX ports	–	–
		Connectors	–	Duplex SC	–	–
		Medium	–	Multimode optical fiber	–	–
		Length of optical fiber				
		50/125 µm fiber	–	5000 m (1)	–	–
		62,2/125 µm fiber	–	4000 m (1)	–	–
		Attenuation analys				
		50/125 µm fiber	–	8 dB	–	–
		62,2/125 µm fiber	–	11 dB	–	–
Power supply	Voltage, safety extra low voltage (SELV)		⎓ 24 VDC (⎓ 9,6…32 VDC)			
	Power consumption		Max. 2,2 W	Max. 3,9 W	Max. 2,2 W	Max. 4,1 W
	Connector		3 way removable connector			
Degree of protection			IP 30			
Dimensionss		W x H x D	25 x 114 x 79 mm			35 x 138 x 121 mm
Weight			0,113 kg	0,120 kg	0,113 kg	0,246 kg
Conformity to standards			UL 508 and CSA 22.2 N° 142 IEC/EN 61131-2, IEC 60825-1 class 1, CISPR 11A			
Alarm relay			–			
Reference			**TCS ESU 033FN0**	**TCS ESU 043F1N0**	**TCS ESU 053FN0**	**TCS ESU 083FN0**

(1) Length dependent on the attenuation analysis and attenuation of the fi ber optic (typical value: 2,000 m).

Switches			Copper twisted pair and fibre optic, unmanaged				
Interfaces	Copper cable ports	Number and type	4 x 10BASE-T/ 100BASE-TX ports	3 x 10BASE-T/ 100BASE-TX ports	4 x 10BASE-T/ 100BASE-TX ports	3 x 10BASE-T/ 100BASE-TX ports	8 x 10BASE-T/ 100BASE-TX ports
		Shielded connectors	RJ45				
		Medium	Shielded twisted pair, category CAT 5E				
		Total length of pair	100 m				
	Fiber optic ports	Number and type	1 x 100BASE-FX port	2 x 100BASE-FX ports	1 x 100BASE-FX port	2 x 100BASE-FX ports	–
		Connectors	SC				–
		Medium	Multimode optical fiber		Single mode optical fiber		–
		Length of optical fiber					
		50/125 µm fiber	5000 m (1)		–		–
		62.2/125 µm fiber	4000 m (1)		–		–
		9/125 µm fiber	–		32 500 m (2)		–
Power supply	Voltage		24 VDC (18…32), safety extra low voltage (SELV)				
Degree of protection			IP 20				
Dimensions		W x H x D	47 x 135 x 111 mm				
Conformity to standards			cUL 60950, cUL 508 and CSA 142, UL 1604 and CSA 213 Class 1 Division 2, CE, GL , C-TICK				
References			**499 NMS 251 01**	**499 NMS 251 02**	**499 NSS 251 01**	**499 NSS 251 02**	**499 NES 181 00**

(1) Length dependent on the attenuation analysis and attenuation of the fiber optic (typical value: 2,000 m).
(2) Length dependent on the attenuation analysis and attenuation of the fiber optic (typical value: 15,000 m).

Ethernet TCP/IP, Transparent Ready

Cabling system: ConneXium managed switches

Switches			Copper twisted pair and fiber optic, managed			
Interfaces	Copper cable ports	Number and type	3 x 10/100BASE-TX ports	2 x 10/100BASE-TX ports	3 x 10/100BASE-TX ports	2 x 10/100BASE-TX ports
		Shielded connectors	RJ45			
		Medium	Shielded twisted pair, category CAT 5E			
		Total length of pair	100 m			
	Fiber optic ports	Number and type	1 x 100BASE-FX port	2 x 100BASE-FX ports	1 x 100BASE-FX port	2 x 100BASE-FX ports
		Connectors	Duplex SC			
		Medium	Multimode optical fiber		Single mode optical fiber	
		Length of optical fiber				
		50/125 µm fiber	5,000 m (1)		–	
		62.2/125 µm fiber	4,000 m (1)		–	
		9/125 µm fiber	–		32,500 m (2)	
Power supply	Voltage	Operation	9.6...60 VDC/18…30 VAC, safety extra low voltage (SELV)			
Degree of protection			IP 20			
Dimensions W x H x D			47 x 131 x 111 mm			
Conformity to standards			IEC 61131-2, IEC 61850-3, UL 508, UL 1604 Class 1 Division 2, CSA C22.2 14 (cUL), CSA C22.2 213 Class 1 Division 2 (cUL), CE, GL , C-TICK			
References			**TCSESM043F1CU0**	**TCSESM043F2CU0**	**TCSESM043F1CS0**	**TCSESM043F2CS0**

(1) Length dependent on the attenuation analysis and attenuation of the fiber optic (typical value: 2,000 m).

(2) Length dependent on the attenuation analysis and attenuation of the fiber optic (typical value: 15,000 m).

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Switches			Copper twisted pair, managed	
Interfaces	Copper cable ports	Number and type	4 x 10/100BASE-TX ports	8 x 10/100BASE-TX ports
		Shielded connectors	RJ45	
		Medium	Shielded twisted pair, category CAT 5E	
		Total length of pair	100 m	
Power supply	Voltage	Operation	9.6...60 VDC/18…30 VAC, safety extra low voltage (SELV)	
Degree of protection			IP 20	
Dimensions W x H x D			47 x 131 x 111 mm	74 x 131 x 111 mm
Conformity to standards			IEC 61131-2, IEC 61850-3, UL 508, UL 1604 Class 1 Division 2, CSA C22.2 14 (cUL), CSA C22.2 213 Class 1 Division 2 (cUL), CE, GL , C-TICK	
References			**TCSESM043F23F0**	**TCSESM083F23F0**

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Other versions: **please consult our Customer Care Centre.**

Ethernet TCP/IP, Transparent Ready

Cabling system: ConneXium managed switches

Switches			Copper twisted pair and fiber optic, managed			
Interfaces	Copper cable ports	Number and type	7 x 10/100BASE-TX ports	6 x 10/100BASE-TX ports	7 x 10/100BASE-TX ports	6 x 10/100BASE-T ports
		Shielded connectors	RJ45			
		Medium	Shielded twisted pair, category CAT 5E			
		Total length of pair	100 m			
	Fiber optic ports	Number and type	1 x 100BASE-FX port	2 x 100BASE-FX port	1 x 100BASE-FX port	2 x 100BASE-FX port
		Connectors	Duplex SC			
		Medium	Multimode optical fiber (MM)		Single mode optical fiber (SM)	
		Length of optical fiber				
		50/125 µm fiber	5,000 m (1)		–	
		62.2/125 µm fiber	4,000 m (1)		–	
		9/125 µm fiber	–		32,500 m (2)	
Power supply	Voltage	Operation	9.6...60 VDC/18…30 VAC, safety extra low voltage (SELV)			
Degree of protection			IP 20			
Dimensions W x H x D			74 x 131 x 111 mm			
Conformity to standards			IEC 61131-2, IEC 61850-3, UL 508, UL 1604 Class 1 Division 2, CSA C22.2 14 (cUL), CSA C22.2 213 Class 1 Division 2 (cUL), CE, GL , C-TICK			
References			**TCSESM083F1CU0**	**TCSESM083F2CU0**	**TCSESM083F1CS0**	**TCSESM083F2CS0**

(1) Length dependent on the attenuation analysis and attenuation of the fiber optic (typical value: 2,000 m).

(2) Length dependent on the attenuation analysis and attenuation of the fiber optic (typical value: 15,000 m).

Switches			Copper twisted pair, managed	Copper twisted pair and fiber optic, managed		
Interfaces	Copper cable ports	Number and type	16 x 10/100BASE-TX ports	14 x 10/100BASE-TX ports	22 x 10/100BASE-TX ports	14 ports 10/100BASE-TX
		Shielded connectors	RJ45			
		Total length of pair	100 m			
	Fiber optic ports	Number and type	–	2 x 100BASE-FX ports		
		Connector	–	Duplex SC		
		Medium	–	Multimode optical fiber		Optical fiber
		Length of optical fiber				
		50/125 µm fiber	–	5,000 m (1)		–
		62.2/125 µm fiber	–	4,000 m (1)		32 500 M (2)
Power supply	Voltage	Operation	9.6...60 VDC/18…30 VAC, safety extra low voltage (SELV)			
Degree of protection			IP 20			
Dimensions W x H x D			111 x 131 x 111 mm			
Conformity to standards			cUL 60950, UL 508 and CSA 142, UL 1604 and CSA 213 Class 1 Division 2, CE, GL, C-TICK			243F2CU0
References			**TCSESM163F23F0**	**TCSESM163F2CU0**	**TCSESM243F2CU0**	**TCSESM16F2CS0**

(1) Length dependent on the attenuation analysis and attenuation of the fiber optic (typical value: 2,000 m).

Ethernet TCP/IP, Transparent Ready

Cabling system: ConneXium managed switches

Switches			Copper twisted pair and fibre optic, managed - extended features		
Interfaces	Copper cable ports	Number and type	8 x 10/100 BASE-TX ports	6 x 10/100 BASE-TX ports	6 x 10/100 BASE-TX ports
		Shielded connectors	RJ45		
		Medium	Shielded twisted pair, category CAT 5E		
		Total length of pair	100 m		
	Fiber optic ports	Number and type	–	2 x 100BASE-FX ports	2 x 100BASE-FX ports
		Connectors	–	Duplex SC	Duplex SC
		Medium	–	Multi mode optical fibre	Single mode optical fibre
		Length of optical fiber			
		50/125 µm fiber	–	5,000 m (1)	–
		62.2/125 µm fiber	–	4,000 m (1)	–
		9/125 µm fiber	–	–	32,500 m (2)
		Attentuation analysis			
		50/125 µm fibre	–	8 dB	–
		62.2/125 µm fiber	–	11 dB	–
		9/125 µm fiber	–	–	16 dB
	Ethernet services		FDR, SMTP V3, SNTP client, multicast filtering for optimization of the Global Data protocol, configuration via Web access, VLAN, IGMP Snooping, RSTP (Rapid Scanning Tree Protocol), priority port, data stream control, secure port.		
Topology	Number of switches	Cascaded	Unlimited		
		Redundant in a ring	max. 50		
Redundancy			Redundant power supplies, redundant single ring, ring coupling		
Power supply	Voltage	Operation	18 - 60 V safety extra low voltage (SELV)		
	Power consumption		10 W	12 W	12 W
Degree of protection			IP30		
Dimensions W x H x D			120 x 137 x 115 mm		
Conformity to standards			IEC/EN 61131-2, IEC 61850-3, UL 508, UL ISA-12.12.-01 Class 1 Div 2 Group A, B, C, D, CSA 22.2 No. 142 (cUL), CSA 22.2 No. 213 Class 1 Division 2 (cUL), CE, GL, C-Tick		
Alarm relay			Power supply fault, Ethernet network fault or communication port fault (2 A max. volt-free contact at 30 VDC)		
References			**TCSESM083F23F1**	**TCSESM063F2CU1**	**TCSESM063F2CS1**

(1) Length dependent on the attenuation analysis and attenuation of the filber optic (typical value: 2,000 m).
(2) Length dependent on the attenuation analysis and attenuation of the filber optic (typical value: 15,000 m).

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Other versions: **please consult our Customer Care Centre.**

Switches			Copper twisted pair and fiber optic, managed			Copper twisted pair, managed
Interfaces	Copper cable ports	Number and type	8 x 10/100 BASE-TX ports			8 x 10/100 BASE-TX ports 2 x 100 BASE-TX ports (Gigabits)
		Shielded connectors	RJ45			
		Medium	Shielded twisted pair, category CAT 5E			
		Total length of pair	100 m			
	Fiber optic ports	Number and type	2 x 100BASE-SX ports (1)	2 x 100BASE-LH ports (2)	2 x 100BASE-LX ports (3)	–
		Connectors	LC			–
		Medium	Multimode optical fiber	Single optical fibre	Single mode and multi-mode optical fiber	–
		Length of optical fiber				–
		50/125 µm fiber	550 m	–	550 m	
		62.2/125 µm fiber	275 m	–	550 m	–
		9/125 µm fiber	–	8 - 72,000 m	20,000 m	–
		Attentuation analysis				
		50/125 µm fibre	7,5 dB	–	11 dB	–
		62.2/125 µm fiber	7,5 dB	–	11 dB	–
		9/125 µm fiber	–	6 - 22 dB	11 dB	–
	Ethernet services		FDR, SMTP V3, SNTP client, multicast fi ltering for optimization of the Global Data protocol, configuration via Web ccess, VLAN, IGMP Snooping, RSTP (Rapid Scanning Tree Protocol), priority port, data stream control, secure port.			
Topology	Number of switches	Cascaded	Unlimited			
		Redundant in a ring	max. 50			
Redundancy			Redundant power supplies, redundant single ring, ring coupling			
Power supply	Voltage	Operation	9,6...60 VDC/18...30 VAC, safety extra low voltage (SELV)			
Degree of protection			IP20			
Dimensions W x H x D			111 x 113 x 111 mm			
Conformity to standards			cUL 60950, UL 508 and CSA 22.2, UL 1604 and CSA 213 CSA 22.2 No. 213 Class 1 Division 2, C€, GL			
References			**TCSESM103F2LG0**			**TCSESM103F23G0**

(1) With TCSEAAF1LFU00 fiber optic module to be ordered separately
(2) With TCSEAAF1LFH00 fiber optic module to be ordered separately
(3) With TCSEAAF1LFS00 fiber optic module to be ordered separately

Switches			Copper twisted pair and fiber optic, managed		Copper twisted pair, managed
Interfaces	Copper cable ports	Number and type	6 x 10/100 BASE-TX ports		8 x 10/100 BASE-TX ports
		Shielded connectors	RJ45		
		Total length of pair	100 m		
	Fiber optic ports	Number and type	2 x 100 BASE-SX ports	3 x 100 BASE-LX ports	-
		Connector	Duplex SC		-
		Medium	Multimode optical fiber		-
		Length of optical fiber			
		50/125 µm fiber	5,000 m (1)		-
		62.2/125 µm fiber	4,000 m (1)		-
		9/125 µm fiber	-	-	-
		Attenuation analysis			
		50/125 µm fiber	8 dB		-
		60.2/125 µm fiber	11 dB		-
		9/125 µm fiber	-	-	
	Ethernet services		FDR, SNTP client, multicast filtering for optimization of the Global Data protocol, configuration via Web access,IGMP Snooping, RSTP (Rapid Scanning Tree Protocol), priority port, data stream control, secure port.		
Topology	Number of switches	Cascaded	Unlimited		
		Redundant in a ring	Max. 50		
Redundancy			Redundant power supplies		
References			**TCSESB083F23F0**	**TCSESB083F2CU0**	**TCSESB093F2CU0**

7

Ethernet gateways

Ethernet/Modbus gateway and Ethernet/Modbus Plus gateway/router

Type of gateway			TSX ETG 100
Transparent Ready services	Class		B10
	Standard Web services	Configuration	Predefined Web pages
		Read/Write	Acces to connected products list, reading of Modbus devices registers
		Diagnostic	Via predefined Web pages : diagnostic on Ethernet and Modbus links
	Ethernet TCP/IP communication management services	Modbus messaging	Read/Write Modbus registers of connected devices
		SNMP	SNMP Agent, device administration with a SNMP manager
		BOOTP protocol	FDR Client (replacement of defective product)
		Security	Miniature firewall on-board (IP address filtering) and password protection
Ethernet connectivity	Physical interface		10BASE-T/100BASE-TX (RJ45)
	Data rate		10/100 Mbps with automatic recognition
	Medium		Twisted pair
Modbus connectivity	Type of port		RS 485 (2 or 4-wire) or RS 232
	Protocol		Modbus (RTU and ASCII)
	Maxi transmission speed		38,4 Kbps (RS 485), 57,6 Kbps (RS 232)
	Number of devices		32 max.
Power supply			24 VDC, 4 W or by power supply device PoE (Power Over Ethernet - IEEE 802.3af)
Degree of protection			IP 30
Dimensions W x H x D			72 x 81 x 76 mm, mounting on symmetrical DIN rail
Conformity to standards			UL, cUL (conforming to CSA C22-2 no. 14-M91), UL508 , C-TICK, CE
Reference			**TSX ETG 100** (1)

(1) Fonctions: Twido, Compact, Momentum, TSX Micro, Altivar, Altistart, Magelis, ... All products compatible with Modbus standard.

