



Certificate No. : T-0071

## ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION

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ERDA Road, Makarpura Industrial Estate, Vadodara-390 010, India.

EPABX : +91 (0265) 2642942, 2642964, 2642377, 3043128 / 29 / 30 / 31 / 33

Fax : +91 (0265) 2638382

E-mail : erda@erda.org

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### TEST REPORT

SHEET: 1 OF 4

<b>NAME &amp; ADDRESS OF CUSTOMER</b>  <b>MRM PROCOM PVT. LTD.</b> Plot No. 20-21, Industrial Estate, Sector-59, Phase-II, Faridabad-121004, Haryana.	<b>TEST REPORT NO.:</b> RP-1516-015955 <b>DATE</b> : 27.07.2015	
	<b>CUSTOMER REF. NO. :</b> Nil	<b>DATE :</b> 07.07.2015
	<b>DATE OF SAMPLE RECEIPT</b>	<b>DATE OF TESTING</b>
	08.07.2015	09.07.2015 to 18.07.2015
<b>SAMPLE DESCRIPTION</b> CURRENT TRANSFORMER  MFD. BY : MRM PROCOM PVT. LTD. RATIO : 300/5 A BURDEN : 5 VA CLASS : 1.0 H.S.V./I.L. : 0.66/3 kV FREQUENCY : 50 Hz. Insulation Class : E TYPE : NC/BPL	<b>SAMPLE IDENTIFICATION</b>  <b>SR. NO.</b> : 2015070422  <b>ERDA SAMPLE CODE NO. :</b> ERDA-00098802  <b>DRAWING NO. :</b> MRM/CT/300-5-1.0/0715/02 REV.-00 SHEET NO. : 02  <b>ENCLOSURE :</b> <b>Annexure-I (As per sheet 1 of 1)</b>	
<b>TEST DETAILS &amp; TEST SPECIFICATION ARE AS PER SHEET NO. 2 OF 4.</b>		
<b>TEST RESULTS</b> : As per sheet: 3 of 4 to 4 of 4.		
<b>REMARKS</b> : The sample <b>conforms</b> to the requirements of the mentioned standard as mentioned in tests no. 1 to 6 on sheet no. : 2 of 4.		
 <b>PREPARED BY</b>	 <b>CHECKED BY</b>	 <b>APPROVED BY</b> <b>(S.B.PATEL)</b>

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TEST REPORT NO. : RP-1516-015955

SHEET : 2 OF 4

DATE : 27.07.2015

### TEST DETAILS & TEST SPECIFICATION:

Sr. No.	TESTS	REFERENCE STANDARD
1.	Verification of terminal marking and polarity.	Cl. No. 9.2 of IS 2705 (Part 1) : 1992
2.	Power frequency dry withstand test on primary winding.	Cl. No. 9.3 of IS 2705 (Part 1) : 1992
3.	Power frequency dry withstand test on secondary winding.	Cl. No. 9.4 of IS 2705 (Part 1) : 1992
4.	Over voltage inter-turn test.	Cl. No. 9.5 of IS 2705 (Part 1) : 1992
5.	Determination of errors according to the requirements of the appropriate accuracy class.	Cl. No. 7.2.1 of IS 2705 (Part 2) : 1992
6.	Temperature rise test.	Cl. No. 9.7 of IS 2705 (Part 1) : 1992

  
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TEST REPORT NO. : RP-1516-015955

SHEET : 3 OF 4

DATE : 27.07.2015

### TEST RESULTS:

1. **Verification of terminal marking and polarity.**

**(Cl. No. 9.2 of IS 2705 (Part 1) : 1992)**

Primary winding terminals : P1-P2

Secondary windings terminals : S1-S2

Terminal marking & polarity was found Ok.

Terminal marking was found marked clearly & Indelibly.

**REMARK:** Conforms

2. **Power frequency dry withstand test on primary winding.**

**(Cl. No. 9.3 of IS 2705 (Part 1) : 1992)**

The power frequency voltage of 3 kV rms was applied between the primary winding terminals and earth for one minute duration. The secondary windings terminals were connected together to earth.

The sample withstood the test voltage without any disruptive discharge.

**REMARK:** Conforms

3. **Power frequency dry withstand test on secondary winding.**

**(Cl. No. 9.4 of IS 2705 (Part 1) : 1992)**

The power frequency voltage of 3 kV (rms) was applied between the secondary windings terminals (all) connected together and the earth. The primary winding terminals were shorted and connected to the earth. The test voltage was applied for one minute. There was no disruptive discharge observed.

The sample withstood the test voltage satisfactorily.

**REMARK:** Conforms

4. **Over voltage inter-turn test. (Cl. No. 9.5 of IS 2705 (Part 1) : 1992)**

With the primary winding open circuited, a voltage at rated frequency was applied to the secondary winding terminals (S1-S2) such as to produce a secondary limiting current of rms value equals to rated secondary current (i.e. 5 amp.) for one minute.

The sample withstood the applied voltage satisfactorily for one minute.

