

PRODUCT PROFILE

CURRENT TRANSFORMER

APPLICATION –Direct measurement of current in high voltage & high current system is not possible because of difficulty in electrical isolation of measuring instruments. Because of its high value, it is also not possible to use current flowing directly to the system, so that current transformer are used to step down the high system current into low system measuring current with their proportionate ratio. due to this it is possible to measure high system current by using standard measuring instruments & relays, also its isolate meters, relays from high voltage systems.

VARIOUS TYPES OF CURRENT TRANSFORMERS

- Ring Type Current Transformers :** A Current Transformer which has an window in the center to accommodate a primary conductor (busbar or cable) through it.
- Bar -Primary Current Transformers :** A Current Transformer in which the primary winding consists of bar of suitable size and it is an integral part of the CT.
- Wound Type Current Transformers :** A Current Transformer having a primary winding of more than one full turn wound on the core.
- Interposing Current Transformers :** These Current Transformers are used in conjunction with main CTs to alter the ratio of main CT or to provide isolation to meters or relays from main CTs secondary circuit. Primary current of these CTs are generally lower than 10 amp. Due to which they are always wound primary type.
- Summation Current Transformers :** When current flowing, in more than one feeder is required to be metered summation current transformer are used. These Current Transformers are provided with more than one primary winding and one common secondary.
- Bushing Type or Busduct Current Transformers :** These Current Transformers are Ring type construction & can be mounted on Busduct or Bushing turrent of power transformer.
- Core Balance Current Transformers :** These are ring type Current Transformers & suitable for the measurement of the sum of three phase currents in a 3-ph cable. Under normal operating conditions this sum is zero. In the event of an earth-fault the sum of the current is equal to the zero sequence current.
- Precision Grade Current Transformers :** These Current Transformers are of accuracy of 0.1, 0.2 or 0.5 and used as a standard current transformer to check accuracies of other transformer. These current transformers are either wound primary or ring type and manufactured -in. teakwood cases.
- Special Purpose Transformers :** High Current Ring Type Current Transformers upto 20,000A, 22kV system voltage for Generator Busducts.

RESIN CAST CURRENT TRANSFORMER Technical Specification

Range : 11, 22 & 33 KV
Accuracy Class : 0.2 & 0.5
Special Accuracy Class : 0.2S & 0.5S
IS : 2705



Technical Specification As Per IS : 2705

General Particulars	11KV	22KV	33 KV
Highest System Voltage(H.S.V.)	12 KV (r.m.s.)	24 KV (r.m.s.)	36 KV (r.m.s.)
Power frequency dry/ wet withstand voltage on primary winding for one minute	28 KV (r.m.s.)	50 KV (r.m.s.)	70 KV (r.m.s.)
Lightning Impulse withstand voltage (1.2 x 50 μ s)	75 KV (r.m.s.)	125 KV (r.m.s.)	170 KV (r.m.s.)
PD measuring Voltage / Permissible Voltage	7.6/50	15.2/50	23.0/50

Specific Particulars

- Rated Transformation Ratio** : As per customer requirement (in Amp.)
- Rated Primary Current** : Upto 2000 Amp.
- Rated Secondary Current** : 1 Amp. 5 Amp. 0.577 Amp.
- Short Time Thermal Current (Ith)** : As per customer requirement. In general CT is to be specified with STF of 100 for 1 Sec. or STC (Ith) equal to the system fault level whichever is lower. KA (r.m.s.)
- Short Time Dynamic Current** : 2.5 X Ith KA (Peak)
- Number of Cores** : Upto 3 cores
- Output Burden** : Upto 60VA, 0.8 pf Lagging
- Accuracy Class** : For Metering : 0.2S, 0.2, 0.5S, 0.5, 1.0 & 3.00.
For Protection: 5P, 10P, 15P & PS
- IAF, ALF, Knee Point Voltage, Exciting Current & Resistance** : As per customer requirement / Design Constraints
- Type of construction** : As Per Panel Conditions(Customer Requirement)

OIL COOLED CURRENT TRANSFORMER



Technical Specification As Per IS : 2705

General Particulars	11KV	22KV	33 KV	66 KV
Highest System Voltage(H.S.V.)	12 KV (r.m.s.)	24 KV (r.m.s.)	36 KV (r.m.s.)	72 KV (r.m.s.)
Power frequency dry/ wet withstand voltage on primary winding for one minute	28 KV (r.m.s.)	50 KV (r.m.s.)	70 KV (r.m.s.)	150 KV (r.m.s.)
Lightning Impulse withstand voltage (1.2 x 50 μ s)	75 KV (r.m.s.)	125 KV (r.m.s.)	170 KV (r.m.s.)	350 KV (r.m.s.)

