

STANDARD MUTUAL
INDUCTOR

TYPE 4190AM

·1 MILLIHENRY

Nº209388

H. TINSLEY & Co Ltd

London S.E.25

PRI

SEC

70.2
4

240V MAIN
SWITCH
No 2

OV G.P.O.

FORCLUM
ELECTRICAL
SERVICES P/L
MOB: 0402 124 395
FAX: 02 9798 4056

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STANDARD MUTUAL
INDUCTOR

PRI	TYPE 4190AM	SEC
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1 MILLIHENRY
N°209388

H. TINSLEY & Co Ltd London S.E.25



50 100 200 300 400 500 600 700 800 900 1000



240V G.P.O.



240V MAIN SWITCH N°1

NEUTRAL
EARTH



240V MAIN SWITCH N°2

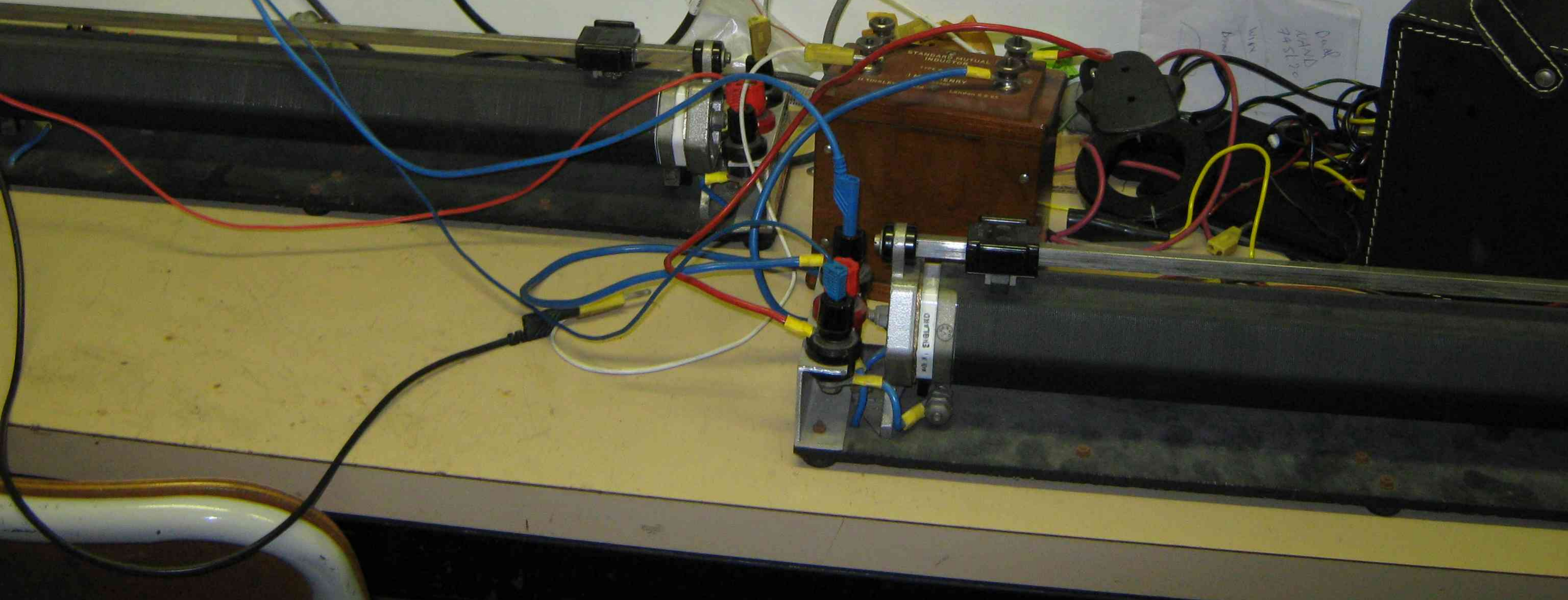


240V G.P.O.

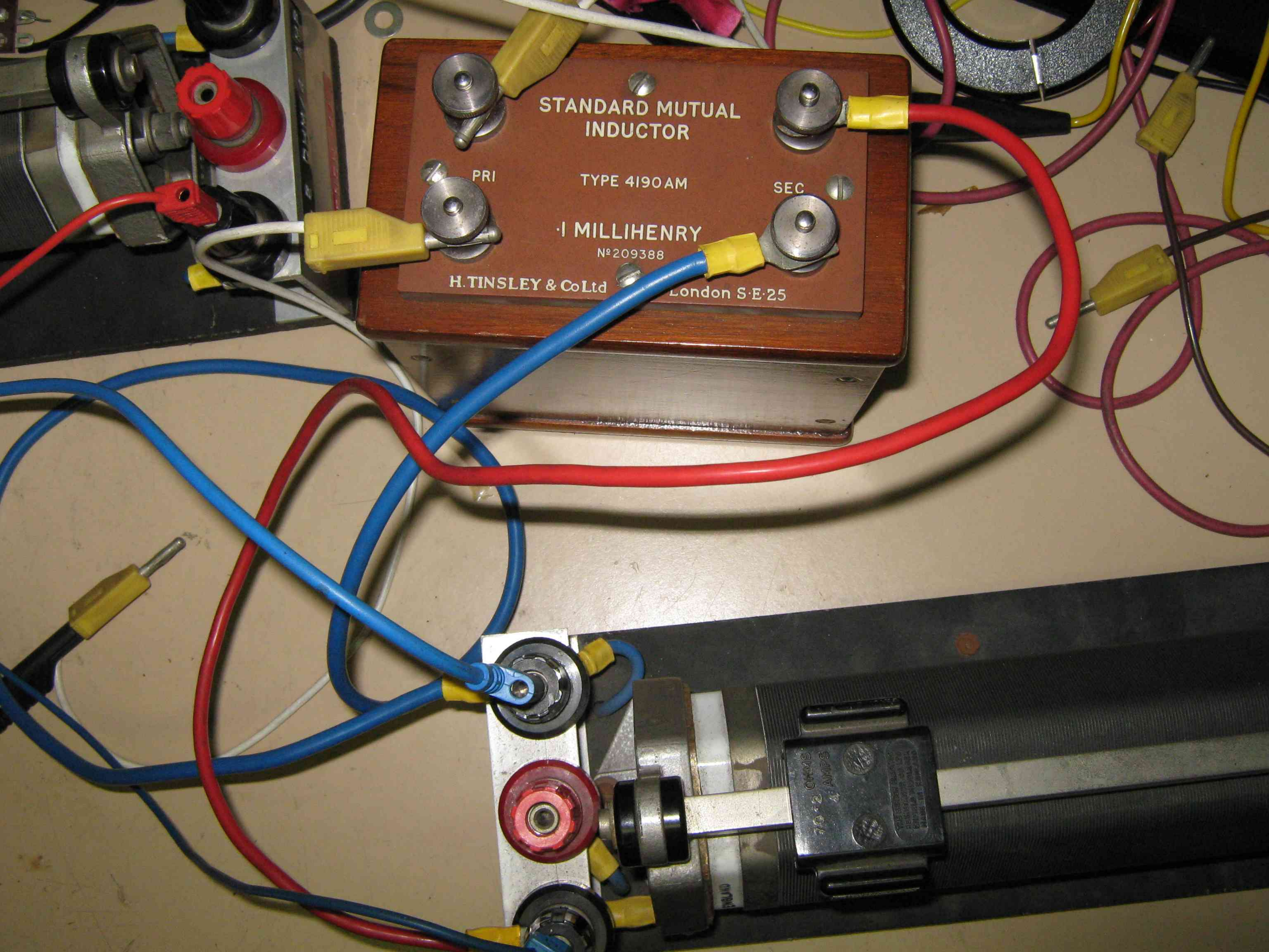


240V G.P.O.