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Type of gateway			Ethernet/Modbus Plus gateway/router Class B10
Transparent Ready services	Class		B10
	Standard Web services	Configuration	Predefined Web pages
		Read/Write	Acces to connected products list, reading of Modbus Plus devices registers
		Diagnostic	Via predefined Web pages : diagnostic on Ethernet and Modbus Plus links
	Standard Ethernet TCP/IP communication services		Modbus TCP messaging SNMP Agent
Functions	Communication gateway		Ethernet/Modbus Plus (many-to-many Modbus Plus)
	Interface for programming		Ethernet/Modbus Plus
Interfaces	Ethernet TCP/IP port	Type	1 x 10BASE-T/100BASE-TX
		Shielded connectors	RJ45
		Medium	Shielded twisted pair
		Max. distances	100 m (327 ft)
	Serial port	Type	1 x Modbus Plus
		Shielded connectors	9-way SUB-D connector
		Medium	Shielded twisted pair (single or double)
Power supply	Voltage		110/220 VAC (93.5 VAC…242 VAC), 47…63 Hz
Degree of protection			IP 20
Dimensions W x H x D			122 x 229 x 248 mm
Conformity to standards			UL 508, CSA 142, CE
Reference			**174 CEV 200 40** (2)

(2) Fonctions: 1 Ethernet port, 10BASE-T/100BASE-TX, 1 Modbus Plus port

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Other versions: **please consult our Customer Care Centre.**

Ethernet TCP/IP, Transparent Ready

Cabling system: Connection components
Shielded copper connection cables

ConneXium shielded connection cables are available in two versions to meet the various current standards and approvals:

These cables conform to:
- EIA/TIA-568 standard, category CAT 5E,
- IEC 11801/EN 50173 standard, class D.

Their fire resistance conforms to:
- NFC 32070# C2 classification
- IEC 322/1 standards
- Low Smoke Zero Halogen (LSZH).

EIA/TIA 568 shielded twisted pair cables

EIA/TIA 568 shielded twisted pair cables for CE market						
Length	m / *(ft)*	**2** *(6.6)*	**5** *(16.4)*	**12** *(39.4)*	**40** *(131.2)*	**80** *(262.5)*
Straight cables	Preformed at both ends	2 RJ45 connectors for connection to terminal devices (DTE)				
References		**490 NTW 000 02**	**490 NTW 000 05**	**490 NTW 000 12**	**490 NTW 000 40**	**490 NTW 000 80**
Crossed cord cables	Preformed at both ends	2 RJ45 connectors for connections between hubs, switches and transceivers				
References		–	**490 NTC 000 05**	–	**490 NTC 000 40**	**490 NTC 000 80**

EIA/TIA 568 shielded twisted pair cables

Cable material is :
- CEC type FT-1
- NEC type CM

EIA/TIA shielded twisted pair cables for UL markets							
Length	m / *(ft)*	**2** *(6.6)*	**5** *(16.4)*	**12** *(39.4)*	**15** *(49.2)*	**40** *(131.2)*	**80** *(262.5)*
Straight cables	Preformed at both ends	2 RJ45 connectors for connection to terminal devices (DTE)					
References		**490 NTW 000 02U**	**490 NTW 000 05U**	**490 NTW 000 12U**	–	**490 NTW 000 40U**	**490 NTW 000 80U**
Crossed cord cables	Preformed at both ends	2 RJ45 connectors for connections between hubs, switches and transceivers					
References		–	**490 NTC 000 05U**	–	**490 NTC 000 12U**	**490 NTC 000 40U**	**490 NTC 000 80U**

Cables M12

Cables M12						
M12 / M12	Length (m)	1	3	10	25	40
Reference		**TCSECL1M1M●●S2●●**				
RJ45 / M12	Length(m)	1	3	10	25	40
Reference		**TCSECL1M3M●●S2●●**				

Glass fiber optic cables

These glass fiber optics are for making connections:
- To a terminal device (DTE)
- Between hubs, transceivers and switches

Glass fiber optic cables					
Length	m / *(ft)*	**5** *(16.4)*	**5** *(16.4)*	**3** *(9.8)*	**5** *(16.4)*
Glass fiber optic cables	Preformed at both ends	1 SC connector 1 MT-RJ connector	1 ST connector (BFOC) 1 MT-RJ connector	2 MT-RJ connectors	
References		**490 NOC 000 05**	**490 NOT 000 05**	**490 NOR 000 03**	**490 NOR 000 05**

WiFi Access Points and Clients - WiFi Antennas

Access Points and Clients		Dual band industrial wireless LAN Access Point/Client based on IEEE 802.11a/b/g/h/i		Dual band industrial high performance wireless LAN Access Point/Client based on IEEE 802.11a/b/g/h/n	
Wireless standard		IEEE 802.11a/b/g/h/i	IEEE 802.11a/b/g/h/i	IEEE 802.11a/b/g/h/n	IEEE 802.11a/b/g/h/n
Operating frequencies		2.4GHz & 5GHz	2.4GHz & 5GHz	2.4GHz & 5GHz	2.4GHz & 5GHz
IP Rating		IP 40	IP 67	IP 40	IP 67
Mounting		Din Rail	Wall / Mast	Din Rail	Wall / Mast
Radios		Access Point: 2 Client: 1	2	1	1
Nominal Data rate		54 Mbps	54 Mbps	300 Mbps	300 Mbps
Antenna connections		4 x RP-SMA	4 x N-type	3 x RP-SMA	4 x N-type
Ethernet connections (10/100BASE-TX)		Access Points: 2 Client: 1	1	2	2
Wireless connections		2 x WLAN Interfaces 8 SSIDs per interface	2 x WLAN Interfaces 8 SSIDs per interface	1 x WLAN Interfaces 8 SSIDs per interface	1 x WLAN Interfaces 8 SSIDs per interface
References	**Global**	**TCSGWA242**	**TCSGWA272**	**TCSNWA241**	**TCSNWA271**
	North America (FCC approved)	**TCSGWA242F**	–	**TCSNWA241F**	**TCSNWA271F**
	Client only	**TCSGWC241**	–	–	–
	ATEX Compliant	–	–	–	**TCSNWA2A1**

Antennas		TSCG**** Compatible References (1)	TSCN**** Compatible References (1)
2.4 GHz	2.4 GHz Omni Directional (6dBi)	**TCSWAB2O**	–
	2.4 GHz Directional (14dBi)	**TCSWAB2D**	–
	2.4 GHz Dual Slant (8dBi)	**TCSWAB2S**	**TCSWAB2S**
	Leaky Cable – 50 meter	**TCSWABC5**	–
	Leaky Cable – 100 meter	**TCSWABC10**	–
5 GHz	5 GHz Omni Directional (5dBi)	**TCSWAB5O**	–
	5 GHz Directional – Medium (18.5dBi)	**TCSWAB5D**	–
	5 GHz Directional – Long (23dBi)	**TCSWAB5V**	**TCSWAB5V**
	5 GHz Directional – 802.11n (23dBi)	**TCSWAB5VN**	**TCSWAB5VN**
	5 GHz Dual Slant (9dBi)	**TCSWAB5S**	–
	5 GHz Directional – 802.11n (9dBi)	–	**TCSWAB5DN**
Dual Band	Dual Band Hemispherical (6dBi/8dBi)	**TCSWABDH**	–
	Dual Band Omni (3.5dBi/5.5dBi)	–	**TCSWABDON**

(1) Consult www.schneider-electric.com for a complete list of antenna cables and accessories for WiFi products

Notes

Modicon interfaces for generic products

IP20 for mounting in enclosure

Modular interface, width 25 mm V2.1 with standard addressing	Analogue		Digital		
Number of inputs	2 (0…10V)	2 (0/4…20mA)	4	4	4 isolated
Number of outputs	–	–	4 relay, 2A	4 solid state, 0.5A	4 solid state, 0.5A
Type of addressing	Standard				
Supply by AS-Interface	Inputs and sensor supply (200 mA max.)				–
Supply by 24 VDC external source (black AUX cable)	–	–	–	Outputs	(2)
AS-Interface profile	S.7.3.F.D	S.7.3.F.D	S.7.0.F.E	S.7.0.F.E	S.7.0.F.E
Maximum consumption from AS-Interface (excluding sensor supply)	60 mA	60 mA	110 mA	50 mA	20 mA
Dimensions (WxDxH)	25x77x87 mm	25x77x87 mm	25x77x87 mm	25x77x87 mm	25x77x87 mm
References	**ASI20MA2VU**	**ASI20MA2VI**	**ASI20MT4I4OR**	**ASI20MT4I4OS**	**ASI20MT4I4OSA**
Accessory (1) for connection to flat cables	**TCSATN01N2**	**TCSATN01N2**	**TCSATN01N2**	**TCSATV01N2**	**TCSATV01N2**

(1) Or direct screw terminal connection (without accessory).

(2) Inputs, outputs and sensor supply (200 mA max.).

Modular interface, width 25 mm V2.1 with Extended (A/B) addressing	Digital				
Number of inputs	4	2	4	4	4 isolated
Number of outputs	–	1 triac, 2A	3 relay, 2A	3 solid state, 0.5A	3 solid state, 0.5A
Type of addressing	Extended (A/B)				
Supply by AS-Interface	Inputs and sensor supply (200 mA max.) (3)				–
Supply by 24 VDC external source (black AUX cable)	–	–	–	Outputs	(2)
AS-Interface profile	S.0.A.7.0	S.3.A.7.0	S.7.A.7.0	S.7.A.7.0	S.7.A.7.0
Maximum consumption from AS-Interface (excluding sensor supply)	50 mA	40 mA	90 mA	50 mA	20 mA
Dimensions (WxDxH)	25x77x87 mm	25x77x87 mm	25x77x87 mm	25x77x87 mm	25x77x87 mm
References	**ASI20MT4IE**	**ASI20MT2I1OTE**	**ASI20MT4I3ORE**	**ASI20MT4I3OSE**	**ASI20MT4I3OSAE**
Accessory (1) for connection to flat cables	**TCSATN01N2**	**TCSATN01N2**	**TCSATN01N2**	**TCSATV01N2**	**TCSATV01N2**

(1) Or direct screw terminal connection (without accessory).

(2) Inputs, outputs and sensor supply (200 mA max.).

(3) Except ASI20MT4I3ORE (170 mA max.).

Schneider Electric

Other versions: **please consult our Customer Care Centre.**

IP67 for mounting on machine

Interface V2.1 with extended (A/B) addressing			Digital						
Number of inputs			4	2	–	4	4	4	8
Input cabling			Standard (1 x M12)				"Y" (2 x M12)		"Y" (4 x M12)
Number of outputs			–	2 solid-state, 2A	3 solid-state, 2A	3 solid-state, 2A	–	3 solid-state, 2A	–
Type of addressing			Extended (A/B)						
Supply by AS-Interface			Inputs and sensor supply (200 mA max. except ASI67FFP22•: 100 mA)						
Supply by 24 VDC external source (black AUX cable)			–	Outputs	–	Outputs	–	Outputs	–
AS-Interface profile			S.0.A.7.0	S.B.A.7.0	S.8.A.7.0	S.7.A.7.0	S.0.A.7.2	S.7.A.7.E	S.0.A.7.2 (2x)
Maximum consumption from AS-Interface (excluding sensor supply)			45 mA	32 mA	18 mA	48 mA	45 mA	48 mA	90 mA
Dimensions			45X42X80mm	45X42X80mm	45X42X80mm	60x30,5X151mm	45X42X80mm	60x30,5X151mm	60x30,5X151mm
Connection	IDC	Interface	**ASI67FFP40E**	**ASI67FFP22E**	**ASI67FFP03E**	**ASI67FFP43E**	**ASI67FFP40EY**	**ASI67FFP43EY**	**ASI67FFP80EY**
		Standard connection base	**ASI67FFB01** (1)	**ASI67FFB01** (1)	**ASI67FFB01** (1)	**ASI67FFB03**	**ASI67FFB01** (1)	**ASI67FFB03**	**ASI67FFB03**
	M12 connector	Interface + Connection base	**ASI67FMP40E**	**ASI67FMP22E**	**ASI67FMP03E**	**ASI67FMP43E**	**ASI67FMP40EY**	**ASI67FMP43EY**	–

(1) A connection base with fixing centres that are compatible with the ASIB4VM12 connection base is available. Reference **ASI67FFB02**.