Specific Particulars

- Rated Transformation Ratio** As per customer requirement (in Amp.)
- Rated Primary Current** Upto 2000 Amp.
- Rated Secondary Current** 1 Amp. 5 Amp. 0.577 Amp.
- Short Time Thermal Current (I_{th})** As per customer requirement. In general CT is to be specified with STF of 100 for 1 Sec. or STC (I_{th}) equal to the system fault level whichever is lower. KA (r.m.s.)
- Short Time Dynamic Current** 2.5 X I_{th} KA (Peak)
- Number of Cores** Upto 5 cores
- Output Burden** Upto 60VA, 0.8 pf Lagging
- Accuracy Class** For Metering : 0.2S, 0.2, 0.5S, 0.5, 1.0 & 3.00.
For Protection: 5P, 10P, 15P & PS
- IAF, ALF, Knee Point Voltage, Exciting Current & Resistance** As per customer requirement / Design Constraints
- Type of construction** Dead / Bottom Tank or Live / Top Tank

VOLTAGE TRANSFORMER

APPLICATION –Direct measurement of voltage in high voltage & high current system is not possible because of difficulty in electrical isolation of measuring instruments. Because of its high value,it is also not possible to use voltage directly to the system, so that Potential transformer are used to step down the high system voltage into low system measuring voltage with their proportionate ratio. due to this it is possible to measure high system voltage by using standard measuring instruments & relays, also its isolate meters,relays from high voltage systems and also to sense abnormalities in voltage & give signal to protective relay to isolate the defective system.

1 DRY TYPE 2 POLE VOLTAGE TRANSFORMER

RANGE : 11, 22 & 33 KV
ACCURACY CLASS : 0.2 & 0.5
SPECIAL ACCURACY CLASS : 0.2S & 0.5S
IS : 3156



Technical Specification As Per IS : 3156

General Particulars	11KV	22KV	33 KV
Highest System Voltage(H.S.V.)	12 KV (r.m.s.)	24 KV (r.m.s.)	36 KV (r.m.s.)
Power frequency dry/ wet withstand voltage on primary winding for one minute	28 KV (r.m.s.)	50 KV (r.m.s.)	70 KV (r.m.s.)
Lightning Impulse withstand voltage (1.2 x 50 μ s)	75 KV (r.m.s.)	125 KV (r.m.s.)	170 KV (r.m.s.)
PD measuring Voltage / Permissible Voltage	7.6/50	15.2/50	23.0/50

Specific Particulars

- Number of Phases** : 3 or 1 unearthed or earthed
- Rated Transformation Voltage Ratio** : As per customer requirement
- Number of Secondary Windings** : Upto 3
- Output Burden** : Upto 100VA
- Accuracy Class** : For Metering : 0.2, 0.5 & 1.0 — For Protection: 3P, 6P
- Voltage Factor** : 1.2 Continuous & 1.5 for 30 Sec or 1.9 for 30 Sec or 1.9 for 8 hours

OIL COOLED VOLTAGE TRANSFORMER



Technical Specification As Per IS : 3156

General Particulars	11KV	22KV	33 KV	66 KV
Highest System Voltage(H.S.V.)	12 KV (r.m.s.)	24 KV (r.m.s.)	36 KV (r.m.s.)	72 KV (r.m.s.)
Power frequency dry/ wet withstand voltage on primary winding for one minute	28 KV (r.m.s.)	50 KV (r.m.s.)	70 KV (r.m.s.)	150 KV (r.m.s.)
Lightning Impulse withstand voltage (1.2 x 50 μ s)	75 KV (r.m.s.)	125 KV (r.m.s.)	170 KV (r.m.s.)	350 KV (r.m.s.)

Specific Particulars

- 1. Number of Phases** 3 or 1 unearthed or earthed
- 2. Rated Transformation Voltage Ratio** As per customer requirement
- 3. Number of Secondary Windings** Upto 3
- 4. Output Burden** Upto 500VA
- 5. Accuracy Class**
For Metering : 0.2, 0.5, 1.0 & 3.0
For Protection: 3P, 6P
- 6. Voltage Factor** 1.2 Continuous & 1.5 for 30 Sec or 1.9 for 30 Sec or 1.9 for 8 hours

COMBINED CTPT SET

APPLICATION- Combined CTPT Metering Units that are available up to 33 kV class are manufactured specifically to meet the needs of Electricity Supply and captive generating units. 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.