CONTROLLED BY MAIN SWITCH N°2



Handwritten notes on a piece of paper, including "945120" and "ADAP".



STANDARD MUTUAL
INDUCTOR

PRI

TYPE 4190AM

SEC

1 MILLIHENRY

N°209388

H. TINSLEY & Co Ltd

London S.E.25

70-2 OHMS
1/2 AMP

SWITCH
№ 2

240 V G. P. O.



STANDARD MUTUAL
INDUCTOR

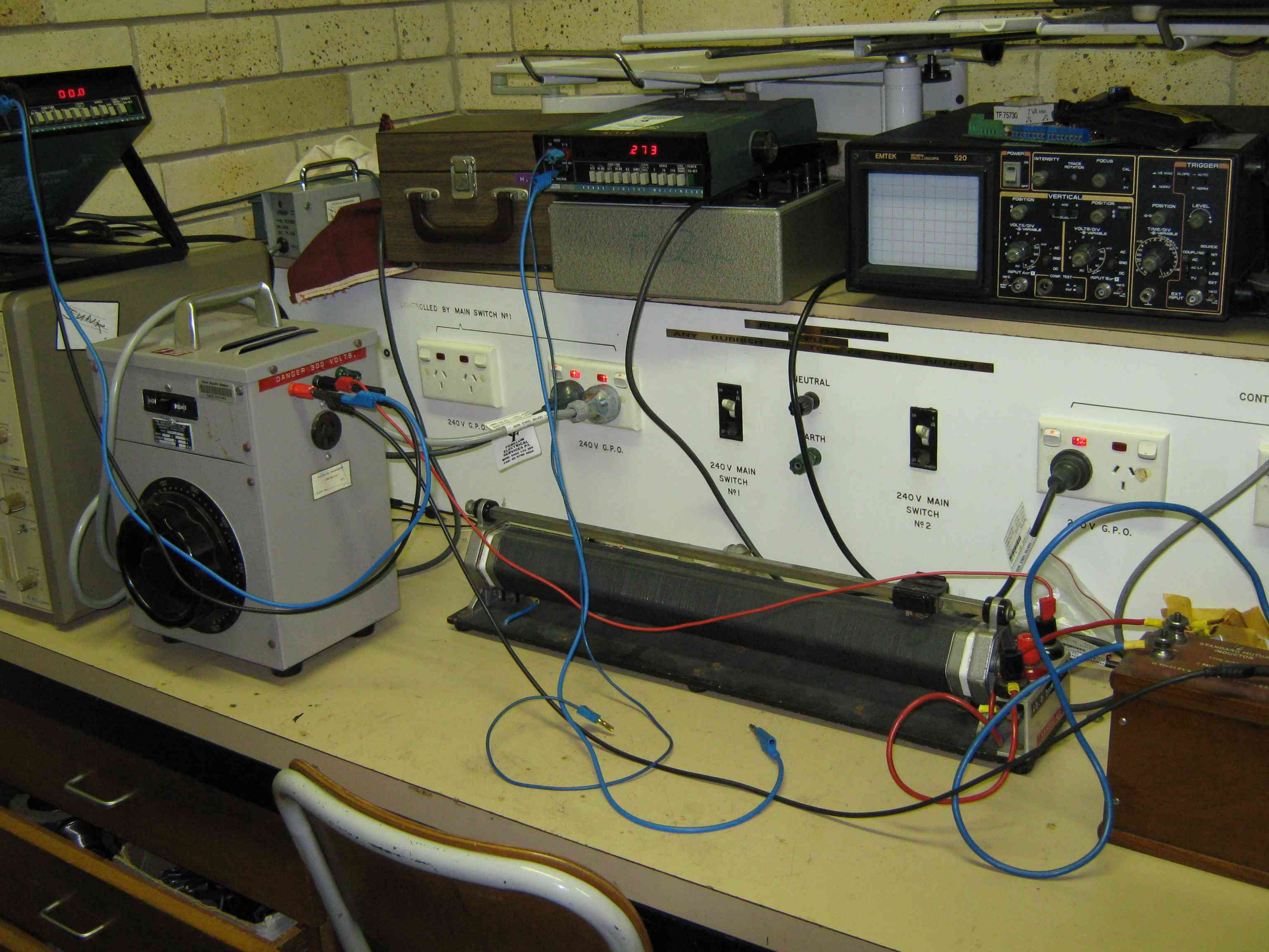
TYPE 4190 AM

1 MILLIHENRY

№ 209388

H. TINSLEY & Co Ltd

S-E-25



273

EMTEK 520

TF 75730

DANGER 300 VOLTS.

CONTROLLED BY MAIN SWITCH No1

240V G.P.O.

240V G.P.O.