Interface V2.1 with standard addressing			Digital					
Number of inputs			4	2	–	4	4	8
Input cabling			Standard (1 x M12)				"Y" (2 x M12)	"Y" (4 x M12)
Number of outputs			–	2 solid-state, 2A	4 solid-state, 2A	4 solid-state, 2A	4 solid-state, 2A	–
Type of addressing			Standard					
Supply by AS-Interface			Inputs and sensor supply (200 mA max. except ASI67FFP22•: 100 mA)					
Supply by 24 VDC external source (black AUX cable)			–	Outputs	Outputs	Outputs	Outputs	–
AS-Interface profile			S.0.0.F.E	S.3.0.F.E	S.8.0.F.E	S.7.0.F.E	S.7.1.F.E	S.0.1.F.F (2x)
Maximum consumption from AS-Interface (excluding sensor supply)			45 mA	32 mA	19 mA	49 mA	49 mA	90 mA
Dimensions (WxDxH)			45X42X80mm	45X42X80mm	45X42X80mm	60x30,5X151mm	60x30,5X151mm	60x30,5X151mm
Connection	IDC	Interface	**ASI67FFP40D**	**ASI67FFP22D**	**ASI67FFP04D**	**ASI67FFP44D**	**ASI67FFP44DY**	**ASI67FFP80DY**
		Standard connection base	**ASI67FFB01** (1)	**ASI67FFB01** (1)	**ASI67FFB01** (1)	**ASI67FFB03**	**ASI67FFB03**	**ASI67FFB03**
	M12 connector	Interface + Connection base	**ASI67FMP40D**	**ASI67FMP22D**	**ASI67FMP04D**	**ASI67FMP44D**	**ASI67FMP44DY**	–

(1) A connection base with fixing centres that are compatible with the ASIB4VM12 connection base is available. Reference **ASI67FFB02**.

Interface V2.1 (V1 compatible) with standard addressing			Digital			
Number of inputs			4	2	–	4
Input cabling			Standard (1 x M12 input)			
Number of outputs			–	2 solid-state, 2A	4 solid-state, 2A	4 solid-state, 2A
Type of addressing			Standard			
Supply by AS-Interface			Inputs and sensor supply (200 mA max. except ASI67FFP22•: 100 mA)			
Supply by 24 VDC external source (black AUX cable)			–	Outputs	Outputs	Outputs
AS-Interface profile			S.0.0.F.F	S.3.0.F.F	S.8.0.F.F	S.7.0.F.F
Maximum consumption from AS-Interface (excluding sensor supply)			45 mA	32 mA	19 mA	49 mA
Dimensions			45x42x80 mm	45x42x80 mm	45x42x80 mm	60x30.5x151 mm
Connection	IDC	Interface	**ASI67FFP40A**	**ASI67FFP22A**	**ASI67FFP04A**	**ASI67FFP44A**
		Standard connection base	**ASI67FFB01**	**ASI67FFB01**	**ASI67FFB01**	**ASI67FFB03**

Dedicated components

For control

TeSys U Control Starter Power base for D.O.L. Starter				Non reversing		Reversing	
Connection by screw clamp				Catalogue	Current	Catalogue	Current
				Number	Rating	Number	Rating
Operational voltage	200/208 V	230/240 V	480 V				
Horse power ratings (CSA/UL ratings)	3	3	7.5	LUB12	12 A	LU2B12●●	12 A
	10	10	20	LUB32	32 A	LU2B32●●	32 A

TeSys U Control units advanced		class 10		class 20
Starting range	Clip-in mounting on power base	Catalogue Number (1)		
For motor type		three-phase	single-phase	three-phase
0.15-0.6	12 and 32	LUCBX6●●	LUCCX6●●	LUCDX6●●
0.35-1.4	12 and 32	LUCB1X●●	LUCC1X●●	LUCD1X●●
1.25-5	12 and 32	LUCB05●●	LUCC05●●	LUCD05●●
3-12	12 and 32	LUCB12●●	LUCC12●●	LUCD12●●
4.5-18	32	LUCB18●●	LUCC18●●	LUCD18●●
8-32	32	LUCB32●●	LUCC32●●	LUCD32●●

(1) Basic catalogue number to be completed by adding the voltage from the table below.

Standard control circuit voltages			
Volts	24	48-72	110-240
dc	-	-	-
ac	Coil	-	-
dc or ac	S.7.D.F.0	ES (1)	FU (2)

(1) dc: 48-72 V, ac:48 V.

(2) dc: 110-220 V, ac: 110-240 V.

Keypads and Control stations V1	TeSys Model U V2.1	
Type of addressing	Standard	Extended (A/B)
Supply by AS-Interface	-	–
Supply by external source (AUX)	Coil	Coil
AS-Interface prof le	S.7.D.F.0	7.A.7.E
Maximum consumption from AS-Interface	30 mA280 mA	30 mA
Dimensions (WxDxH)	Depending on LU model	depending on LU model
Catalogue numbers	ASILUFC5	ASILUFC51
Recommended accessory for connection to AS-Interface cable (4)		TCSATV01N2

For TeSysU information, please refer to catalogue #T8500CT0602EP R3.

(4) Or direct screw terminal connection to AS-Interface and external supply (AUX).

For dialogue

Control stations V2.1	Control stations with 2 pushbuttons		
	Black and white	Green and red	Green and red illuminated
Type of addressing	Extended (A/B)	Extended (A/B)	Extended (A/B)
Supply by AS-Interface	Buttons	Buttons	Buttons and pilot lights
Supply by external source (AUX)	–	–	–
AS-Interface profile	S.B.A.E.	S.B.A.E.	S.B.A.E.
Consumption from AS-Interface	< 45 mA	< 45 mA	< 80 mA
Dimensions (WxDxH)	68x62x118 mm	68x62x118 mm	68x65x118 mm
References	**XALS2001H**	**XALS2002H**	**XALS2003H**
Recommended accessory for connection to AS-Interface cable (5)	**TCSATN011F1**	**TCSATN011F1**	**TCSATN011F1**

(5) Or direct screw terminal connection to AS-Interface and external supply (AUX).

Interface (6) V2.1	For 2 control units and 2 pilot lights
Number of pages available	–
Number of inputs	2
Number of outputs	2 solid state, 0.5 A
Type of addressing	Standard
Supply by AS-Interface	Inputs and pilot lights
AS-Interface profile	S.B.A.E.
Maximum consumption from AS-Interface	80 mA
Dimensions (WxDxH)	52x15x38 mm
References	**XALSZ1E**

(6) Direct screw terminal connection to AS-Interface or by accessory for flat cable: **TCSATN01N2**.

Indicator banks, Ø 70 mm (9) V2.1	Base units and cover		Illuminated units		Audible unit
			"Flash" discharge tube	Steady light	
Type of addressing	Standard	Standard	–	–	–
Connection to AS-Interface cable and AUX (male M12 connector)	yes	yes, remote L=1m	–	–	–
Supply by AS-Interface	(7)	(7)	–	–	–
Supply by external source (AUX)	(7)	(7)	–	–	–
AS-Interface profile	S.7.F	S.7.F	–	–	–
Consumption from AS-Interface, supply by AS-Interface / external	250 / 30 mA	250 / 30 mA	–	–	–
Light source	–	–	5 Joule	LED	–
Buzzer	–	–	–	–	70…80 dB at 1m
References	**XVBC21A**	**XVBC21B**	**XVBC6B●** (8)	**XVBC2B●** (8)	**XVBC9B**
Recommended accessory for connection to AS-Interface cable & AUX	**TCSATN011F1**	**TCSATN011F**		–	–

(7) Illuminated units supplied by AS-Interface or externally, configurable by shunt.

(8) To complete the reference, replace the ● by the following number designating the colour: green: **3**, red: **4**, orange: **5**, blue: **6**, clear: **7**, yellow: **8**.

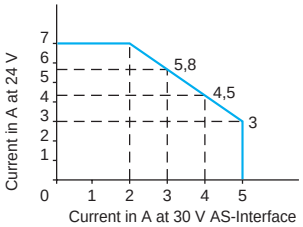
(9) To obtain a complete indicator bank, order a base unit + the illuminated or audible units (5 units maximum).

Installation system

Master modules

Platform	Twido	Premium	Micro	Quantum	Ethernet GW
Maximum number of master modules per PLC	2	2, 4 or 8 depending on processor	1	8 (1)	–
Compatibility with AS-Interface interfaces and components	V1 / V2.1	V1 / V2.1	V1	V1	V1 / V2.1 / V3.0
Direct connection to AS-Interface cable	by terminal block	by terminal block	by terminal block	by terminal block	by terminal block
Maximum number of addresses	62	62	31	31	62
Type of addressing	Standard / Extended (A/B)	Standard / Extended (A/B)	Standard	Standard	Standard / Extended (A/B)
Compatibility with analogue interfaces	Yes	Yes	–	–	Yes
Compatibility with safety interfac-	Yes	Yes	Yes	Yes	Yes
AS-Interface profile	M.3	M.2.E	M.2	M.2	M.4
References	**TWDNOI10M3**	**TSXSAY1000**	**TSXSAZ10**	**140EIA92100**	**TCSAGEA1SF13F**

(1) 4 per local rack, 4 per remote I/O, 2 per distributed I/O.



Power supply units

Type of supply		AS-Interface		AS-Interface + Auxiliary
Input voltage		100…240 VAC	100…240 VAC	100…240 VAC
AS-Interface output voltage		30 VDC	30 VDC	30 VDC
Auxiliary output voltage		–	–	24 VDC
AS-Interface nominal power		73 W	146 W	73 W
Auxiliary nominal power		–	–	72 W
AS-Interface nominal current		2.4 A	4.8 A	2.4 A
AUX nominal current		–	–	3 A
Direct connection to AS-Interface cable		by terminal block	by terminal block	by terminal block
Dimensions (WxDxH)		54x120x120 mm	81x120x120 mm	81x120x120 mm
References	without earth fault detection	**ASIABLB3002**	**ASIABLB3004**	**ASIABLM3024**
	with earth fault detection	**ASIABLD3002**	**ASIABLD3004**	–

(2) Power supply unit with constant maximum output, see curve above.

Insulation control relay

Type	For AS-Interface line
Degree of protection	IP20
Number of C/O contacts	2 relays, each with 1 N/O contact
Rated operational voltage	50 VDC
Dimensions (WxDxH)	90x58x76 mm
References	**RM0PAS101** (3)

(3) Provided with an impedance adapter.

Cables, repeater and line extension

Type			Yellow AS-Interface cable	Black Auxiliary cable	Repeater (5)	Line Extension
Wire c.s.a.			2 x 1.5 mm²	2 x 1.5 mm²	–	–
References	Cable	L = 20 m	XZCB10201 (4)	XZCB10202 (4)	–	–
		L = 50 m	XZCB10501 (4)	XZCB10502 (4)	–	–
		L = 100 m	XZCB11001 (4)	XZCB11002 (4)	–	–
Reference of repeater			–	–	ASIRPT01	TCSARR011M

(4) Standard cable. For TPE cable (oil and vapour resistant) add the letter **H** to the end of the reference, example: XZCB10201 becomes **XZCB10201H**.

(5) Enables an AS-Interface network to be extended by 100 m. Direct connection to the AS-Interface yellow cable by IDC

Tap-offs for flat cable

(For connecting interfaces and components)

Connection to cable by IDC			AS-Interface IP67		AS-Interface + Auxiliary IP67	
Connection to the AS-Interface component			M12 connector (6)	Bared wires (7)	M12 connector (6)	Bared wires (8)
References	Cable	L = 1 m	TCSATN011F1	–	TCSATV011F1	–
		L = 2 m	TCSATN011F2	TCSATN01N2	TCSATV011F2	TCSATV01N2

(6) Female 5-pin M12 end connector, screw threaded for connection with M12 male connector.

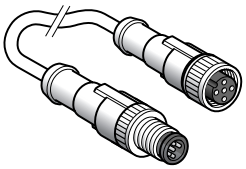
(7) 2 x 0.34 mm² for product with terminal block.

(8) 4 x 0.34 mm² for product with terminal block.

T connectors

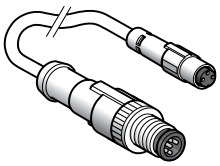
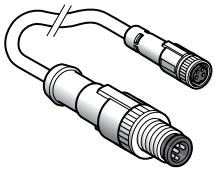
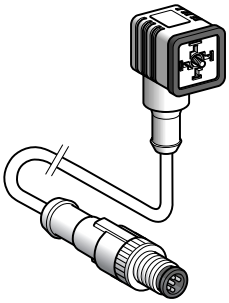
Connection to cable by IDC	T connector AS-Interface IP 67	Branch AS-Interface or Auxiliaires IP 67
Connection to the AS-Interface sensor or actuator	1 x M12 connector 5-pin female, screw threaded	Extension for 2 flat cables
References	TCSATN011F	TCSATN02V

Jumper cables M12 / M12



Type		Male / Female jumper cable		
Male connector type, interface side		M12, 3-pin, straight, screw thread.	M12, 4-pin, straight, screw thread.	M12, 5-pin, straight, screw thread.
Female connector type, sensor side		M12, 3-pin, straight, screw thread.	M12, 4-pin, straight, screw thread.	M12, 5-pin, straight, screw thread.
Cable		PUR, black	PUR, black	PUR, black
References	Cable L = 1 m	XZCR1511040A1	XZCR1511041C1	XZCR1511064D1
	L = 2 m	XZCR1511040A2	XZCR1511041C2	XZCR1511064D2

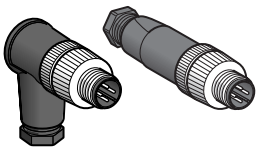
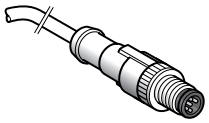
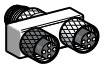
Jumper cables M12 / M8 or DIN

Type		Male / Female jumper cable		
Male connector type, interface side		M12, 3-pin, straight, screw thread.	M12, 3-pin, straight, screw thread.	M12, 3-pin, straight, screw thread.
Female connector type, sensor side		M8, 3-pin, straight (1)	M8, 3-pin, straight, screw thread.	DIN 43650A, elbowed, screw thrd.
Cable		PUR, black	PUR, black	PUR, black
References	Cable L = 1 m	XZCR1501040G1	XZCR1509040H1	XZCR1523062K1
	L = 2 m	XZCR1501040G2	XZCR1509040H2	XZCR1523062K2

(1) Clip together connector.

