



PRODUCT STANDARD
SWITCHGEAR ENGINEERING DIVISION

SG 12025 REV.00

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D.C. TRANSDUCERS

D.C. transducers are used for remote tap position indication (4-20mA output) through SCADA. It consists of following items which are housed as per details shown in figures 1 and 2.

(1) Isolation Amplifier - 0-10 V DC / 4-20 mA Transducer Type TRA430 ABB or equivalent. - 1 No.
as per following specification :

1. Input voltage - 0-10V DC
2. Input impedance - > 10 K ohms / volt
3. Output (I out) - 4-20 mA
4. Aux supply - 110V AC. 50 Hz.
5. Isolation - (a) 2 KV AC for 1 min between input and output.
(b) 2 KV AC for 1 min between Aux. supply and output
6. Power consumption - 2.5 VA
7. AC ripple on output - = < 0.5 %
8. Temperature (working) - 0 to 55 deg. centigrade.
9. Accuracy class - 0.5
10. Response time - = < 0.5 sec.
11. Terminals - Provision of dual screws for wire of maximum 4 sq.mm area

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REV.		PRINTS TO :-	APPROVED -		
ALTD.		SWM(P)	NNS		
APPD.		QCX	PREPARED	ISSUED	DATE
DATE.		CEG	AKI	APS	01-08-00



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(2) Resistors -

Resistors are to be provided as shown in fig.2 depending upon the value of the dc supply voltage and position indication resistances of the motor drive unit of OLTC. The value of resistors are given below for the four different conditions :-

(a) For 110 V dc auxiliary supply and position indication resistance 1000 ohm/step.

R1 = 2.2 kohm, 60 W resistor.

R2 = 500 ohm, 6 W resistor.

R3 = 1 kohm, 60 W adjustable resistor.

ZD1 = 3 W, 10 V zener diode.

IA = Transducer, 0 – 10 V / 4-20 mA.

(b) For 220 V dc auxiliary supply and position indication resistance 1000 ohm/step.

R1 = 5.0 kohm, 60 W resistor.

R2 = 500 ohm, 6 W resistor.

R3 = 1 kohm, 60 W adjustable resistor.

ZD1 = 3 W, 10 V zener diode.

IA = Transducer, 0 – 10 V / 4-20 mA.

(c) For 220 V dc auxiliary supply and position indication resistance 100 ohm/step.

R1 = 5.0 kohm, 60 W resistor.

R2 = 50 ohm, 6 W resistor.

R3 = 500 ohm, 60 W adjustable resistor.

ZD1 = 3 W, 10 V zener diode.

IA = Transducer, 0 – 10 V / 4-20 mA.

(d) For 110 V dc auxiliary supply and position indication resistance 100 ohm/step.

R1 = 2.2 kohm, 60 W resistor.

R2 = 50 ohm, 6 W resistor.

R3 = 500 ohm, 60 W adjustable resistor

ZD1 = 3 W, 10 V zener diode.

IA = Transducer, 0 – 10 V / 4-20 mA.

(3) Zener Diode - 10 V, 3 W mounted on a - 1 No. suitable heat sink

(4) TB - 15 Way - 1 No.



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Acceptance norms :-

- (a) All these items are to be properly located in the box as per details given in fig 1 and suitable mounting arrangement to be provided.
- (b) Component placement and wiring (internal) to be done as per fig.2. wiring to be done with 2 A / 0.2 PVC cable (660 V grade) and ferrules to be put at both the ends.
- (c) Any deviation in the specification to be clearly brought to the notice of indentor.
- (d) 2 copies of test certificates of the isolation amplifier to be sent alongwith the consignment.
- (e) Permanent rating plate to be provided on the box indicating the value of dc supply voltage and position indication resistance.