240V MAIN SWITCH No1

240V MAIN SWITCH No2

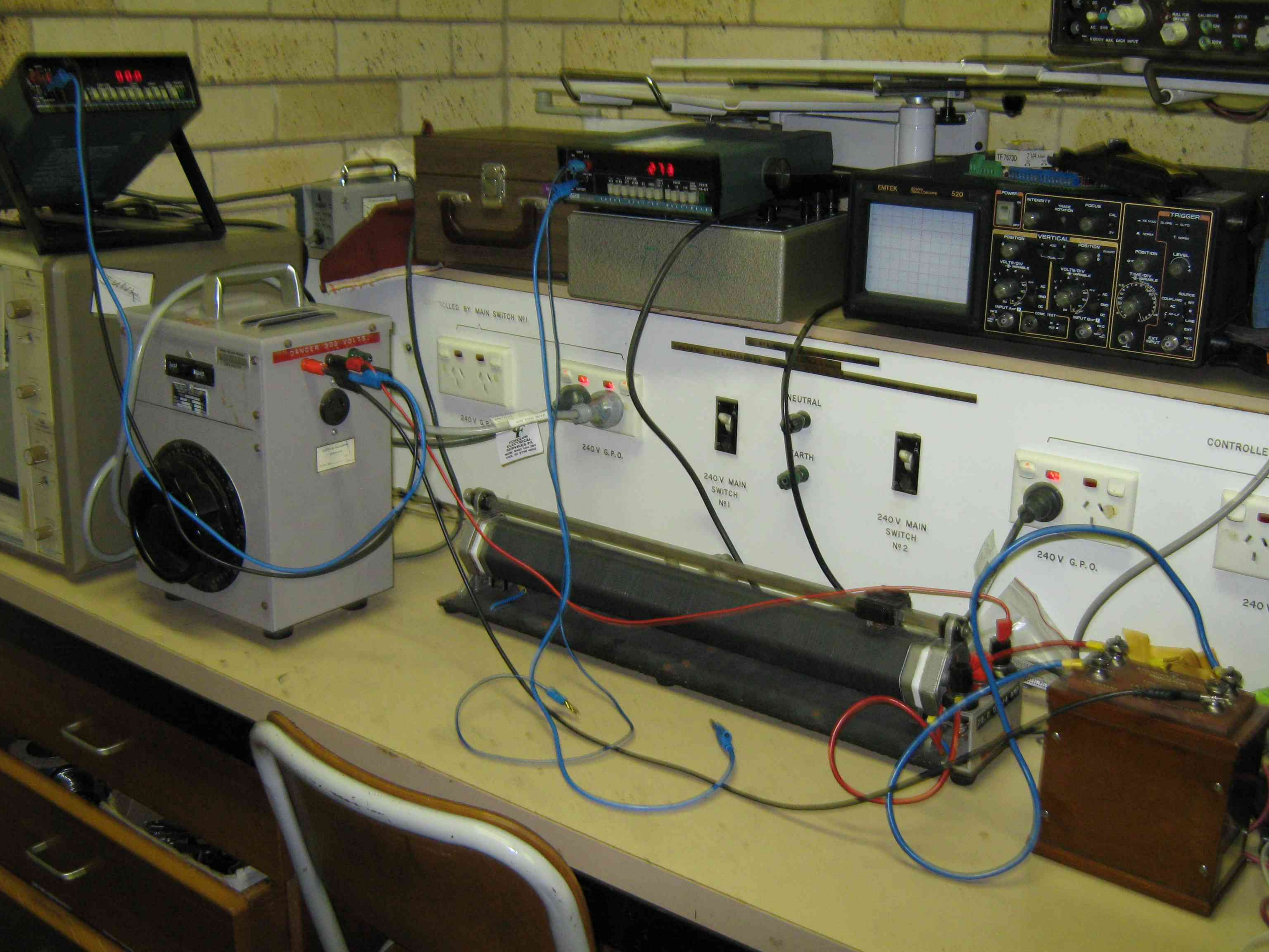
NEUTRAL

EARTH

240V G.P.O.

CONT

STANDARD MUTUAL INDUCTOR





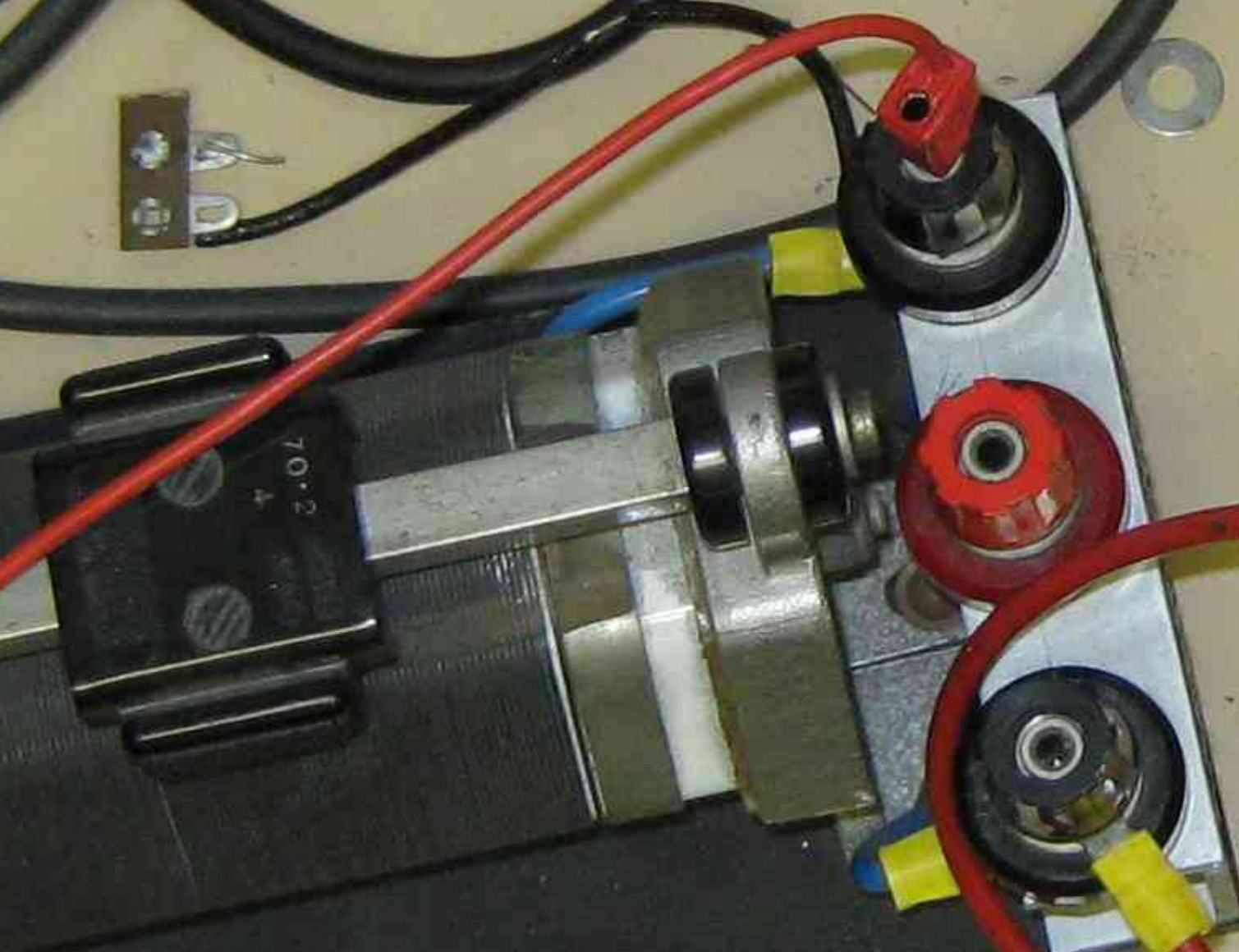
240 V MAIN
SWITCH
No 2



V G.P.O.