Connectors, splitter box

Type		Connectors	Pre-wired connectors	Splitter box
Male connector type, interface side		M12, 4-pin	M12, 5-pin, straight, screw thread.	1 x M12, 5-pin, straight, screw thrd.
Female connector type, sensor side		–	–	2 x M12, 5-pin, straight, screw thrd.
Cable		–	PUR, black	–
References	Straight connector, screw thread.	XZCC12MDM40B	–	FTXCY1212
	Elbowed connector, screw thread.	XZCC12MCM40B	–	–
	Cable L = 0.5 m	–	XZCP1564L05	–
	Cable L = 2 m	–	XZCP1564L2	–

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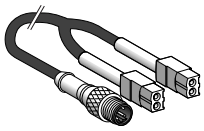
Other versions: **please consult our Customer Care Centre.**

Tools

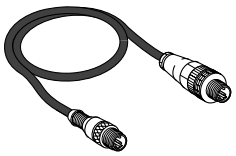
Adjustment and addressing terminals

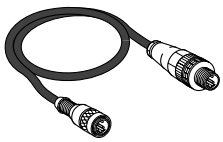
Display	25 mm LCD screen
Degree of protection	IP40
AS-Interface voltage / current measurement	yes
Addresses stored in memory	yes
Access to functions	direct by selector switch
Compatibility	V1/V2
Operating time	2500 addressing operations
References	ASITERV2
Reference with set of 7 leads + protective cover for terminal	ASITERV2SET

Addressing accessories for terminals ASITERV2 and XZMC11



Product connection	Infrared addressing	Socket
For products	ASISSL…	ABE8… / APP1 / ASILUF… / XBZS43 / ASI20M
References	ASITERIR1	XZMG12



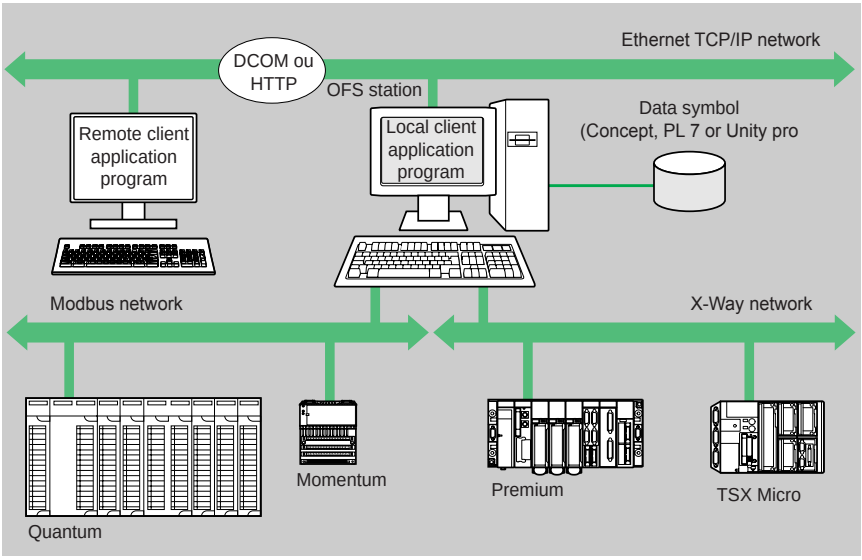


Product connection	M12, male	M12, female	Jack plug
For products	(2)	ASI67FMP XVB… / XAL… / LF…	ASI20M… / ASI67FFP…
References	ASITERACC1M	ASITERACC1F	ASITERACC

(2) Possibility to connect AS-Interface cable using T connector TCSATN011F.

OPC data server software

Type		OPC data server OFS Small	OFS Large
Items number		1000 items	Unlimited
OPC protocols		OPC DA	OPC DA, OPC XML DA,
References	Single station li cence	**TLX CD SU OFS 33**	**TLX CD LU OFS**
	10 stations licence	**TLX CD ST OFS 33**	**TLX CD LT OFS 33**
	200 stations licence	**–**	**TLX CD LF OFS 33**



Description:

Based on the OPC protocols, Schneider-Electric's OFS software (**O**PC **F**actory **S**erver) enables local or remote OPC client applications such as SCADA, supervisors or custom interfaces, to access Schneider devices and PLCs data in real time.

OFS software is a multi-device data server which provides simultaneous use of various communication protocols, and allows client applications to access control data via physical addresses or via symbols

Supported devices :

- Modicon Quantum, Premium, Micro, Compact and Momentum PLCs
- TSX Series 7 and April Series 1000 Schneider-Electric PLCs
- Serial Modbus or Uni-Telway devices connected via Schneider-Electric and Merlin Gerin gateways TSX ETG 10xx, EGX xxx ranges etc.

Supported networks and protocols :

- Modbus: Serial Modbus, Modbus Plus, Modbus TCP/IP.
- XWAY/UNI-TE: Uni-Telway, FIPWAY, ETHWAY, ISAWAY, PCIWAY.

Openess:

OFS V3.3, integrates the most recent specifications of the OPC Foundation:

- **OPC-DA** (OPC Data Access)
- **.NET API interface**
- **OPC XML-DA V1.0** (OPC XML Data Access)

The development of specialized interfaces is even more easy and open.
Developers and System integrators can develop custom applications (in Visual Basic, VBA for Excel, C++, etc) requiring access to Schneider Electric control devices. The OPC XML-DA V1.0 interface is designed to provide an interface for Windows and non-Windows client applications and remote access via the Internet through firewalls.

Embedded in the TCP/IP communication modules for Modicon M340, Premium and Quantum PLCs, FactoryCast Web servers provide secured access to the diagnostics, monitoring and maintenance functions of your automation installations via a simple web browser.

FactoryCast modules for PLC

" Ready to use" diagnostic and monitoring functions embedded in a PLC module accessible remotely via a simple Internet browser:

- Real-time communication based on Ethernet TCP/IP (Modbus and Uni-TE)
- Secure access to the PLC system and application diagnostics
- Numerical or graphical data monitoring and control
- E-mail notifications
- Web server open to user customization and creation of Web pages for diagnostics suited to your needs
- Library of animated graphic objects
- Open communications using SOAP/XML protocol as a server interface (Web services)

FactoryCast HMI modules for PLC

Diagnostic functions Identical as FactoryCast modules + Built-in HMI / SCADA functions embedded in a PLC module:

- Visualization of Unity Pro PLC program and Operator screens via Web pages
- PLC data acquisition
- Calculations scripts for data-processing Real-time database (1000 variables)
- Alarm and report notifications via E-mail
- Archiving of data directly into database servers (SQL, Oracle, MySQL)
- Data logging in CSV files in the module.
- Recipe management with read Database
- Dynamic HTML Reporting function
- Web server open to user Web pages customization
- Built-in Supervision via graphic screens and custom Web pages
- Data monitoring and Graphic monitoring (read/write)
- Library of animated graphic objects
- Open communication using SOAP/XML protocol as a server interface (Web services)

In the areas of distributed infrastructures, transport, RTU installations, industry and machines, ETG 1000 / 3000 modules more than satisfy your requirements for remote diagnostics and maintenance, remote monitoring and control, and remote programming.

FactoryCast Gateways - ETG 1000 / 10.. modules

Cost-effective web gateways offer integrating in a stand-alone module:

- All Communications network interfaces: Ethernet TCP/IP, Modbus and Uni-Telway
- Remote access functions, RAS server,
- Transparent gateway / Router functions
- Notification of alarms via E-mail
- Data monitoring and Graphic monitoring (read/write)
- A user customizable Web server for creating an interface fully adapted to your needs
- Library of animated graphic objects

FactoryCast HMI Gateways - ETG 3000 / 30.. modules

"All in one" Web gateway module integrating in a stand-alone device:

- a built-in modem (PSTN or GSM/GPRS) depending on the reference
- Secured access : VPN, data encryption and IP filtering.
- A Remote Access server function (RAS)
- 2 Ethernet ports and a Modbus serial port
- Transparent gateway router functions NAT to Ethernet or Modbus serial devices
- I/O card : 6 discrete inputs/ 2 discrete outputs
- Operating temperature : -25°C to +75°C
- User customizable Web server
- Built-in Supervision via graphic screens and custom Web pages
- Data monitoring and Graphic monitoring (read/write)
- Data Acquisition, Data Processing and Data logging in the module (CSV files)
- Archiving of data directly into database servers (SQL, Oracle, MySQL)
- Alarms and reports via E-mail / SMS
- Open communication using SOAP/XML protocol as a server interface

FactoryCast PLC
Embedded Web Servers

Applications		Web Server modules for PLCs					
		FactoryCast				FactoryCast HMI	
Target devices	Type	TSX Micro PLCs	Modicon M340 PLCs	Modicon Premium PLCs	Modicon Quantum PLCs	Modicon Premium PLCs	Modicon Quantum PLCs
Network & Remote access services	Remote access	Intranet or via external RAS/modem					
		Remote programming, downloading via FTP, access to Web server via Internet browser					
	Gateway function	–					
	Serial protocols	–					
	Ethernet protocols	Modbus TCP, Uni-TE	Modbus TCP	Modbus TCP, Uni-TE	Modbus TCP	Modbus TCP, Uni-TE	Modbus TCP
	TCP/IP protocols	BootP/DHCP, DNS, SNMP agent, SMTP client, NTP client, FTP					
	Security	Protection by IP address filtering and passwords					
Web server	Characteristics	HTTP and FTP server, 8 Mb memory available for user, hosting of user Web pages and documents (Doc, Pdf, Excel)					
Predefined services	Configuration	Via Web Designer software or predefined Web pages					
	Diagnostics	System, rack and PLC I/O diagnostics via predefined Web pages					
	Monitoring of variables	Monitoring of devices and application via animated data (read/write variables)					
	Alarm management	PLCs and applications alarms monitoring via predefined Web pages					
Customizable services	Graphic views	Graphic monitoring via animated pages (integrated graphic editor)					
	Unity Pro operator screen	–				Display in the form of Web pages	
	User Web pages	Graphic monitoring via animated Web pages created by the user					
Advanced services and HMI	Calculation scripts	–				Arithmetic and logical scripts	
	E-mail service	Alarm notification by E-mail					
	Data logging	–				Data logging in the module with time stamping (CSV files)	
	Database connection	–				Direct logging in an SQL, Oracle, MySQL database servers	
	Report service	–				Dynamic HTML report management	
	Recipe service	–				Management of “Recipe” data (storage and read locally or on remote database)	
	PLC programme visualization by Web page	–				All the languages supported by Unity Pro, are accessible by Web page on Runtime, without Unity Pro	

Application development sofware	Web Designer					
	Supplied with each module					
References	**TSXETZ510**	**BMXNOE0110**	**TSXETY5103**	**140NOE77111**	**TSXWMY100**	**140NWM10000**

Schneider Electric

Other versions: **please consult our Customer Care Centre.**

FactoryCast Gateway
Web Gateways for Remote control

	Standalone Gateway, Web Server for Remote Access			
	FactoryCast Gateway ETG 10●0		**FactoryCast HMI Gateway ETG30●●**	
	All equipment supporting Modbus	All equipment supporting Uni-Telway	All Modicon PLCs and third-party equipment supporting Modbus	
	Intranet or via external Modem, integrated RAS function		Intranet or Modem External modem, integrated RAS	Intranet or Modem Integrated PSTN/RTC/GSM modem and RAS modem, NAT
	Remote programming, downloading via FTP, access to Web server via Internet browser			
	Ethernet to Modbus serial Modem to Modbus serial and Ethernet	Ethernet to Uni-Telway serial Modem to Uni-Telway and Ethernet	Ethernet to Modbus serial Modem to Modbus serial and Ethernet (Modbus, UNITE)	
	Modbus (Master)	Uni-Telway (Slave)	Modbus (Master)	
	Modbus TCP	Modbus TCP, Uni-TE (Modicon Premium, Modicon TSX Micro)	Modbus TCP Uni-TE TCP	
	BootP/DHCP, SNMP agent, SMTP client, NTP client, FTP		DHCP, DNS, SNMP agent, SMTP client, NTP client, FTP	
	Protection by IP address fi ltering and password		Protection by IP address filtering and password + Tunnels VPN & encryption of the datas.	
	HTTP and FTP server, 8 Mb memory available for user, hosting of user Web pages and documents (Doc, Pdf, Excel)		HTTP and FTP server, 32 Mb memory available for user Web pages, memory extension using Compact Flash cards 1 Gb max., hosting of user Web pages and documents (Doc, Pdf, Excel)	
	Via Web Designer software or predefined Web pages			
	Diagnostics of serial devices via predefined Web pages		Network diagnostics, diagnostics of serial devices and Ethernet via predefined Web pages	
	Monitoring of devices and application via data tables (read/write variables)			
	Via E-mail		Via E-mail/SMS	
	Graphic monitoring via animated views (integrated graphic editor)			
	–			
	Graphic monitoring via animated Web pages created by the user			
	–		Arithmetic and logical scripts	
	Alarm notification by E-mail		Alarm notification by E-mail/SMS	
	–		Data logging in the module with time stamping (CSV files)	
	–		Direct recording in SQL, Oracle, MySQL database servers	
	–		Dynamic HTML report management	
	–		Management of “Recipe” data (storage and revad locally or on remote database)	
	–		–	

Web Designer

Supplied with each module

TSXETG1000	**TSXETG1010**	**TSXETG3000**	**TSXETG3010** (Modem RTC)	**TSXETG3021** Modem GSM/GPRS (Bands 900/1800MHz) **TSXETG3022** Modem GSM/GPRS (Bands 850/1900 MHz)

7

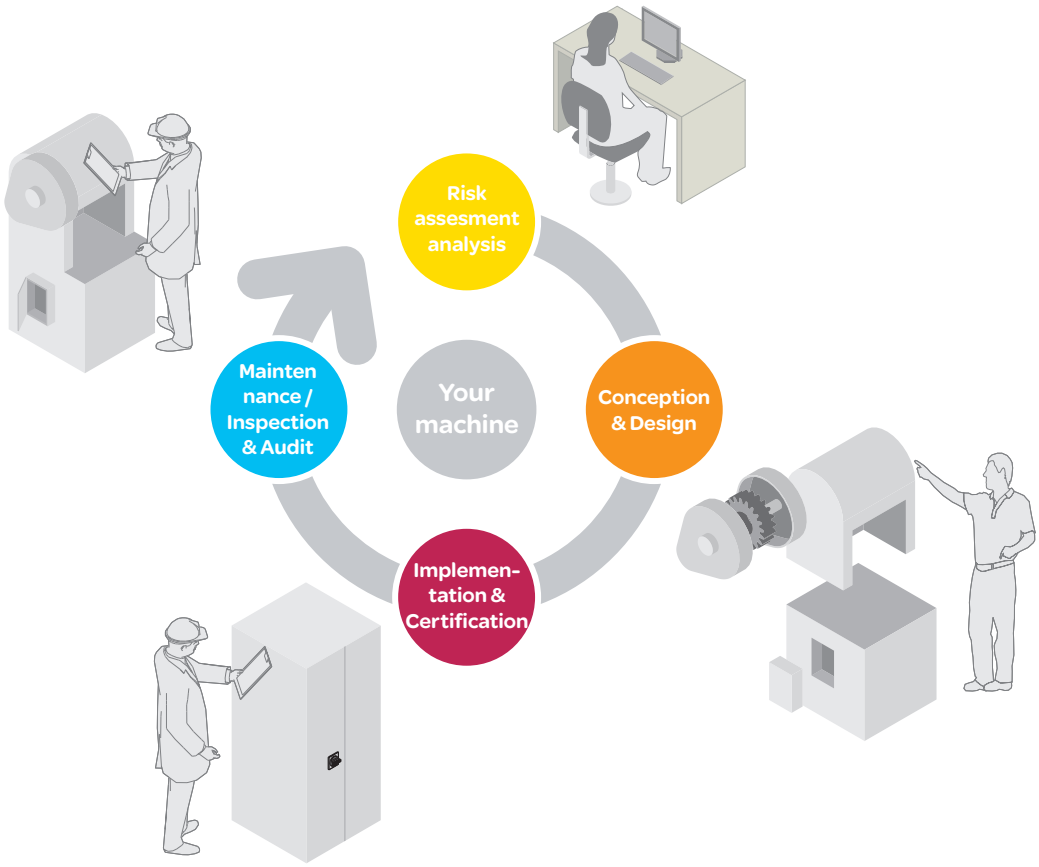
Preventa

The Preventa range enhances safety throughout a machine's entire life cycle from design, manufacture, installation, adjustment, operation and servicing right through to decommissioning.