OIL COOLED CTPT SET



Technical Specification For Oil Cooled CTPT Set As Per IS:2705 & IS:3156

General Particulars	11KV	22KV	33 KV
Highest System Voltage(H.S.V.)	12 KV (r.m.s.)	24 KV (r.m.s.)	36 KV (r.m.s.)
Power frequency dry/ wet withstand voltage on primary winding for one minute	28 KV (r.m.s.)	50 KV (r.m.s.)	70 KV (r.m.s.)
Lightning Impulse withstand voltage (1.2 x 50 μ s)	75 KV (r.m.s.)	125 KV (r.m.s.)	170 KV (r.m.s.)

System Particulars

3 Phase 4 Wire with Isolated / Floating neutral as well as solidly earthed.

- 3 Nos. CTs & 1 No. 3 - Phase PT

3 Phase 4 Wire with Isolated / Floating neutral as well as solidly earthed.

- 2 Nos. CTs & 1 No. 3 - Phase PT

Specific Particulars

1. Specific Particulars

As per customer requirement.

In general CT is to be specified with STF of 100 for 1 Sec. or STC (Ith) equal to the system fault level whichever is lower. KA (r.m.s.)

2. Output

10 VA to 100 VA for PT and 5 VA to 30 VA for CT

3. Accuracy Class

0.2S, 0.2, 0.5S, 0.5, 1.0 for CT. and 0.2, 0.5 & 1.0 for PT

4. Secondary Current (CT)

1 Amp or 5 Amp

5. Secondary Voltage (VT)

110 Ph-Ph or 110/ $\sqrt{3}$ V, Ph-Neutral

6. Primary Current (CT)

As per customer requirement.

7. Primary Voltage (VT)

11KV, 22KV, 33KV for 3-Phase PT

11/ $\sqrt{3}$, 22/ $\sqrt{3}$, 33/ $\sqrt{3}$ for 1-Phase PT

RESIN CAST 3 Ø PT



Technical Specification For resin cast CTPT Set As Per IS:2705 & IS:3156

General Particulars	11KV	22KV	33 KV
Highest System Voltage(H.S.V.)	12 KV (r.m.s.)	24 KV (r.m.s.)	36 KV (r.m.s.)
Power frequency dry/ wet withstand voltage on primary winding for one minute	28 KV (r.m.s.)	50 KV (r.m.s.)	70 KV (r.m.s.)
Lightning Impulse withstand voltage (1.2 x 50 µs)	75 KV (r.m.s.)	125 KV (r.m.s.)	170 KV (r.m.s.)
PD measuring Voltage / Permissible Voltage	7.6/50	15.2/50	23.0/50

System Particulars

3 Phase 4 Wire with Isolated / Floating neutral as well as solidly earthed.

- 3 Nos. CTs & 1 No. 3 - Phase PT
- 3 Nos. CTs & 3 Nos. 1 - Phase PT

3 Phase 4 Wire with Isolated / Floating neutral as well as solidly earthed.

- 2 Nos. CTs & 1 No. 3 - Phase PT
- 2 Nos. CTs & 3 Nos. 1 - Phase PT

Specific Particulars

1. Short Time Thermal Current (I_{th})

As per customer requirement.

In general CT is to be specified with STF of 100 for 1 Sec. or STC (I_{th}) equal to the system fault level whichever is lower. KA (r.m.s.)

2. Output

10 VA to 100 VA for PT and 5 VA to 30 VA for CT

3. Accuracy Class

0.2S, 0.2, 0.5S, 0.5, 1.0 for CT. and 0.2, 0.5 & 1.0 for PT

4. Secondary Current (CT)

1 Amp or 5 Amp

5. Secondary Voltage (VT)

110 Ph-Ph or 110/√3 V, Ph-Neutral

6. Primary Current (CT)

As per customer requirement.

7. Primary Voltage (VT)

11KV, 22KV, 33KV for 3-Phase PT
11/√3, 22/√3, 33/√3 for 1-Phase PT

CLIENTS

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OUR OTHER PRODUCT RANGE



- **SINGLE PHASE CONTROL TRANSFORMER**



- **THREE PHASE CONTROL TRANSFORMER**



- **THREE PHASE RESIN CAST CONTROL TRANSFORMER**



- **SINGLE PHASE RESIN CAST CONTROL TRANSFORMER**

OUR OTHER PRODUCT RANGE



- **SECONDARY INJECTION KIT**



- **OIL TESTING KIT (0KV-100KV)**



- **HIGH VOLTAGE TESTING KIT (0KV-150KV)**

OUR OTHER PRODUCT RANGE



- 22/33 KV RESIN CAST INSULATORS



- 11KV RESIN CAST INSULATORS



- 11KV RESIDUAL VOLTAGE TRANSFORMER



- 33KV RESIDUAL VOLTAGE TRANSFORMER

OUR OTHER PRODUCT RANGE



- **11/22/33KV METERING CUBICLE**