FORCLUM
ELECTRICAL
SERVICES P/L
MOB: 0402 124 399
FAX: 02 9798 4056



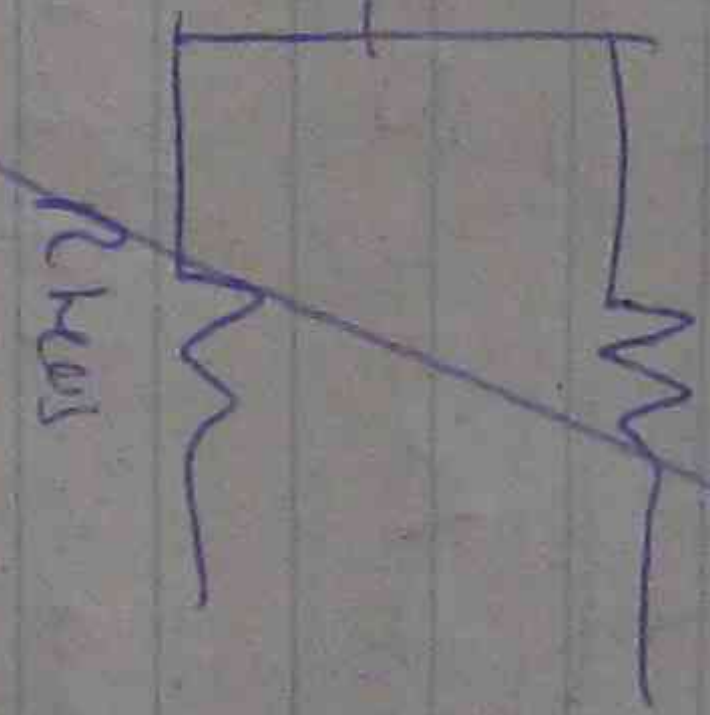
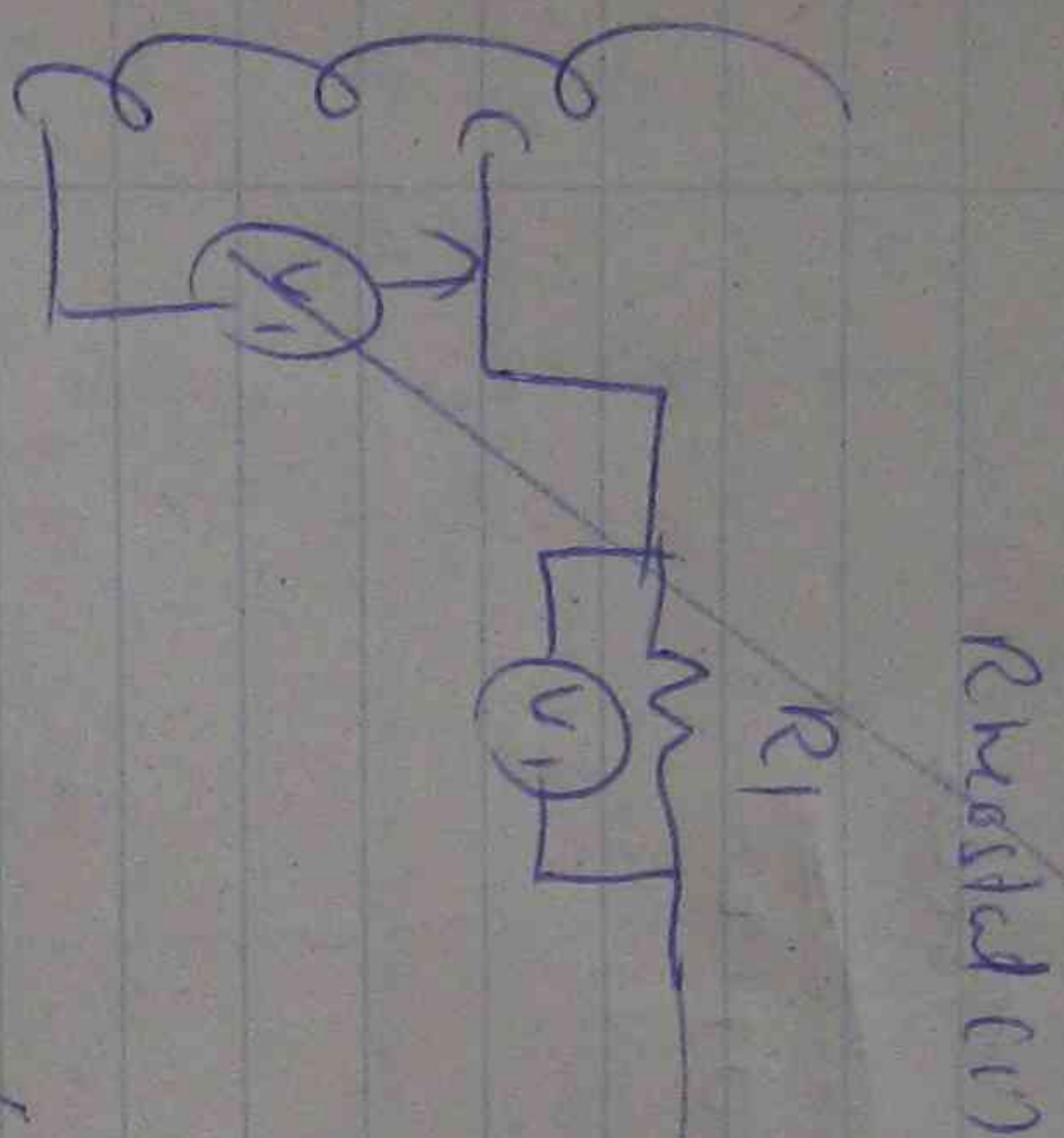
STANDARD MUTUAL
INDUCTOR
TYPE 4190AM
1 MILLIHENRY
No 209388
H. TINSLEY & Co Ltd