8

In addition to moral obligation and economic consequences, the law requires that machinery is safe in the interests of accident prevention. Preventa offers an extensive range of safety products, compliant with international standards, designed to provide the most comprehensive protection for personnel and equipment.

Preventa, the safety attitude around your machine life cycle



8 Machine safety

WARNING
This document is a selection of the top selling products.
For detection products please refer to The Essential Guide of Detection

Safety standards ..... 8/2 to 8/7

Automation ..... 8/8 to 8/10

Safety controllers and modules

AS-Interface Safety at work ..... 8/11 to 8/12

Safety monitors and interfaces

Operator dialogue ..... 8/13 to 8/16

Emergency stops
Foot switches
Control units

Motor control ..... 8/17 to 8/19

Switch disconnectors
Motor starters

> New machines - the Machinery Directive

The Machinery Directive 98/37/EC is to compel manufacturers to guarantee a minimum safety level for machinery and equipment sold within the European Union.

From 29 December 2009, the new European Machinery Directive 2006/42/EC is effective. Machines have to comply with the Essential Health and Safety Requirements (EHSRs) listed in Annex I of the Directive, thus setting a common minimum level of protection across the EEA (European Economic Area).

Machine manufacturers, or their authorised representatives within the EU, must ensure that the machine is compliant, the Technical File can be made available to the enforcing authorities on request, the CE marking is affixed, and a Declaration of Conformity has been signed, before the machine may be placed on the market within the EU.

Why safety?

Human life is the most important value in a company!

Schneider Electric protect people and improve your productivity.

Functional safety

«Helping you to reach easily your safety machinery and standard level required»

Thanks to directives and standards as guidelines.

Certified safety chain solutions, designed for you by one of the leading automation companies!

The concept:

Providing certified safety functions, on the basis of an approved combination of products and simplified schematic, to save tie, reduce costs and obtain certification in accordance with the new European Machinery Directive.

Its are made by:

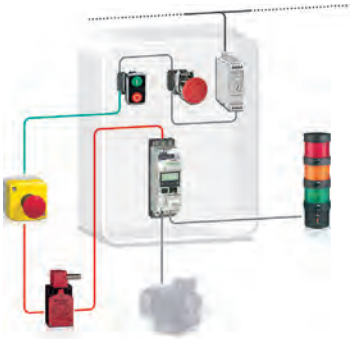
> Layout of solution indicating performance level (PL) and safety integrity level (SIL)
> Bill of materials and the system description file
> Example description of the PL and SIL calculation for the safety function
> Safety conceptual principle diagram
> Certification of all the product combination from a notify body

TÜV NORD
TÜV NORD CERT GmbH
Safety Approved

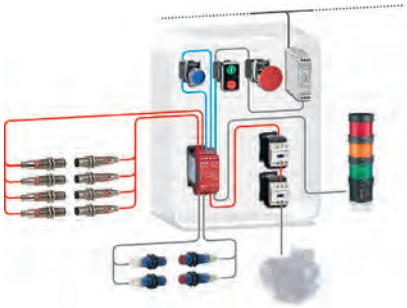
Approved

> Safety chain solutions to achieve the safety level required

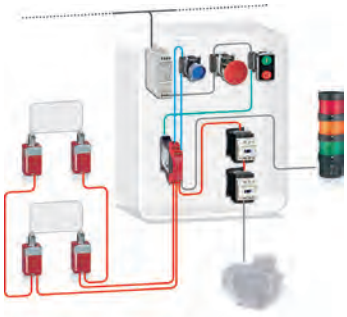
Motor starter (PL c, SIL 1)



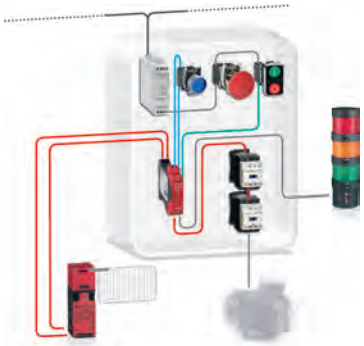
Light curtain (PL c, SIL 1)



Safe stop 0 (PL d, SIL 2)



Safe stop 0 (PL e, SIL 3) High performance



8

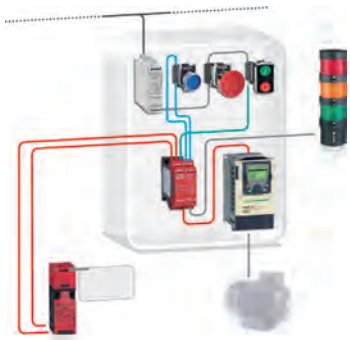
Schneider Electric

Other versions: **please consult our Customer Care Centre.**

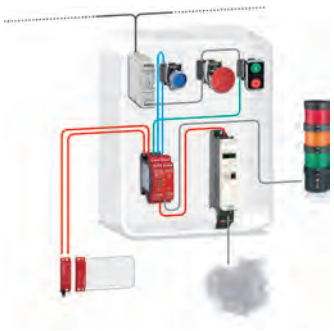
Be confident by using certified safety chain solutions provided by an automation leader

> Reduce design time by our examples of calculation of the safety level for each safety function

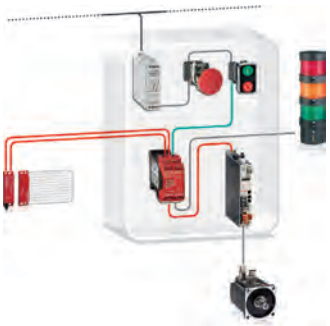
Safe stop 1 (PL d, SIL 2)
Variable speed drive



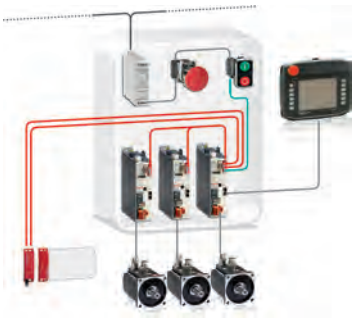
Safe stop 1 (PL e, SIL 3)
High performance



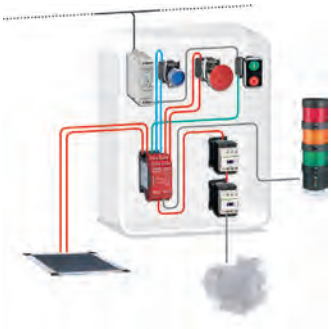
Safe stop 1 (PL e, SIL 3)
Servo drive



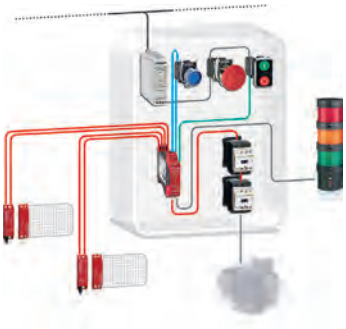
Safe stop 2 (PL e, SIL 3)
Servo-enhanced safety



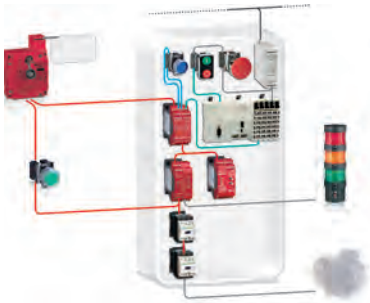
Safe Mat (PL d, SIL 2)



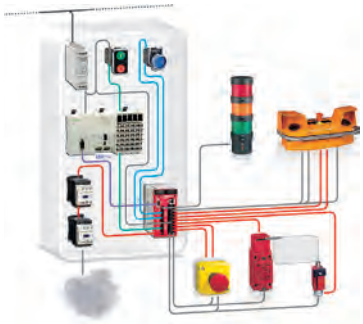
Magnetic switches (PL e, SIL 3)



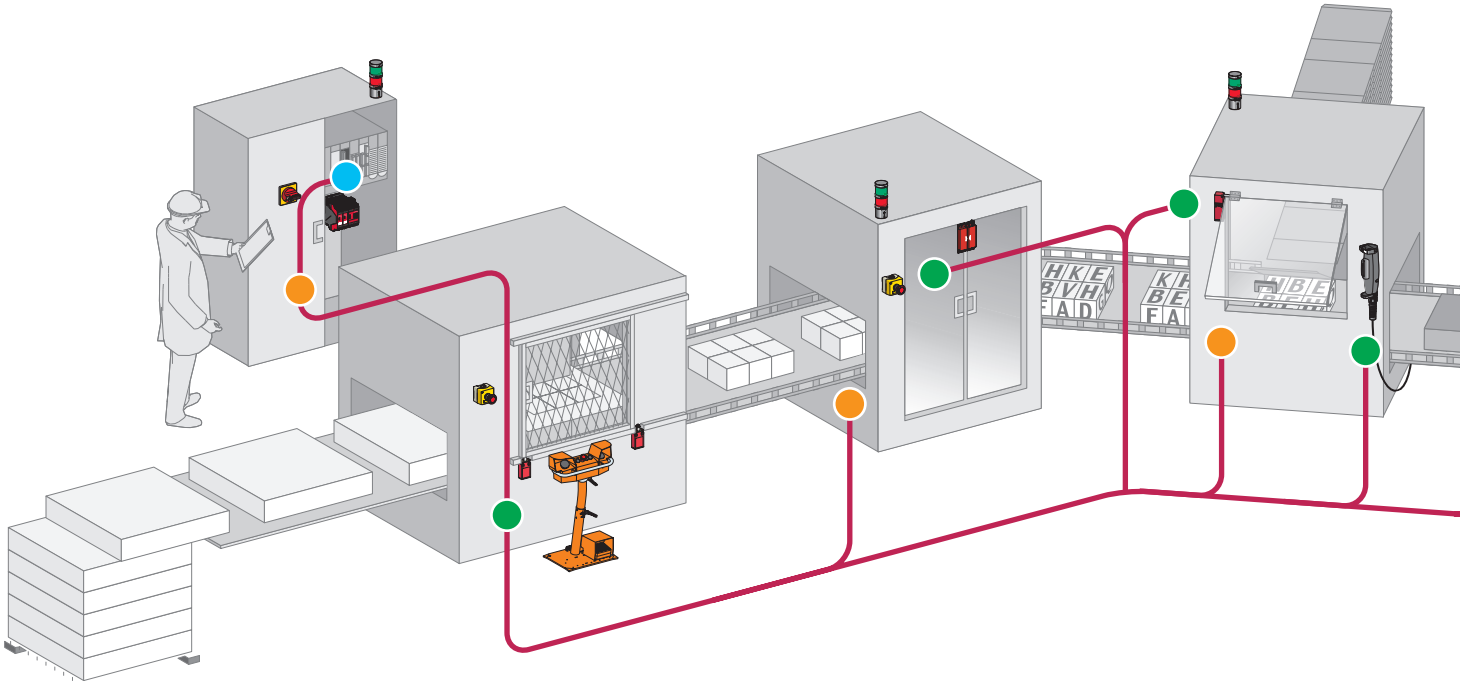
Zero speed detection (PL e, SIL 3)



Multifunction (PL e, SIL 3)



Save cost and time with our Preventa offer



Safe signal transmission

Protective guard devices

Acquire the information*:

> Protective guard devices used as part of safeguarding systems to control the access under specific conditions of reduced risk.

> Light curtains and safety mats to detect approach to dangerous and limited areas.

> Generic protective measures - Emergency stop.

Monitor and processing:

> Safety relays modules with a specific safety function to monitor input signals from safety devices and to interface with contactors and drives by switch off the output safety contacts.

> Safety Controller: configurable safety device capable of centralized a generic range of safety monitoring functions.

> Safety PLCs: programmable electronic systems to carry out safety or non-safety related tasks for machinery and equipment.

> "AS-Interface safety at work": safety field bus network certified to work with safety devices to provide safety functions.

