

C.T. P.T. METERING SET



CONSTRUCTION

Oil cooled, out door type C.T.P.T. Metering sets are made for use on 11 kV to 33 kV systems & are suitable for mounting on structures. Basically a set consists of 1) C.R.G.O. cores 2) H.V. & L.V. windings 3) M.S. tank with secondary terminal box. 4) Bushings & 5) Transformer oil. Overall general arrangement of parts is shown here, One C.T.P.T. set has two C.T.s in phases 'A' & 'C' & one three phase P.T.

SPECIAL FEATURES

- 1) A pressure release device is provided on the top cover of the tank which operates in case of abnormal internal pressure development due to abnormal operating conditions.
- 2) The set is much more compact compared to C.T.-P.T. sets of other makes.

GENERAL TECHNICAL PARTICULARS

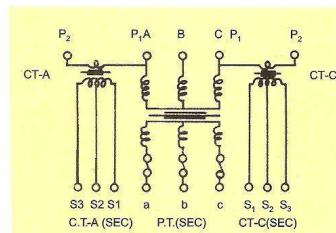
	Current Transformer (2 Nos.)	Potential Transformer (1 No.)
System voltage	11, 22 or 33 kV	11, 22 or 33 kV
Insulation level	28, 50 or 70 kV	28, 50 or 70 kV
Frequency	50 Hz	50 Hz
Ratio.	Double or Tripple Current/5A	11 kV / 110 V, 22 kV / 110 V or 33 kV / 110 V
Accuracy	0.5 or 1.0	0.5 or 1.0
Burden	15 or 30 VA	50 or 100 VA
IS	2705	3156

APPLICATIONS

The C.T.-P.T. metering sets of this type as the name suggests are used for measurement of power on high voltage side. The C.T.-P.T. sets are installed before the main transformer and the main line goes through C.T.-P.T. set to the main transformer. Metering equipment is connected to the secondary side of the C.T.-P.T. set. As the accuracy of the C.T.-P.T. set is high & as it is connected before the transformer, measurement of power is much more accurate compared to the metering done on L.T. side, the transformer losses are also included in the measurement.

CONNECTION DIAGRAM

Connections are done as per terminal markings on the connection diagram shown below



DIMENSIONS

Overall maximum dimensions (approx.) of different C.T.-P.T. sets are as below

	11 kV	22 kV	33 kV
Length (L)	700 mm	900 mm	1100 mm
Width (W)	450 mm	500 mm	600 mm
Height (H)	675 mm	900 mm	1050 mm
Mounting (ML)	450 mm	550 mm	750 mm
Mounting (MN)	350 mm	400 mm	450 mm
Mounting Hole	16 mm	16 mm	16 mm

* Note : We also manufacture Resin, Cast, Indoor type C.T.-P.T. metering sets upto 22 kV

RESIDUAL VOLTAGE TRANSFORMER:

RESIDUAL VOLTAGE TRANSFORMER is used to detect unbalanced voltage in three phase system and to supply voltage to directional earth-fault relay.

For directional earth-fault relay, it is necessary that the voltage applied to voltage coil of the relay corresponds in phase to that of the current in current coil. Such voltage will be the Residual voltage of the system and will be the phase sum of the three line-to-earth voltages. Residual voltage can be achieved by connecting secondary of three single phase V.Ts connected in three different phase, in open-delta fashion. It is however, economical to use three phase V.Ts instead of Three nos. single phase V.Ts 'SE' manufactures three phase R.V.Ts suitable up to 33kv system voltage.



11 kV CT/PT Combined Unit



22 kV CT/PT Combined Unit



33 kV CT/PT Combined Unit



RESIDUAL VOLTAGE TRANSFORMER (R.V.T.)