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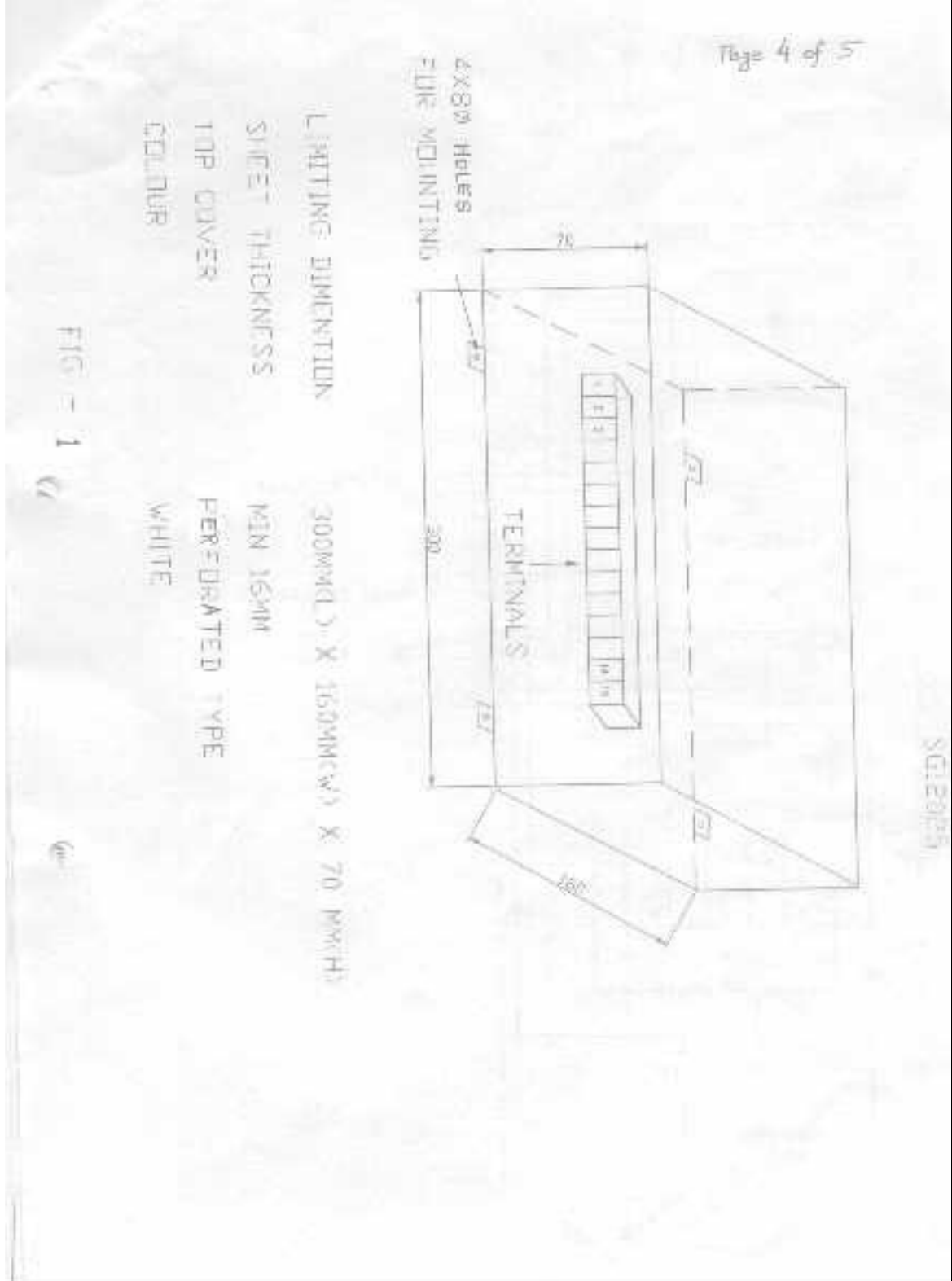