Light curtains

Safety mats

Enabling switches

*For detection products please refer to The Essential Guide of Detection

Emergency stop

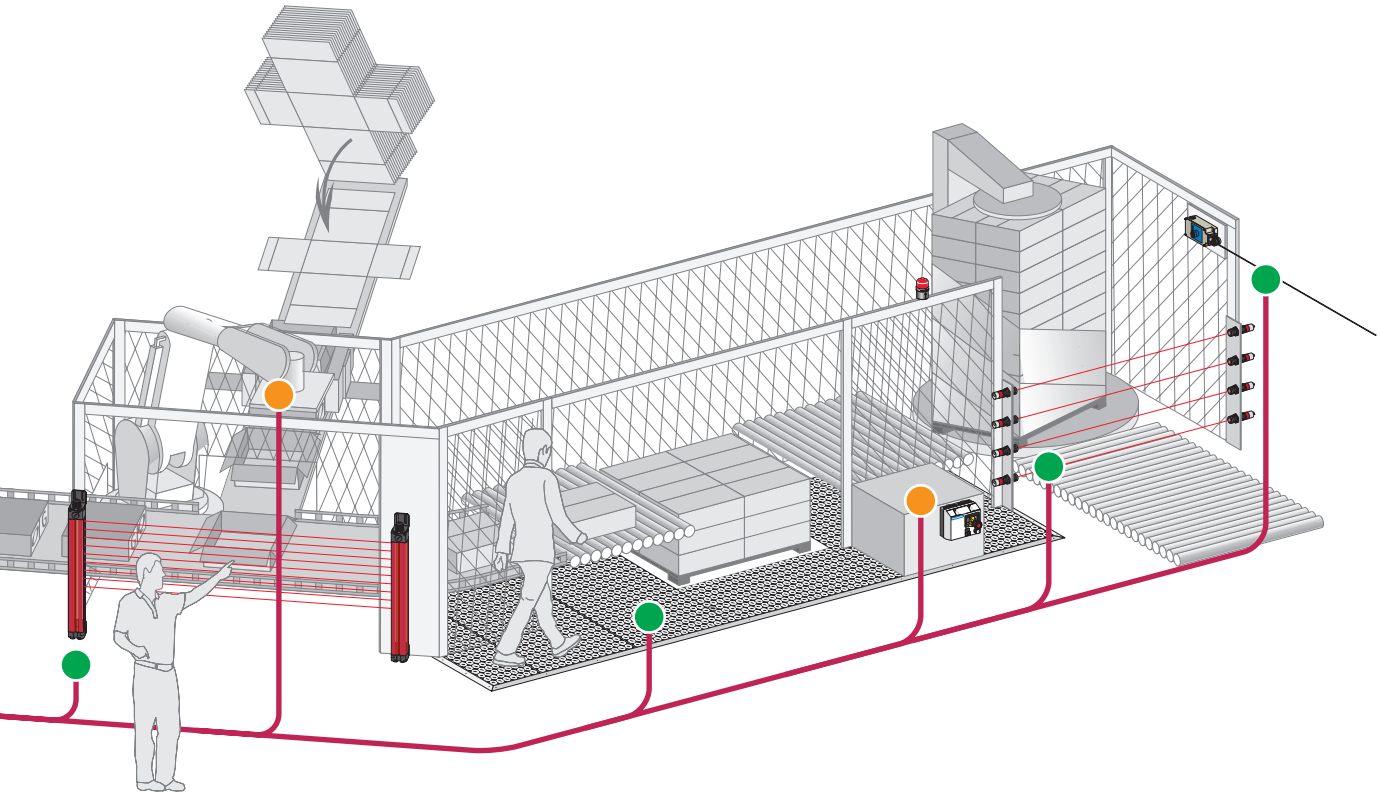
Tripwire switch

Safety relays

Safety Controller

Safety PLCs

AS-Interface safety at work



Stop the machine:

> Contactors to cut-off the electrical power supply to the motors with mechanically linked mirror auxiliary contacts integrated for the feedback loop diagnosis of safety modules.

> Variable speed drives and servo drives controlled stopping of the dangerous movement by safety functions integrated.

> Rotary switch disconnectors: for equipment isolation from the electrical supply andfor emergency stop by direct interruption of the power supply.

Variable Speed Drives

Servodrives

Contactors

Rotary switch disconnectors

1 Complete & upgraded safety offer:

Improve safety level required

Up to 50% of space optimization

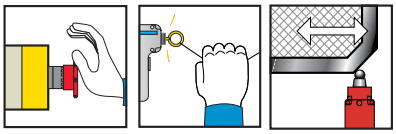
Increase the compactness by reducing size.

Save up to 30% on installation time

Reduce installation time by easy and quick wiring.

Safety controllers for monitoring

emergency stops and limit switches



Universal

Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		**PL e / Cat. 4, SILCL 3**			
Number of circuits	Safety	2 x 2N/O + 6 solid-state			2 x 3N/O per function
	Additional	–			3 solid-state
Display (number of LEDs)		30			12
Width of housing		74 mm			45 mm
Communication interface		Modbus	Modbus, CANopen	Modbus, Profibus DP	–

Universal solutions: safety controllers (for monitoring several safety functions simultaneously)

Supply voltage	24 VDC	**XPSMC32Z** (1) (2)	**XPSMC32ZC** (1) (2)	**XPSMC32ZP** (1) (2)	**XPSMP11123P** (3)

coded magnetic switches enabling switch

Universal

Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		**PL e / Cat. 4, SILCL 3**			
For monitoring		magnetic switches and enabling switch			
Number of circuits	Safety	2 x 2N/O + 6 solid-state			2 x 3N/O per function
	Additional	–			3 solid-state
Display (number of LEDs)		30			12
Width of housing		74 mm			45 mm
Communication interface		Modbus	Modbus, CANopen	Modbus, Profibus DP	–

Universal solutions: safety controllers (for monitoring several safety functions simultaneously)

Supply voltage	24 VDC	**XPSMC32Z** (1)(2)	**XPSMC32ZC** (1)(2)	**XPSMC32ZP** (1)(2)	**XPSMP11123P** (3)

safety mats and edging

Universal

Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		**PL d / Cat. 3, SILCL 2**			
Number of circuits	Safety	2 x 2N/O + 6 solid-state			2 x 3N/O per function
	Additional	–			3 solid-state
Display (number of LEDs)		30			12
Width of housing		74 mm			45 mm
Communication interface		Modbus	Modbus, CANopen	Modbus, Profibus DP	–

Universal solutions: safety controllers (for monitoring several safety functions simultaneously)

Supply voltage	24 VDC	**XPSMC32Z** (1)(2)	**XPSMC32ZC** (1)(2)	**XPSMC32ZP** (1)(2)	**XPSMP11123P** (3)

(1) Version with 32 inputs. For version with 16 inputs, replace 32 in the reference by 16 (example: XPSMC32Z becomes XPSMC16Z).

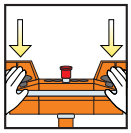
(2) Configuration software XPSMCWIN (complete version) or SSVXPSMCWINUP (update version), connecting cable, adaptor and set of screw terminal plug-in connectors XPSMCTS16 and XPSMCTS32 or set of spring clip terminal plug-in connectors XPSMCTC16 and XPSMCTC32 to be ordered separately.

(3) For fixed connector version, delete the letter P from the end of the reference (example: XPSMP11123P becomes XPSMP11123).

Schneider Electric

Other versions: **please consult our Customer Care Centre.**

Safety controllers for monitoring
two-hand control



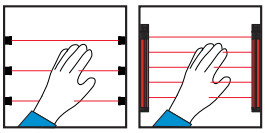
Universal

Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		PL e / Cat. 4, SILCL 3		
Number of circuits	Safety	2 x 2N/O + 6 solid-state		
	Additional	–		
Display (number of LEDs)		30		
Width of housing		74 mm		
Communication interface		Modbus	Modbus, CANopen	Modbus, Profibus DP

Universal solutions: safety controllers (for monitoring several safety functions simultaneously)

Supply voltage	24 VDC	**XPSMC32Z** (1)(2)	**XPSMC32ZC** (1)(2)	**XPSMC32ZP** (1)(2)

light curtains



Universal

Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		PL e / Cat. 4, SILCL 3				2 light curtains monitoring max.
Number of circuits	Safety	2 x 2N/O + 6 solid-state			2x3N/O per function	6 PNP solid-state
	Additional	–			3 solid-state	1 PNP + 1 NPN
Display (number of LEDs)		30			12	14 + double display units
Width of housing		74 mm			45 mm	100 mm
Integral Muting function		Yes			No	Yes
Communication interface		Modbus	Modbus, CANopen	Modbus, Profibus DP	–	–

Universal solutions: safety controllers (for monitoring several safety functions simultaneously)

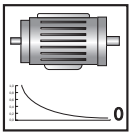
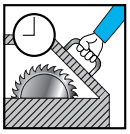
Supply voltage	24 VDC	**XPSMC32Z**(1)(2)	**XPSMC32ZC**(1)(2)	**XPSMC32ZP**(1)(2)	**XPSMP11123P** (3)	**XPSLCM1150** (4)

(1) Version with 32 inputs, for version with 16 inputs, replace 32 in the reference by 16 (example: XPSMC32Z becomes XPSMC16Z).

(3) For version with non removable terminal block, delete the letter P from the end of the reference (example: XPSMP11123P becomes XPSMP11123).

(4) Removable terminal blocks

zero speed, time delay

Universal

Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		PL e / Cat. 4, SILCL 3		
For monitoring		Motor zero speed condition		
Number of circuits	Safety	2 x 2N/O + 6 solid-state		
	Additional	–		
Display (number of LEDs)		30		
Width of housing		74 mm		
Communication interface		Modbus	Modbus, CANopen	Modbus, Profibus DP

Universal solutions: safety controllers (for monitoring several safety functions simultaneously)

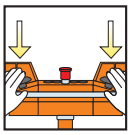
Supply voltage	24 VDC	**XPSMC32Z** (5) (2)	**XPSMC32ZC** (5) (2)	**XPSMC32ZP** (5) (2)

(2) Configuration software XPSMCWIN (complete version) or SSVXPSMCWINUP (update version), connecting cable, adaptor and set of screw terminal plug-in connectors XPSMCTS16 and XPSMCTS32 or set of spring clip terminal plug-in connectors XPSMCTC16 and XPSMCTC32 to be ordered separately.

(5) Plug-in connector version only.

Safety modules for monitoring

two-hand control



New

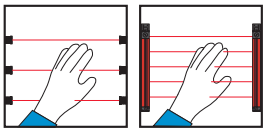
Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		PL c / Cat. 1 (type IIIA to EN 574/ISO 13851)	PL e / Cat. 4, SILCL 3 (type IIIC to EN 574/ISO 13851)	
Number of circuits	Safety	1N/O	2N/O	2N/O
	Additional	1N/C	1N/C	2 solid-state
Display (number of LEDs)		2	3	3
Width of housing		22.5 mm	22.5 mm	22.5 mm

Optimum solutions: safety modules (for monitoring 1 safety function)

Supply voltage	24 VDC	–	–	**XPSBF1132P** (1)
	24 VAC/DC	**XPSBA5120**	**XPSBCE3110P** (2)	–

(1) For version with non removable terminal block, delete the letter P from the end of the reference (example: XPSBF1132P becomes XPSBF1132).
(2) For version with cage clamps removable terminal block, change the letter P for C from the end of the reference (example: XPSBCE3110P becomes XPSBCE3110C)

light curtains



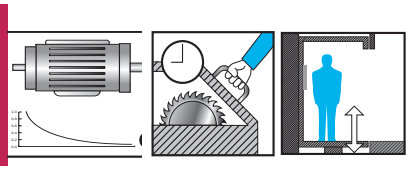
Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		PL c / Cat. 2, SILCL 1	PL e / Cat. 4, SILCL 3		
Number of circuits	Safety	2N/O	3N/O	3N/O	7N/O
	Additional	4 solid-state	–	1N/C + 4 solid-state	1N/C + 4 solid-state
Display (number of LEDs)		4	3	4	4
Width of housing		45 mm	22.5 mm	45 mm	90 mm
Integral Muting function		Yes	No	No	No

Optimum solutions: safety modules (for monitoring 1 safety function)

Supply voltage	24 VDC	**XPSCM1144P** (1)	–	–	–
	24 VAC/DC	–	**XPSAFL5130P** (1)	**XPSAK311144P** (1)	**XPSAR311144P** (1)

(1) For version with non removable terminal block, delete the letter P from the end of the reference (example: XPSCM1144P becomes XPSCM1144).

zero speed, time delay and lifts



New

Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		PL d / Cat. 3, SILCL 2			PL e / Cat. 4, SILCL 3
For monitoring		Motor zero speed condition	Safety time delay		Lifts
Number of circuits	Safety	1N/O + 1N/C	1N/O time delay	1N/O pulse	2N/O
	Additional	2 solid-state	2N/C + 2 solid-state	2N/C + 2 solid-state	2 solid-state
Display (number of LEDs)		4	4	4	4
Width of housing		45 mm	45 mm	45 mm	22.5 mm

Optimum solutions: safety modules (for monitoring 1 safety function)

Supply voltage	24 VDC	**XPSVNE1142P** (1)	–	–	–
	24 VAC/DC	–	**XPSTSA5142P** (2)	**XPSTSW5142P** (2)	**XPSEDA5142**

(1) Motor frequency ≤ 60 Hz.. For frequencies ≥ 60 Hz, please refer to the “Safety solution” catalogue.
(2) Removable terminal block version only.

Schneider Electric

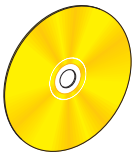
Other versions: **please consult our Customer Care Centre.**

Safety monitors

Monitors

Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		PL e / Cat. 4, SILCL 3	
Number of circuits	Safety	2N/O	2 x 2N/O
	Auxiliary	1 solid-state	2 solid-state
Display (number of LEDs)		5	8
Width of housing		45 mm	45 mm
AS-Interface profile		S.7.F	S.7.F
Master module compatibility		V1 / V2.1	V1 / V2.1
References of monitor with	**enhanced functions**	**ASISAFEMON1B**	**ASISAFEMON2B**
	standard functions	**ASISAFEMON1**	**ASISAFEMON2**

Configuration software, adjustment terminal and AS-Interface analyser



Type		Configuration software (1)	Adjustment terminal (2)	AS-Interface Analyser
Multilingual		**EN / FR / DE / ES / IT / PT**	–	■ Analysis and diagnostics of AS-Interface line and Safety at Work ■ Complements the diagnostic functions of the local AS-Interface master ■ Maintenance or validation of AS-Interface lines ■ Print-out of AS-Interface line tests 92 x 28 x 139 mm
For use with		ASISAFEMON1/2, ASISAFEMON1B/2B	–	
Media		CD-ROM PC	–	
Environment		Windows	–	
Degree of protection		–	IP 40	
Supply		–	4 x LR6 batteries	
Dimensions W x D x H		–	70 x 50 x 170 mm	
References	Complete version	**ASISWIN2**	**ASITERV2**	**ASISA01**
	Update version (3)	**SSVASISWINUP**	–	–

(1) CD-ROM with hardware and software user guides.

(2) For addressing safety interfaces, use the infrared adaptor ASITERIR1 or the standard adaptor ASISAD1.

(3) To be ordered only if a previous version of ASISWIN have been already installed.