SEC

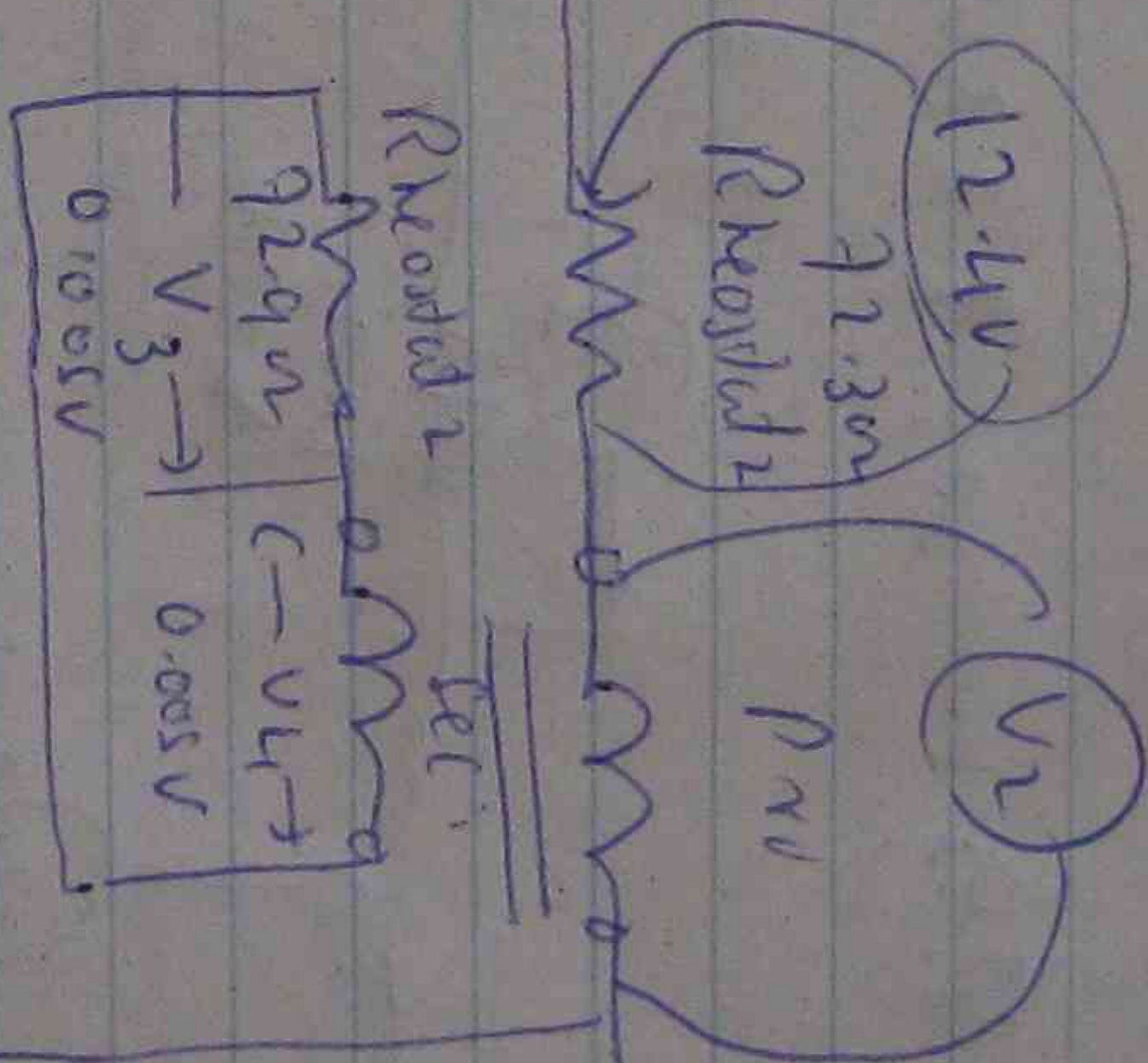
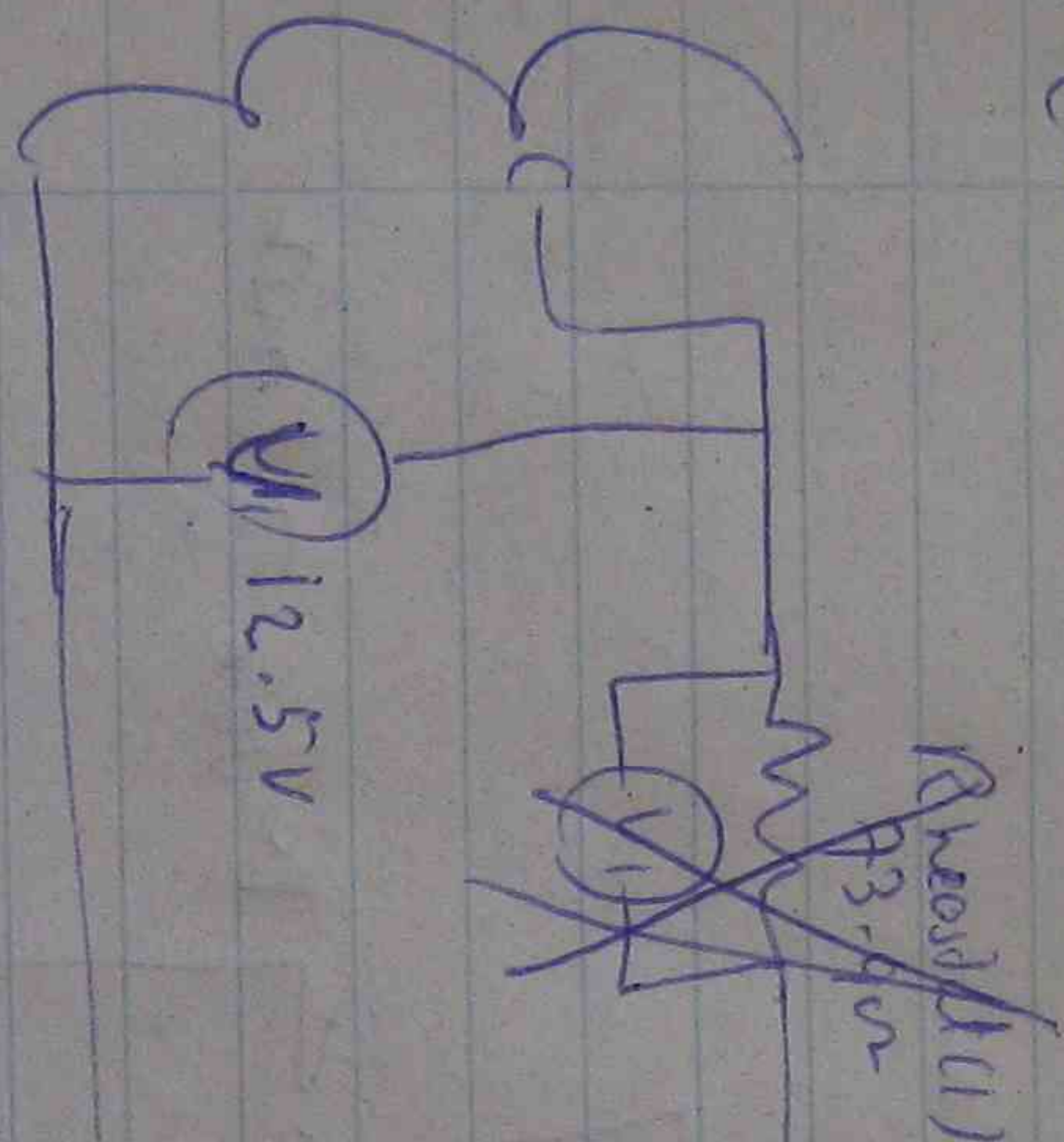
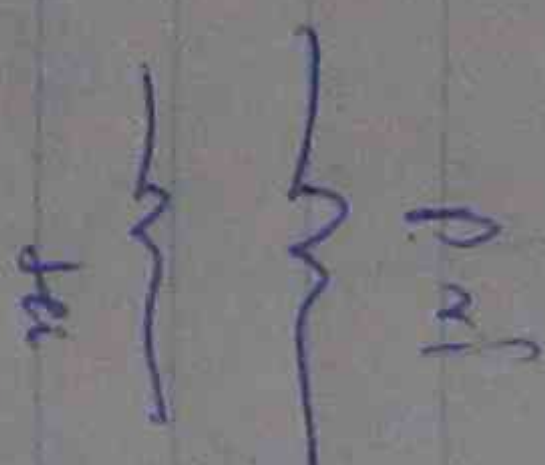
25