**REMARK:** Conforms

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TEST REPORT NO. : RP-1516-015955

SHEET : 4 OF 4

DATE : 27.07.2015

5. **Determination of errors according to the requirements of the appropriate accuracy class. (Cl. No. 7.2.1 of IS 2705 (Part 2) : 1992)**

PHASE ANGLE ERROR IN MIN.	RATIO ERROR IN %	% OF RATED CURRENT	RATIO ERROR IN %	PHASE ANGLE ERROR IN MIN.
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RATIO : 300/5 A, BURDEN : 5 VA, CLASS : 1.0

BURDEN: 100 % at 0.8 Lag. P. F.		BURDEN : 25 % at U. P. F.		
3.47	0.024	120	0.377	8.64
4.43	-0.013	100	0.364	9.29
13.19	-0.451	20	0.137	18.75
30.76	-1.389	5	-0.280	42.07

**REMARK:** Conforms

6. **Temperature rise test. (Cl. No. 9.7 of IS 2705 (Part 1) : 1992)**

A Continuous rated thermal current equals to 120% (i. e.  $300 A \times 1.2 = 360 A$ ) of the primary current at rated frequency was circulated in the primary winding of the CT. Rated burden (i.e. 5 VA) was connected to the secondary winding terminals (i.e., S1-S2) of the CT. At steady state, temperature of the body and ambient temperature were recorded. The resistances of secondary winding were measured immediately after shut down and temperature rise calculated.

The temperature rises so obtained were as follows:

Sr. no.	Temperature rise of :	Specified limit for temperature rise test.	Obtained value :
1.	Secondary winding (Resistance method)	70 °C	S1-S2 : 17.22 °C
2.	Body (Thermocouple method)	70 °C	9.1 °C
3.	Ambient temperature	40 °C	34.6 °C

**REMARK:** Conforms

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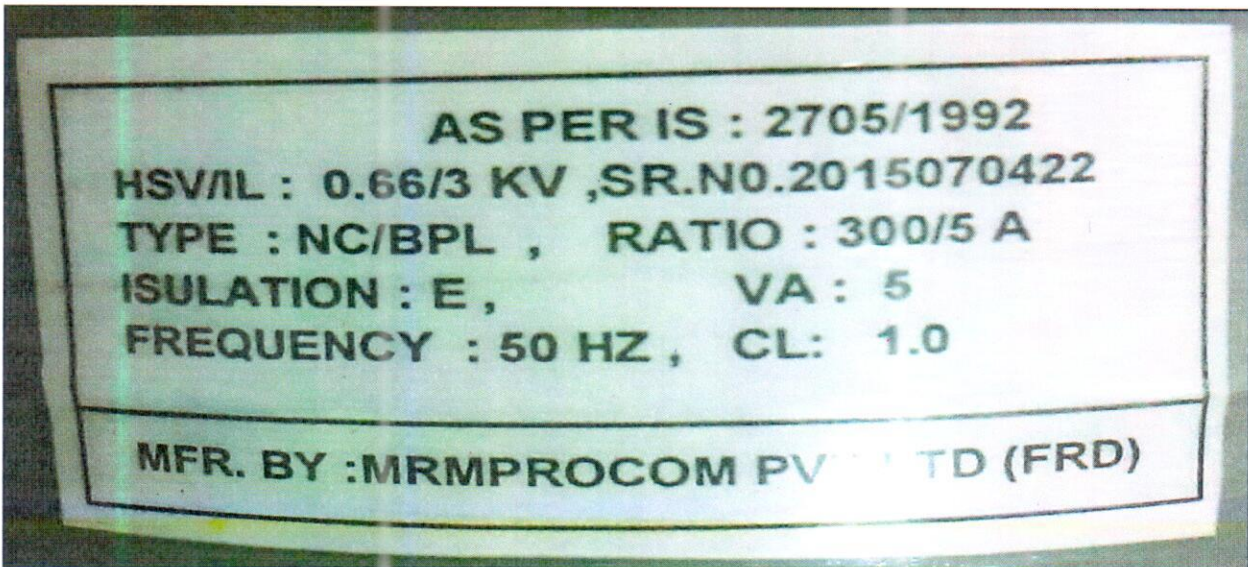
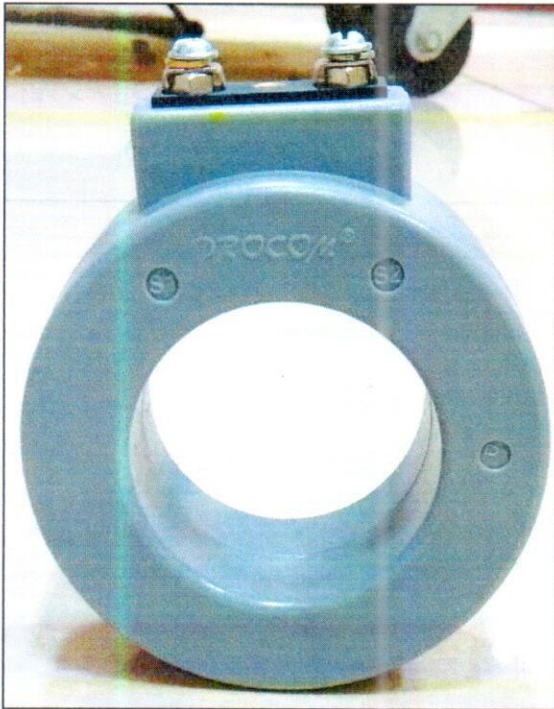
## Annexure-I