Accessories

Type	Adaptor for the adressing of safety interfaces	Infrared adaptor for adjustment terminal	Tap-off for AS-Interface cable	Cable for monitor parametering, RS 232	Cable for monitor to monitor transfer
Degree of protection	–	IP 67	IP 67	IP 20	IP 20
Cable length	–	1 m	2 m	2 m	0.2 m
References	**ASISAD1**	**ASITERIR1**	**TCSATN01N2**	**ASISCPC**	**ASISCM**

Safety interfaces

For Ø 22 Emergency stop

Interface type	For mushroom head pushbuttons				Control stations	
	Metal	(1)	Plastic	(1)	Plastic	
Degree of protection	IP 20	IP 20	IP 20	IP 20	IP 65	IP 65
Dimensions W x D x H (mm)	40 x 90 x 68	40 x 80 x 40	40 x 90 x 64	40 x 90 x 40	66 x 95 x 78	66 x 95 x 78
AS-Interface profile	S.0.B.F.F	S.0.B.F.F	S.0.B.F.F	S.0.B.F.F	S.0.B.F.F	S.0.B.F.F
Consumption from AS-Interface	45 mA	45 mA	45 mA	45 mA	45 mA	45 mA
Infrared addressing	Yes	No	Yes	No	No	No
Connection on AS-Interface	IDC (2)	Connector	IDC (2)	Connector	M12 connector	M12 connector
Reference with N/C + N/C contact (head not included)	**ASISSLB4**	**ASISSLE4**	**ASISSLB5**	**ASISSLE5**	**ASISEA1C**	**ASISEK1C**
Reference of head (Ø40 latching mushroom head, turn to release)	**ZB4BS844** (3)	**ZB4BS844** (3)	**ZB4AS844** (3)	**ZB5AS844** (3)	**Integrated** (4)	**Integrated** (5)

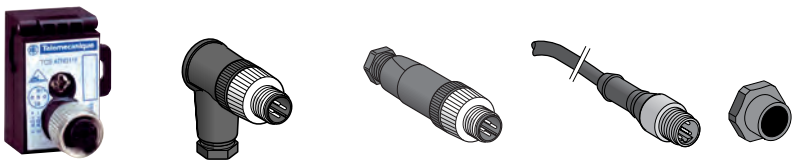
(1) For installation in enclosures.
(2) IDC: Insulation Displacement Connector.
(3) Head to be ordered separately. For other heads, please refer to www.schneider-electric.com.
(4) Turn to release latching mushroom head.
(5) Key release (n° 455) latching mushroom head.

For other safety products with M12 connector outputs or ISO M16/20

Type of entry	2 x M12 entries (6)	1 x M12 entry	1 x ISO M16 entry (7)
Degree of protection	IP 67	IP 67	IP 67
Dimensions W x D x H	40 x 40 x 58 mm	40 x 40 x 58 mm	40 x 40 x 57.5 mm
AS-Interface profile	S.0.B.F.F	S.0.B.F.F	S.0.B.F.F
Consumption from AS-Interface	45 mA	45 mA	45 mA
Infrared addressing	Yes	Yes	Yes
Connection on AS-Interface	IDC (1)	IDC (1)	IDC (1)
References	**ASISSLC2**	**ASISSLC1**	**ASISSLLS**

(6) For connection using 2 pre-wired connectors, or 1 pre-wired connector + 1 connector.
(7) For 1 x ISO M20 entry, use adaptor shown below.

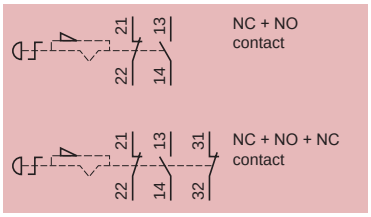
Accessories

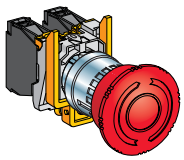


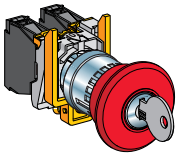
Type	Tap-off for AS-Interface cable	Connectors		Pre-wired connector	Adaptor (sold in lots of 5)
Description	M12 female, threaded	elbowed	straight	straight	ISO M16/M20
Degree of protection	IP 67	IP 67	IP 67	IP 67	IP 67
Length of cable	–	–	–	2 m	–
References	**TCSATN011F**	**XZCC12MCM40B**	**XZCC12MDM40B**	**XZCP1541L2**	**DE9RI2016**

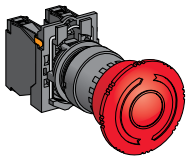
Emergency stops

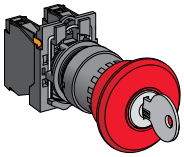
Ø 22 trigger action latching pushbuttons




Turn to release


Key release
(key n° 455)

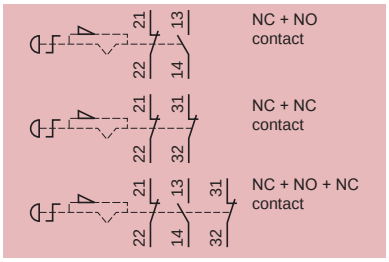

Turn to release

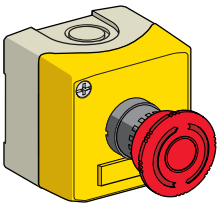

Key release
(key n° 455)

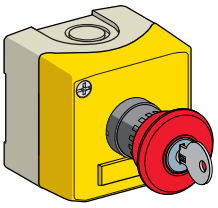
Pushbuttons		Metal		Plastic	
Mechanical life (millions of operating cycles)		0.3		0.3	
Shock / vibration resistance		10 gn / 5 gn		10 gn / 5 gn	
Degree of protection		IP 65		IP 65	
Rated operational characteristics		AC 15, A 600 / DC 13, Q 600 (conforming to EN IEC 60947-5-1)			
Dimensions Ø x Depth		Ø 40 x 82 mm	Ø 40 x 104 mm	Ø 40 x 81.5 mm	Ø 40 x 103 mm
Contact	NC + NO	**XB4BS8445**	**XB4BS9445**	**XB5AS8445**	**XB5AS9445**
	2 NC + 1 NO	**XB4BS84441**	**ZB4BS944+ZB4BZ141**	**ZB5AS844 + ZB5AZ141**	**ZB5AS944+ZB5AZ141**

ISO entry (to EN 50262)

Ø 22 trigger action latching pushbutton stations



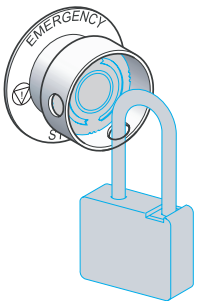

Turn to release

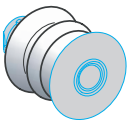

Key release (key n° 455)

Enclosure		Plastic 2 x ISO M20 cable entries or n° 13 (Pg 13.5) cable gland	
Mechanical life (millions of operating cycles)		0.1	0.1
Shock / vibration resistance		10 gn / 5 gn	10 gn / 5 gn
Degree of protection		IP 65	IP 65
Rated operational characteristics		AC 15, A 600 / DC 13, Q 600 (conforming to EN IEC 60947-5-1)	
Dimensions W x D x H		68 x 91 x 68 mm	68 x 113 x 68 mm
Contact	NC + NO	**XALK178EH7**	**XALK188EH7**
	NC + NC	**XALK178FH7**	
	2 NC + 1 NO	–	

Accessories

With legend holder





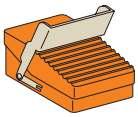
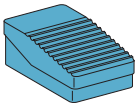
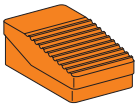
Type			Legend		Padlocking kit	Bellows seals	
Colour			Red with white lettering	Yellow with black lettering	Yellow	Red Silicone	Black EPDM
Dimensions			30 x 40 mm (1)	Ø 60 mm			
References	**Marking:**	"Arrêt d'urgence"	**ZBY2130**	**ZBY9130**	–	–	–
		"Emergency stop"	**ZBY2330**	**ZBY9330**	–	–	–
		"Not Halt"	**ZBY2230**	**ZBY9230**	–	–	–
			–	–	**ZBZ3605**	**ZBZ48**	**ZBZ28**

(1) circular appearance

Foot switches - metal

Single pedal switches

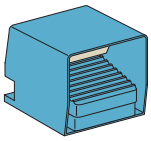
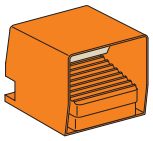
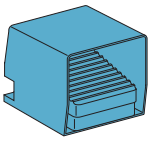
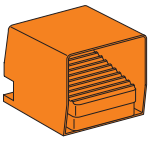
ISO entry (to EN 50262)

Type CSA certified for references ending with H2 only			**Foot switches without protective cover** 2 cable entries for n° 16 (Pg 16) cable gland (1)		
Trigger mechanism			With (positive operating action reqd.)	Without	
Colour			Orange	Blue	Orange
Mechanical life (millions of operating cycles)			15		
Degree of protection			IP 66		
Shock resistance			100 joules		
Rated operational characteristics			AC 15, A 300 / DC 13, Q 300 (conforming to EN IEC 60947-5-1)		
Dimensions W x D x H			104 x 172 x 59 mm		
Contact operation	**1 step**	1 NC + NO	**XPER810**	**XPEM110(2)**	**XPER110**
		2 NC + NO	**XPER811**	**XPEM111(2)**	**XPER111**
	2 step	2 NC + NO	**XPER911**	**XPEM211(2)**	**XPER211**
	Analogue output	2 NC + NO	**XPER929**	**–**	**XPER229**

(1) For entry for ISO M20 cable gland, also order adaptor DE9RA1620H2 (sold in lots of 5). (2) For 1/2" NPT adaptor add H2 to the reference.

ISO entry (to EN 50262)

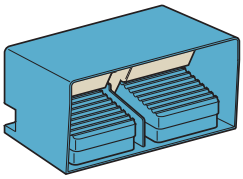
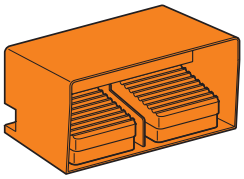





Type CSA certified for references ending with H2 only			**Foot switches without protective cover** 2 cable entries for n° 16 (Pg 16) cable gland (1)			
Trigger mechanism			With (positive operating action reqd.)		Without	
Colour			Blue	Orange	Blue	Orange
Mechanical life (millions of operating cycles)			15			
Degree of protection			IP 66			
Shock resistance			100 joules			
Rated operational characteristics			AC 15, A 300 / DC 13, Q 300 (conforming to EN IEC 60947-5-1)			
Dimensions W x D x H			160 x 186 x 152 mm			
Contact operation	**1 step**	1 NC + NO	**XPEM510(2)**	**XPER510**	**XPEM310**	**XPER310**
		2 NC + NO	**XPEM511(2)**	**XPER511**	**XPEM311**	**XPER311**
	1 step latching	1 NC + NO	**–**	**–**	**XPEM410(2)**	**XPER410**
	2 step	2 NC + NO	**XPEM711**	**XPER711**	**XPEM611**	**XPER611**
	Analogue output	2 NC + NO	**XPEM529**	**XPER529**	**XPEM329**	**–**

(1) For entry for ISO M20 cable gland, also order adaptor DE9RA1620H2 (sold in lots of 5). (2) For 1/2" NPT adaptor add H2 to the reference.

Double pedal switches

ISO entry (to EN 50262)

Type CSA certified for references ending with H2 only,			**Foot switches without protective cover** 2 cable entries for n° 16 (Pg 16) cable gland (1)			
Trigger mechanism			With (positive operating action reqd.)		Without	
Colour			Blue	Orange	Blue	Orange
Mechanical life (millions of operating cycles)			15			
Degree of protection			IP 66			
Shock resistance			100 joules			
Rated operational characteristics			AC 15, A 300 / DC 13, Q 300 (conforming to EN IEC 60947-5-1)			
Dimensions W x D x H			295 x 190 x 155 mm			
Contact operation	**1 step**	2 x 1 NC + NO	**XPEM5100D**	**XPER510D**	**XPEM3100D**	**XPER3100D**
		2 x 2 NC + NO	**XPEM5110D**	**XPER5110D**	**XPEM3110D**	**XPER3110D**

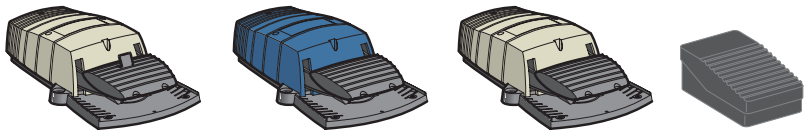
(1) For entry for ISO M20 cable gland, also order adaptor DE9RA1620 (sold in lots of 5).

Other versions: **please consult our Customer Care Centre.**

Foot switches - plastic

Single pedal switches

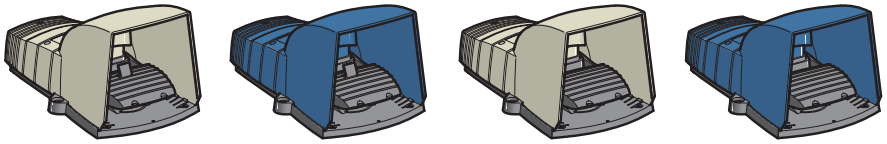
ISO entry (to EN 50262)



Type			Foot switches without protective cover 2 cable entries for ISO M20 cable gland			1 entry (1)
Trigger mechanism			With (positive operating action reqd.)	Without		Without
Colour			Grey+	Blue	Grey	Black
Mechanical life (millions of operating cycles)			10			2
Degree of protection			IP 66			IP 43
Shock resistance			100 joules			
Rated operational characteristics			AC 15, A 300 / DC 13, Q 300 (conforming to EN IEC 60947-5-1)			
Dimensions W x D x H			160 x 280 x 70 mm			94 x 161 x 54 mm
Contact operation	**1 step**	1 NC + NO	**XPEG810**	**XPEB110**	**XPEG110**	**XPEA110**
		2 NC + NO	–	**XPEB111**	**XPEG111**	**XPEA111**
	2 step	2 NC + NO	**XPEG911**	**XPEB211**	**XPEG211**	–

(1) Cable entry for ISO M16 or n° 9 (Pg 9) cable gland and for ISO M20 or n° 13 (Pg 13.5) cable gland.

