

## TECHNICAL SPECIFICATION OF 'LT' RING TYPE CURRENT TRANSFORMER

1. Scope: The Current Transformer will be used with poly phase energy meters for measuring energy.
2. General: The Current Transformer should conform to the **I.S.2705** (part 1 & part 2) with subsequent modification thereof. The Current Transformer will be of Ring Type suitable for fixing on Bar Primary.
3. **Current Ratio: 200/5Amps.**
4. **Rated Voltage:** The Current Transformer will have to be suitable for continuous working at system voltage up to **660Volts and frequency 50Hz.**
5. **Burden: 5VA at 0.8 pf (lag).**
6. **Class of Accuracy: 0.5.**
7. **Inner Diameter: 45mm, suitable for mounting through 40x10mm<sup>2</sup> flat bar.**
8. **Instrument Security Factor: < 5.**
9. **Rated continuous thermal current temperature rise over ambient: 1.2 times rated primary current with maximum temp. rise limit of 50 deg C**
10. **One minute withstand of power frequency Voltage between primary & secondary: 3KV**
11. **Short time current rating: 5KA for 1 second**

Particulars: a). Primary and Secondary Terminal markings will have to be clearly indicated as per I.S.S. These markings should be permanent in nature.

b). Metal nameplate having at least the following particulars will have to be rigidly fixed on the current transformer.

**i) Ratio,(ii) Class, (iii)Burden, (iv)Line voltage & Frequency, (v) ISF, (vi) Type, (vii) Name of Manufacturer, (viii) Name of Customer (in terms of property of the customer), (ix) Serial No. (x) Manufacturing month & year.**

The nameplate should be fixed on the Current Transformer in such a way that the same cannot be peeled off without damaging the Current Transformer or any part of it.

c). Fixing arrangement (Base/Mounting plate with legs) will have to be provided along with the Current Transformer. The height of the Base /Mounting plate with legs will be 28mm.

d). CT ratio will have to be punched on the base /Mounting plate Legs. CT primary polarity marking P1 & P2 will have to be punched suitably on the CT base/Mounting plate Legs.

e). Properly insulated long lead Enameled copper Secondary wires (without any joint in-between and having continuous current carrying capacity of at least 10Amps ) measuring at least 1.5 meters (Red colour for S1 & Black colour for S2) are to be provided for secondary connection. These secondary leads will have to be drawn out from inside the secondary winding insulation of the CT in such a way that no joint is visible or accessible from outside.

10) The following schedule of type test for CT (As per reference standard) to be conducted and certified by Govt. approved laboratory/test house.

- i) Verification of terminal marking and polarity.
- ii) High voltage power frequency test
- iii) Over voltage inter turn test
- iv) Determination of ratio and phase angle error
- v) Short time current test and peak dynamic current
- vi) Temperature rise test.

Beside this, following tests shall also be conducted

- vii) Extended life cycle test
- viii) Ingress protection

11) Testing: Two numbers of sample CTs are to be delivered to Chief Engineer (Testing), Distribution Testing Department, Abhikshan, Kolkata, for routine test and approval.

Chief Engineer  
Distribution Testing Department  
WBSEDCL

LIST OF VENDORS FOR PROCUREMENT OF LT CT

- 1) Hycron India, E-100,MIA, Madri,Udaipur-313003,India, Fax-912942490203
- 2) Secure Meters Limited, Plot no.J5, Block-EP&GP, Sec-5, Saltlake Electronics Complex, Kolkata 700 091, Fax-033 23577244.
- 3) Metal Shearing Co. 88,Sultan Alam Road, Kolkata 700 033, Fax 033242469652
- 4) Light Equipment Manufacturing Co., 6A,Sultan Alam Road,Kolkata 700 033, Fax 0332426554
- 5) Automatic Electric Ltd. Rectifier House,570,Nalgaum Cross Road, Wadala, P.O. Box 7103, Mumbai 400 031.
- 6) Kappa Electricals Pvt. Ltd. No.569, 17<sup>th</sup>. Gross Sampige Road, Malleswaram, Bangalore 560003.
- 7) Mecavo (R&D) Pvt Ltd. 2, Church Lane (1<sup>st</sup>. Floor), Kolkata 700 001.
- 8) Narayan Powertech Pvt Ltd. 102, Yogidarshan Building, 13A, Natun Bharat Society, Alkapuri, Baroda 390007, Fax 0265 2336899

### LT CT REQUIREMENT ANALYSIS

*1020nos of LT meters are being purchased.*

*490nos of existing Calmu meter are to be replaced. Most of these meters are equipped with old (studded or short lead) CTs.*

*So, for replacement of 490 nos meters CTs required i.e,  $490 \times 4 = 1960$ .....(i)*

*Rest (1020-490)=530 nos meters for new connection.*

*For new connection of 530 meters CTs required i.e,  $530 \times 4 = 2120$ .....(ii)*

*No of existing LT bulk consumer is approximately 2400*

*Out of which 490nos will be replaced against Calmu meter replacement.*

*For rest (2400-490)= 1910nos of existing bulk consumers, considering 10% towards replacement/system augmentation. CTs required i.e,  $191 \times 4 = 764$ .....(iii)*

*So, total quantity of CT required = (i)+(ii)+(iii)=4844 nos rounded up to 4850 nos*

*Present stock position in DTD store=400 nos.*

*Hence, purchase requirement= 4450 nos.*