MUTUAL INDUCTANCE

EP32



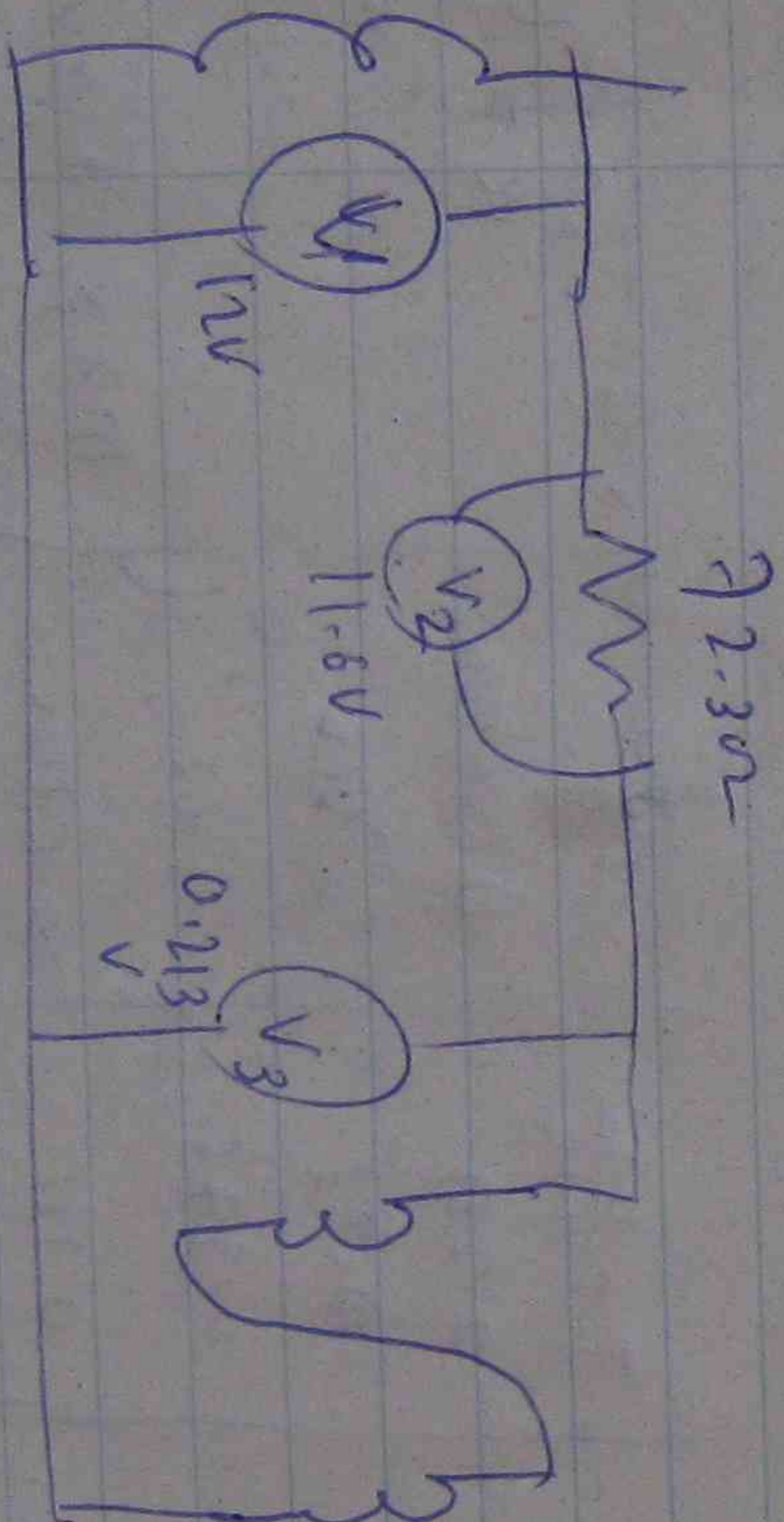
0.125V



Standard
mutual
Inducter

0.1 mH

L1 L2



11.8V

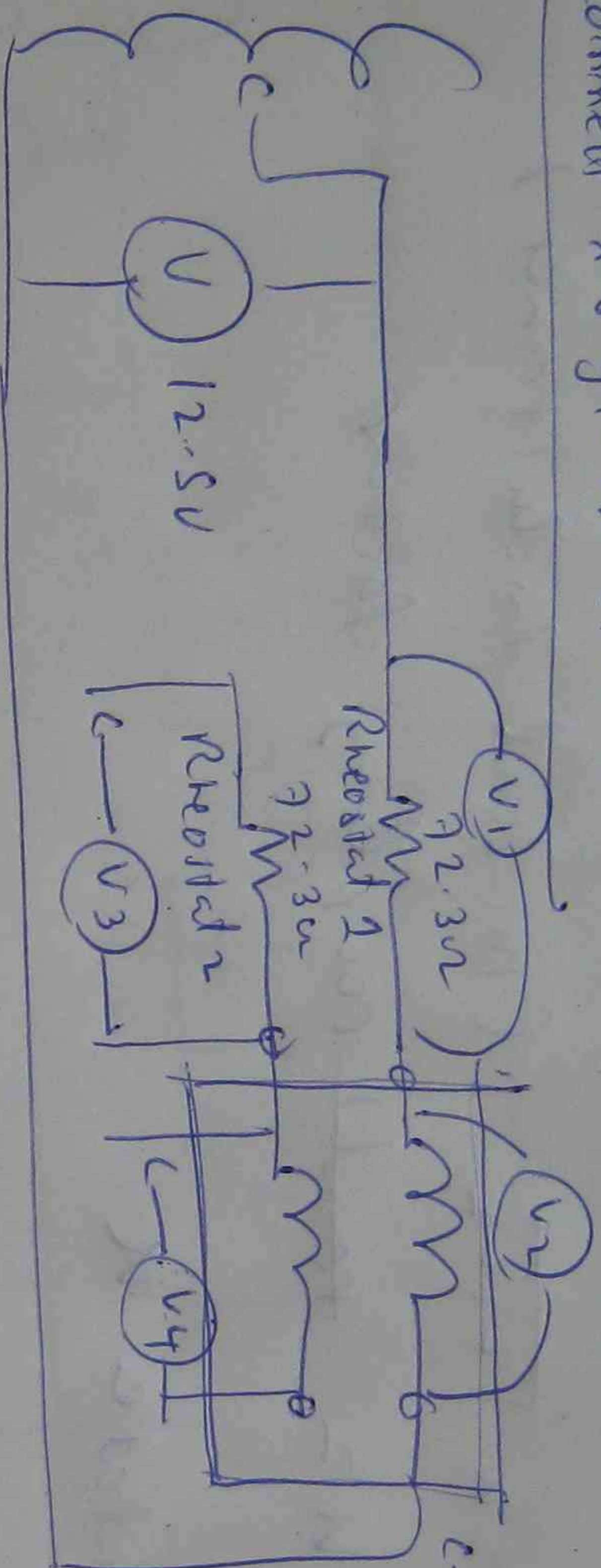
0.213V

Type 4190m

Power Transformer

EP 32 Mutual Inductance

① Connect the given circuit



Standard
mutual
inductance
0.1 mH
Type
L1190m

② Set $V = 12.5V$

③ measure V_1, V_2, V_3, V_4

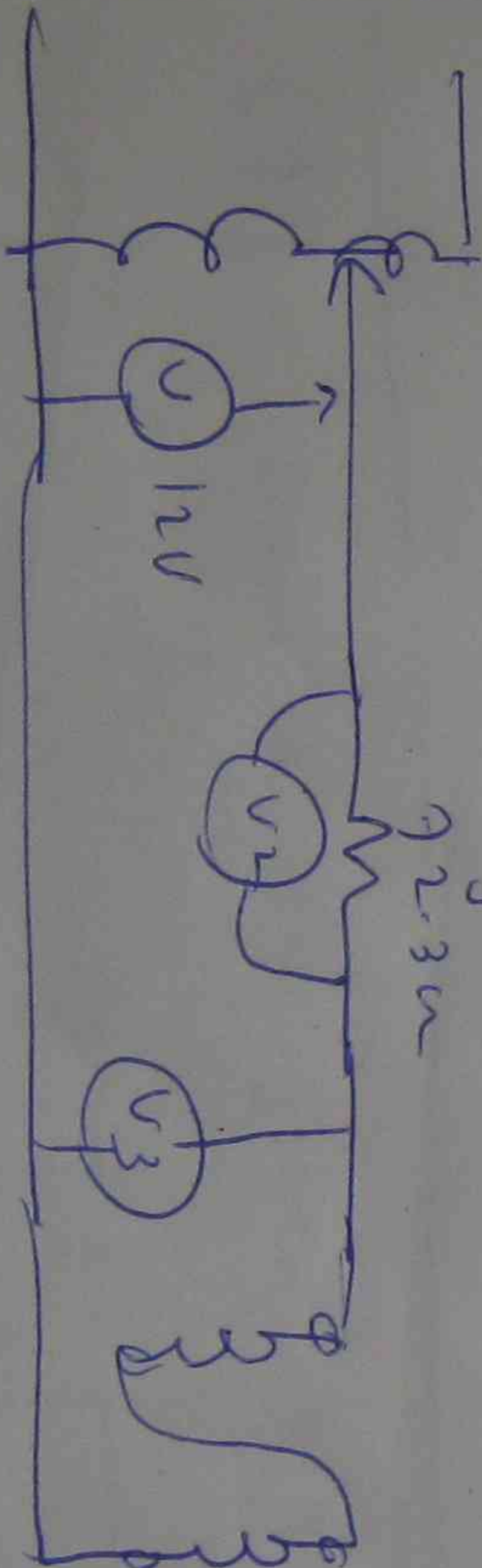
$$④ \text{ calculate } X_{L1} = \frac{V_2}{V_1} \quad 2L_1 = \frac{X_{L1}}{2\pi f}$$