ISO entry (to EN 50262)



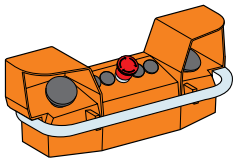
Type			Foot switches with protective cover 2 cable entries for ISO M20 cable gland			
Trigger mechanism			With (positive operating action reqd.)		Without	
Colour			Grey	Blue	Grey	Blue
Mechanical life (millions of operating cycles)			10			
Degree of protection			IP 66			
Shock resistance			100 joules			
Rated operational characteristics			AC 15, A 300 / DC 13, Q 300 (conforming to EN IEC 60947-5-1)			
Dimensions W x D x H			180 x 280 x 162 mm			
Contact operation	**1 step**	1 NC + NO	**XPEG510**	**XPEB510**	**XPEG310**	**XPEB310**
		2 NC + NO	**XPEG511**	**XPEB511**	**XPEG311**	**XPEB311**
	2 step	2 NC + NO	**XPEG711**	**XPEB711**	**XPEG611**	**XPEB611**

Control units

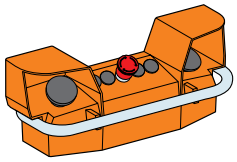
Two-hand control

ISO entry (to EN 50262)

Not CSA



2 control pushbuttons and 1 mushroom head Emergency stop or Lock out pushbutton



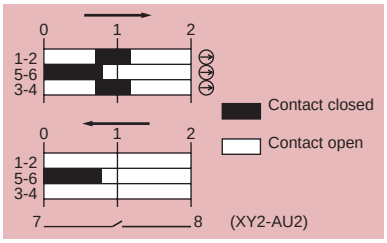
2 control pushbuttons and 1 mushroom head Emergency stop or Lock out pushbutton, with pre-wired terminal block

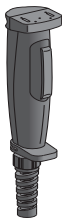
Type	Two-hand control stations 2 cable entries for ISO M20 or n° 13 (Pg 13.5) cable gland, 1 cable entry for n° 21 (Pg 21) cable gland (2)	
Mechanical life (millions of operating cycles)	1	1
Degree of protection	IP 65	IP 65
Rated operational characteristics	AC 15, A 600 / DC 13, Q 600 (conforming to EN IEC 60947-5-1)	
Dimensions W x D x H	455 x 170 x 188.5 mm	
Red emergency stop (NC + NC slow break)	**XY2SB71** (1)	**XY2SB72** (1)
Yellow lock out (NC + NO break before make)	**XY2SB75**	**XY2SB76**

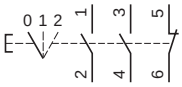
(1) To order a two-hand control station with pedestal XY2SB90, add 4 to the end of the reference (example: XY2SB71 becomes XY2SB714).
(2) For entry for ISO M25 cable gland, also order adaptor DE9RA2125 + fixing nut DE9EC21 (sold in lots of 5).

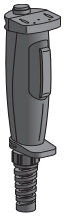
Enabling switch

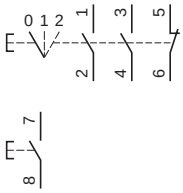
Contact states









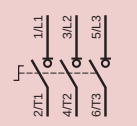


Type	Plastic grip Entry for Ø 7 to 13 mm cable	
Number of contacts	3	3
Type of contacts	2 NO + 1 NC	2 NO + 1 NC 1 NO auxiliary
Description	3 positions	3 positions with button for NO contact (auxiliary)
Shock / vibration resistance	10 gn / 6 gn	
Degree of protection	IP 66	IP 65
Rated operational characteristics	AC 15, C300 / DC 13, R300 (conforming to EN IEC 60947-5-1)	
Dimensions W x D x H	46 x 58 x 261 mm	46 x 58 x 269 mm
References	**XY2AU1**	**XY2AU2**

For fixing accessories, please refer to www.schneider-electric.com.

Protection Components 12...175A

Motor disconnect switches



Varlo Switch Kits

Type								Door Mount				Rear Mount with Extension Shaft		Switch & Handle DIN Rail mount
Color								red/yellow	red/yellow	black/grey	black/grey	red/yellow	red/yellow	red/yellow
Front plate dimensions (mm)								60 x 60	90 x 90	60 x 60	90 x 90	90 x 90	60 x 60	–
Mounting								1 Hole	4 Hole	1 Hole	4 Hole	4 Hole	1 Hole	DIN Rail
Degree of protection								IP20	IP20	IP20	IP20	IP20	IP20	–
Amps		1 Phase, HP rating		3 Phase, HP rating										
UL/ CSA	IEC	120V	200V	208V	240V	480V	600V							
10	12	1	2	2	2	5	5	VCD02	VCF02	VBD02	VBF02	VCCF02	VCCD02	–
16	20	1.5	3	3	3	7.5	7.5	VCD01	VCF01	VBD01	VBF01	VCCF01	VCCD01	–
20	25	2	3	5	5	10	10	VCD0	VCF0	VBD0	VBF0	VCCF0	VCCD0	VVE0
20	32	2	3	5	5	10	10	VCD1	VCF1	VBD1	VBF1	VCCF1	VCCD1	VVE1
25	40	2	3	5	5	10	15	VCD2	VCF2	VBD2	VBF2	VCCF2	VCCD2	VVE2
45	63	5	7.5	7.5	10	20	30		VCF3		VBF3	VCCF3		VVE3
63	80	7.5	10	10	15	30	40		VCF4		VBF4	VCCF4		VVE4
100	125	15	20	20	25	50	50		VCF5		VBF5	VCCF5		
110	175	15	25	25	30	50	60		VCF6		VBF6	VCCF6		

Enclosed Varlo Switch

Amps		1 Phase, HP rating		3 Phase, HP rating				Non Metallic	Metallic		
UL/ CSA	IEC	120V	200V	208V	240V	480V	600V	Type 1/ 12	Type 1	Type 12	Type 4 / 4X (indoor use only)
20	32	2	3	5	5	10	10	VC1GU	9421V1G30	9421V1A30	9421V1W30
25	40	2	3	5	5	10	15	VC2GU	9421V2G30	9421V2A30	9421V2W30
45	63	5	7.5	7.5	10	20	30	VC3GU			
63	80	7.5	10	10	15	30	40	VC4GU			
100	125	15	20	20	25	50	50	VC5GU			
110	175	15	25	25	30	50	60	VC6GU			

Varlo Switch

Amps		1 Phase, HP rating		3 Phase, HP rating				Shaft Size	3 Pole	Add-On Power Pole
UL/ CSA	IEC	120V	200V	208V	240V	480V	600V			
10	12	1	2	2	2	5	5	6mm	V02	VZ02
16	20	1.5	3	3	3	7.5	7.5	6mm	V01	VZ01
20	25	2	3	5	5	10	10	6mm	V0	VZ0
20	32	2	3	5	5	10	10	6mm	V1	VZ1
25	40	2	3	5	5	10	15	6mm	V2	VZ2
45	63	5	7.5	7.5	10	20	30	6mm	V3	VZ3
63	80	7.5	10	10	15	30	40	6mm	V4	VZ4
100	125	15	20	20	25	50	50	6mm	V5	–
110	175	15	25	25	30	50	60	6mm	V6	–

Varlo Switch Accessories

Auxilliary Contacts (10A)

1 N.O. / 1 N.C. (early make, late break0	VZ7
2 N.O.	VZ20

Handle

Mounting		Single Hole				Four Hole					
Color		red yellow		black/grey		red/yellow			black/grey		
Front Plate Dimensions (mm)		45x45 mm	60x60 mm	45x45mm	60x60mm	45x45mm	60x60mm	90x90mm	45x45mm	60x60mm	90x90mm
Padlockable for base switch	V02 to V2	KCC1YZ	KCD1PZ		KAD1PZ	KCE1YZ	KCF1PZ			KAF1PZ	
	V3 to V4						KCF2PZ			KAF2PZ	
	V5 to V6							KCF3PZ			KAF3PZ
Non-Padlockable for base switch	V02 to V2	KCC1LZ	KDD1PZ	KAC1BZ	KBD1PZ	KCE1LZ	KDF1PZ		KAE1BZ	KBF1PZ	
	V3 to V4						KDF2PZ			KBF2PZ	
	V5 to V6							KDF3PZ			KBF3PZ

Shaft Kits & Plates

Base Switch	Maximum Panel Depth	Shaft Kit	Door Interlock Plate	Door Mounting Plate
V02 to V2	330mm	VZ17	KZ32	KZ83
	429mm	VZ30	KZ32	KZ83
V03 to V4	320mm	VZ18	KZ74	KZ81
	419mm	VZ30	KZ74	KZ81
V05 to V6	351mm	VZ18	KZ74	KZ81
	450mm	VZ31	KZ74	KZ81

TeSys
GV2/GV3

Manual motor starters
0.1 to 30HP

The GV range of products are 3-pole, horsepower rated, CSA22.2 no. 14 and UL 508 listed, manual motor starters. They include a manual disconnect, class 10 ambient-compensated thermal overload relay, and an instantaneous magnetic trip mechanism in one compact unit. Any GV manual starter can be used alone for local manual control of a motor up to 220A.

Manual motor starters GV2ME and GV2P for connection by screw clamp terminals GV2ME with pushbutton control, GV2P control by rotary knob

Horsepower ratings of 3-phase motors 50/60 Hz				Setting range of thermal trips A	Magnetic tripping current A	Catalog Number Group motor or manual starter	
200 V	230 V	460 V	575 V			Pushbutton 600 V max	Rotary Handle 600 V (Type E 480 V max)
-	-	-	-	0.1-0.16	1.5	**GV2ME01**	**GV2P01**
-	-	-	-	0.16-0.25	2.4	**GV2ME02**	**GV2P02**
-	-	-	-	0.25-0.40	5	**GV2ME03**	**GV2P03**
-	-	-	-	0.40-0.63	8	**GV2ME04**	**GV2P04**
-	-	-	0.5	0.63-1	13	**GV2ME05**	**GV2P05**
-	-	0.75	0.75	1-1.6	22.5	**GV2ME06**	**GV2P06**
0.5	0.5	1	1.5	1.6-2.5	33.5	**GV2ME07**	**GV2P07**
0.75	0.75	2	3	2.5-4	51	**GV2ME08**	**GV2P08**
1	1.5	3	5	4-6.3	78	**GV2ME10**	**GV2P10**
2	3	5	7.5	3-10	138	**GV2ME14**	**GV2P14**
3	3	10	10	9-14	170	**GV2ME16**	**GV2P16**
5	5	10	15	13-18	223	**GV2ME20**	**GV2P20**
5	7.5	15	20	17-23	327	**GV2ME21**	**GV2P21**
7.5	7.5	15	20	20-25	327	**GV2ME22**	**GV2P22**
7.5	10	20	25	24-32	416	**GV2ME32**	**GV2P32** (group motor installation only)

For common add on blocks and accessories for GV2/GV3 please see page 8/19.

The GV range may be used in group motor installations per CEC and NEC. Group motor applications do not require Type E devices but Type E devices can be used in Group applications if desired.

Manual motor starters
1 to 50HP
with EverLink terminal blocks

Thermal-magnetic circuit-breakers GV3-P for connection by EverLink terminal blocks (2)
Control by rotary knob

Horsepower ratings of 3-phase motors 50/60 Hz						Setting range	Catalog Number
1ph		3ph				Thermal trips (A)	Type E
115V	230V	200V	230V	460V	575V		600V max
1	2	3	3	7.5	10	9...13	**GV3P13**
1	3	5	5	10	15	12...18	**GV3P18**
2	3	7.5	7.5	15	20	17...25	**GV3P25**
2	5	10	10	20	30	23...32	**GV3P32**
3	5	10	10	30	30	30...40	**GV3P40**
3	7.5	15	15	40	40	37...50	**GV3P50**
5	10	20	20	50	50	48...65	**GV3P65**

(2) BTR screw of 4 mm

GV3 add-on blocks and accessories

Add-on blocks (front)	Fault signalling contact + instantaneous auxiliary contact	
Contact type	N/O (fault) + N/C	N/O (fault) + N/O
Catalog number	**GV-AED011**	**GV-AED101**

Accessories						
Type	for contactor for lug type terminals	IP20 cover for lug type terminals	Set of 3-pole 115 A busbars	2-pole busbars	"Wide spacing" UL 508 type E cover	Side by side mounting busbars
Catalog number	**LAD96575**	**LAD96570**	**GV3G364**	**GV36264**	**GV3G66**	**GV3S**

(3) Common add-on blocks and accessories GV2 / GV3, see page 8/19

(4) For spring terminal version add **3** to the end of the reference. Example **GV-AED011** becomes **GV-AED0113**

Schneider Electric

Other versions: **please consult our Customer Care Centre.**

Circuit-breakers
Accessories

Accessories GV2						
Combination block						
For mounting on		LC1-K or LP1-K	LC1-D09…D38	LAD-31 and LC1-D09…D38		
		GV2-AF01	**GV2-AF3**	**GV2-AF4**		
Sets of 3-pole busbars						
63 A	Pitch	45 mm	54 mm	72 mm		
Number of tap-offs	2	**GV2-G245**	**GV2-G254**	**GV2-G272**		
	3	**GV2-G345**	**GV2-G354**			
	4	**GV2-G445**	**GV2-G454**	**GV2-G472**		
	5		**GV2-G554**			
Protective end cover						
For unused busbar outlets		**GV1-G10**				
Terminal blocks						
For supply to one or more GV2-G busbar sets		connection from the top	can be fitted with current limiter GV1-L3 (GV2-ME and GV2-P)			
		GV1-G09	**GV1-G05**			
Padlockable external operator for GV2 and GV3 (150 to 290 mm)						
Padlocking		In “On” and “Off” position	In “Off” position			
Handle		black	red			
Legend plate		blue	yellow			
IP 54	For GV2-ME/P/L	**GV2-AP01**	**GV2-AP02**			
	For GV3-P	**GV3-AP01**	**GV3-AP02**			
TeSys rotating handles for		**GV2-P**	**GV3-P**			
Kit IP54 black handle		**GV2APN01**	**GV3APN01**			
IP54 kid red/yellow handle		**GV2APN02**	**GV3APN02**			
IP65 kit red/yellow handle		**GV2APN04**	**GV3APN04**			
Line Insulator						
	For GV2-P Type UL508E (not required by CSA)	**GV2-GH7**				
	For GV3-P Type UL508E (not required by CSA)	**GV3-G66**				
Add-on blocks common to GV2 / GV3						
Contact blocks						
Contact types		N/O or N/C	N/O + N/C	N/O + N/O	(fault) + N/C	(fault) + N/O	C/O common point
Instantaneous auxiliary contacts							
Mounting	front	**GV-AE1**	**GV-AE11**	**GV-AE20**			
	LH side		**GV-AN11**	**GV-AN20**			
Fault signalling contact + instantaneous auxiliary contact							
	LH side “F” fault				**GV-AD1001**	**GV-AD1010**	
	“O” fault				**GV-AD0101**	**GV-AD0110**	
Short-circuit signalling contact							
	LH side						**GV-AM11**
Electric trips							
Undervoltage or shunt trips (Replace • in catalog number with "S" for Shunt trip or "U" for Undervoltage trip)							
Side mounting (1 block on RH side of circuit-breaker)		50 Hz			60 Hz		
Voltage	24 V	**GV-A•025**			**GV-A•026**		
	110…115 V	**GV-A•115**			**GV-A•116**		
	120…127 V	**GV-A 125**					
	200…220 V				**GV-A•207**		
	220…240 V	**GV-A•225**			**GV-A•226**		
	380…400 V	**GV-A•385**			**GV-A•386**		
	480 V				**GV-A•415**		
	600 V				**GV-A•505**		
Padlocking device							
For use with up to 4 padlocks (padlocks not supplied) Ø 6 mm shank max		**GV2-V03**					

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