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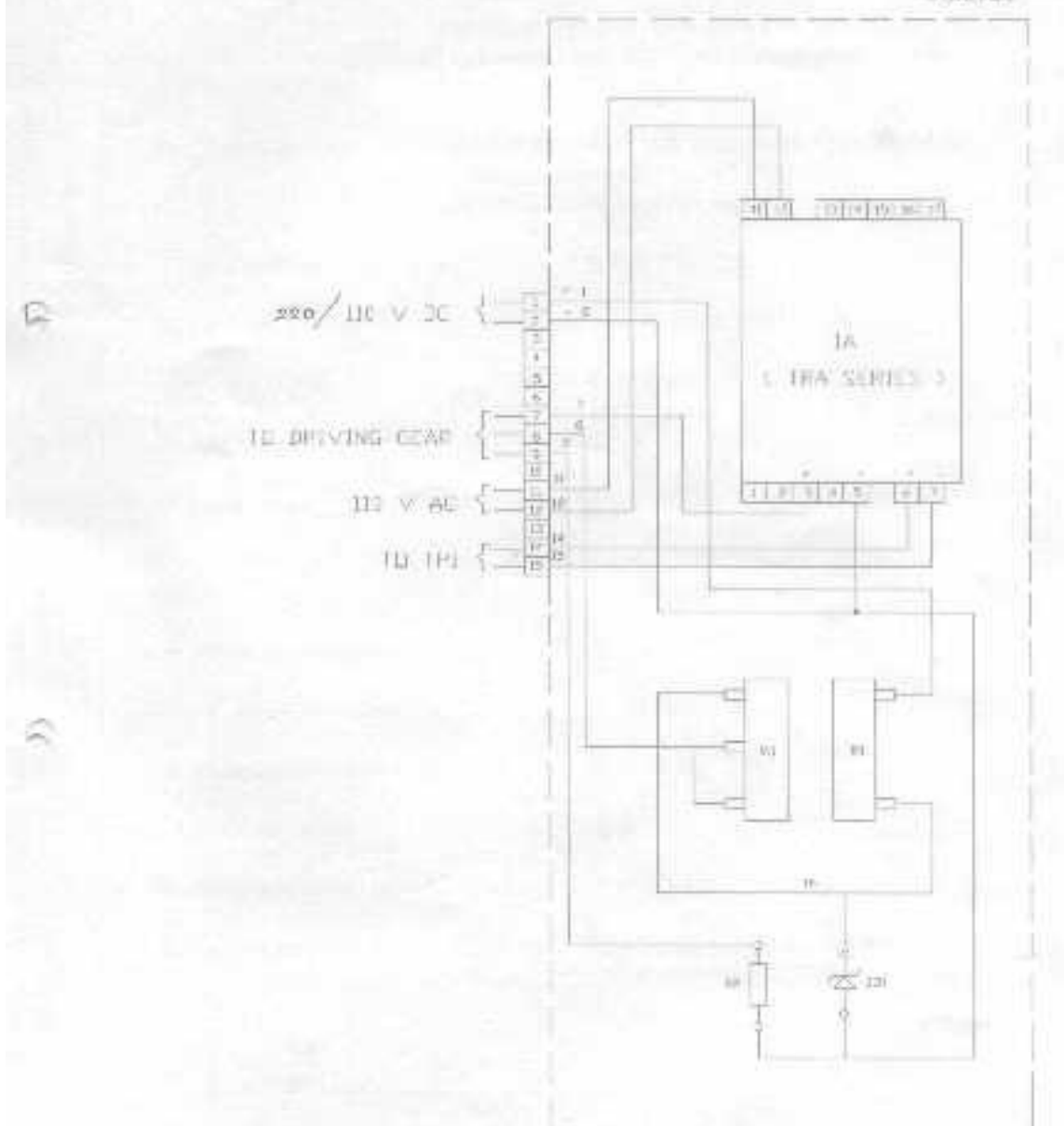


FIG-2