TEST REPORT NO. : RP-1516-015955

SHEET : 1 OF 1

DATE : 27.07.2015

### PHOTOGRAPHS OF TEST SAMPLE



AS PER IS : 2705/1992  
 HSV/L : 0.66/3 KV ,SR.NO.2015070422  
 TYPE : NC/BPL , RATIO : 300/5 A  
 ISULATION : E, VA : 5  
 FREQUENCY : 50 HZ , CL: 1.0

MFR. BY : MRMPROCOM PV LTD (FRD)

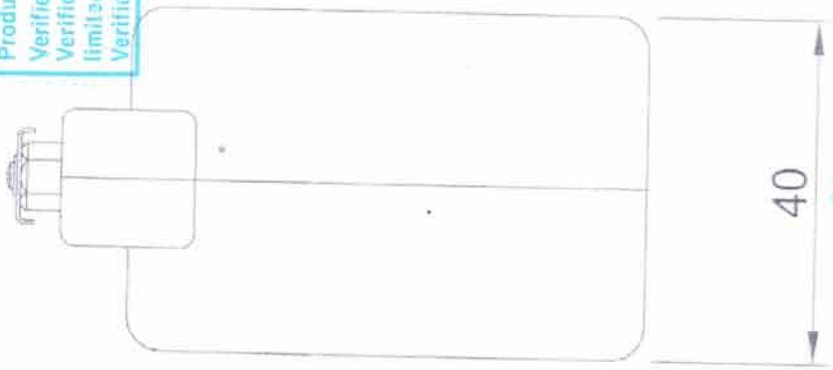
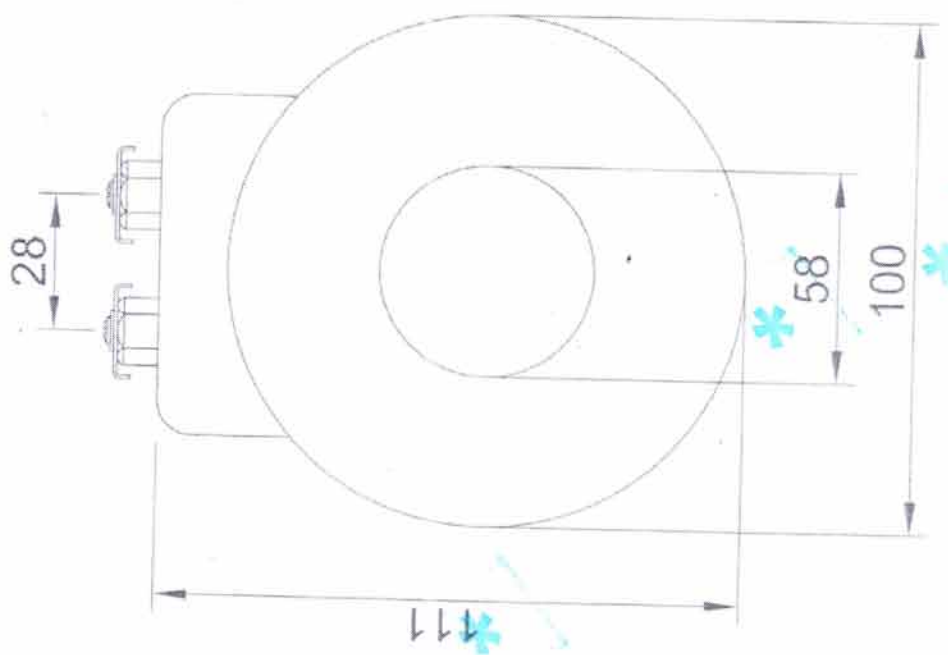
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*Prasanna*  
PREPARED BY

*neeraj*  
CHECKED BY



Test Report No: RP-1516-015955  
 Date: 22.07.2015  
 Product: CT  
 Verified By: *Aggarwal*  
 Verification of this drawing by E.C.A. is limited to relevant dimensional checks only. Verified dimensions are marked with \*



 <p><b>MRM PROCO/M PVT. LTD.</b>        PLOT NO 30-21, SEC 39, PH-2, FARIDABAD</p>	<p>(a) As per IS:2705/1992          IHSV/IL : 0.66/3KV          Type :NC/BPL          Insulation : E          Frequency: 50Hz</p>	<p>(b) Sr. No. 2015070422          Ratio: 300/5A          VA: 5          Class: 1.0          Dimensional Tolerance <math>\pm 5\%</math></p>	<p>(c) Drawn: Harvinder Singh          Checked/Approved: Pankaj Gupta          Scale: N.T.S.          Date: 02/07/2015</p>	<p>(d) Dwg. No.: MRM/CT/300-5-1.0.0715-02          Rev.: 00          Sheet No.: 02          No. of Sheets: 14</p>			
H	G	F	E	D	C	B	A