$$\frac{12.3\Omega (\text{Rheostat-1})}{V_1}$$

$$X_{L2} = \frac{V_4}{V_3} \quad 2L_2 = \frac{X_{L2}}{2\pi f}$$

$$\frac{12.3\Omega (\text{Rheostat-2})}{V_3}$$

⑤ connect the given circuit



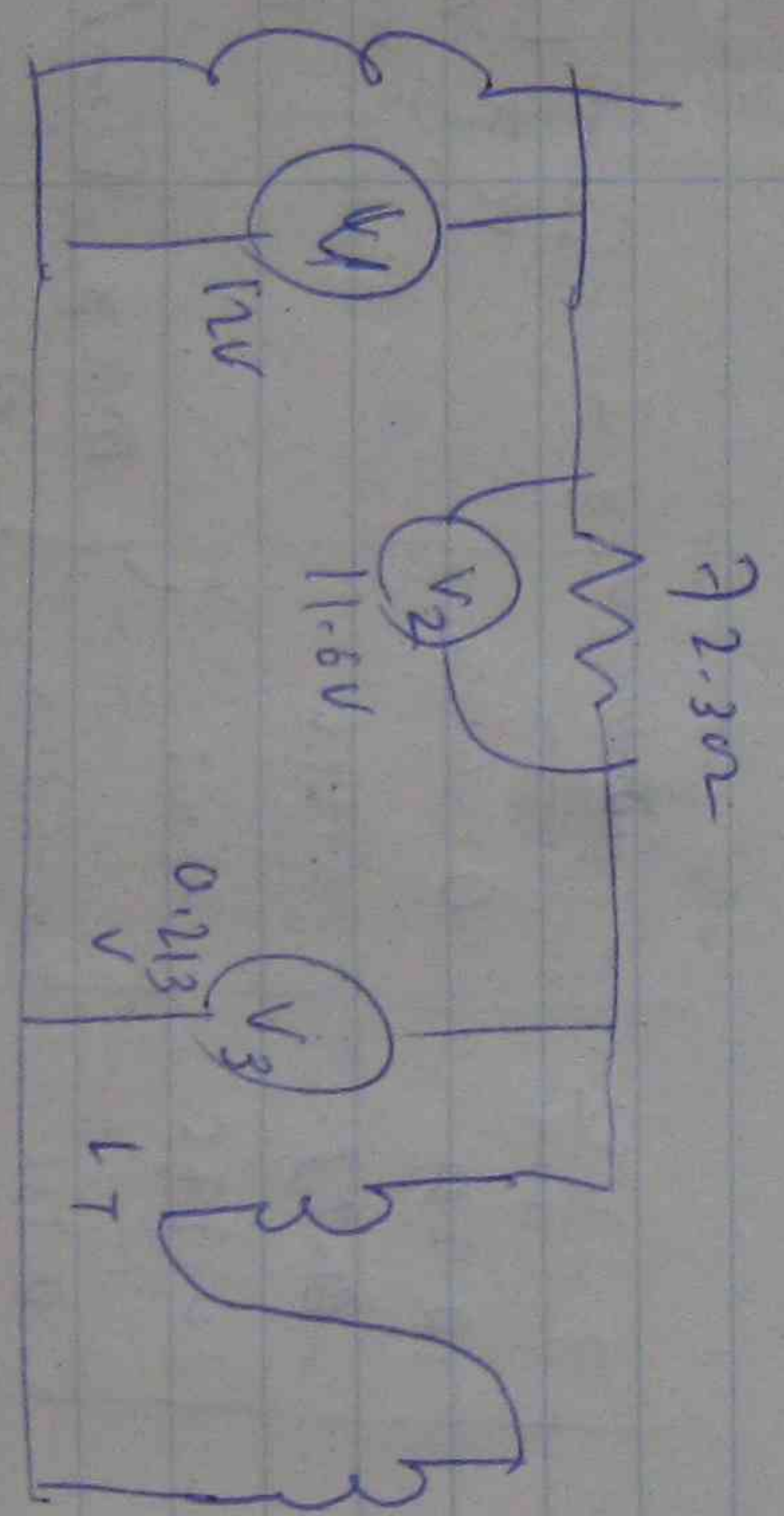
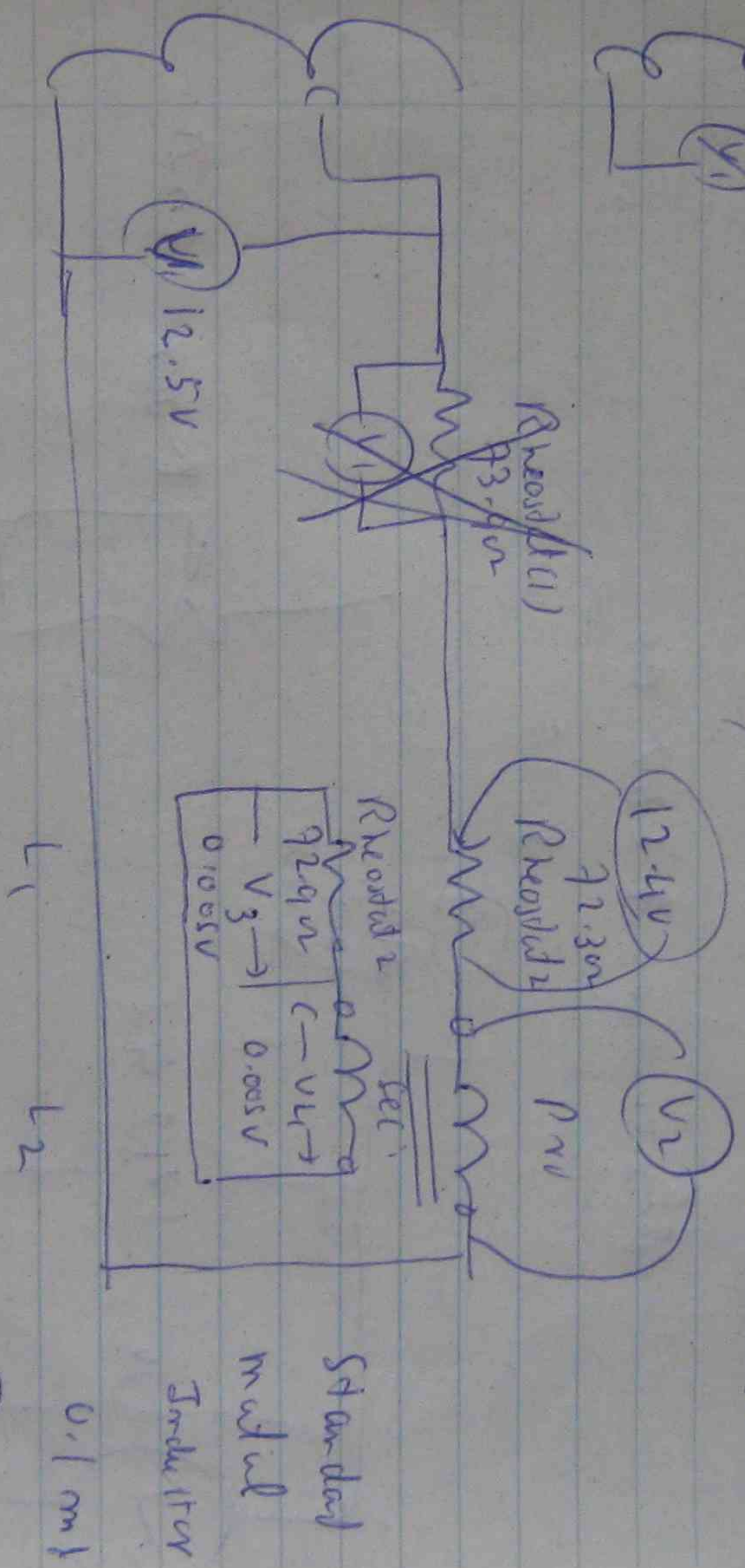
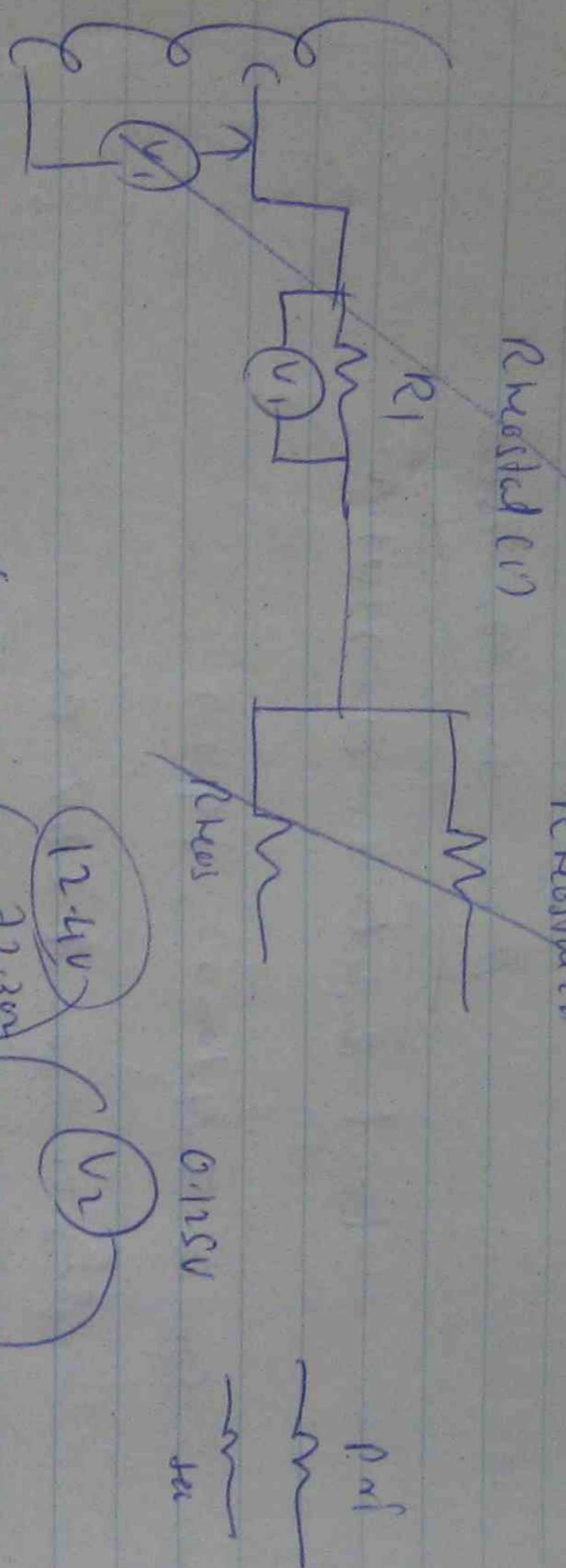
$$\text{Calculate } X_{LT} = \frac{V_3}{V_2}$$

$$\frac{12.3\Omega (\text{Rheostat})}{V_2}$$

$$L_T = \frac{X_{LT}}{2\pi f}$$

MUTUAL INDUCTANCE

EP32



4190m

$$X_{L1} = \frac{0.125}{12.4/92.3} = \frac{0.115}{0.1415} = 0.8128$$

$$L_1 = \frac{0.8128}{314(2\pi f)} = 0.00214$$

$$X_{L2} = \frac{0.005}{0.005/92.9} = 92.9$$

$$L_2 = \frac{92.9}{314} = 0.296$$

$$L_T = L_1 + L_2 + M \sqrt{L_1 L_2}$$

$$1.33 = 0.00214 + 0.296 + M \sqrt{0.00214 \times 0.296}$$

$$1.096 = M \sqrt{0.00046}$$

$$M = 1.096 / \sqrt{0.00046} = 1.61$$