

# CPRI



## Central Power Research Institute

(A Govt. of India Society)

P.B.No. 8066, Sadhashivanagar Post Office,  
Prof. Sir C.V. Raman Road,  
Bangalore - 560 080 (INDIA)

# TEST REPORT



**Test Report Number** : DCCD – 14250 **Dated:** 26.11.2014

**Name & Address of the Customer** : M/s. ALP Technologies  
# 14 & 15, 14<sup>th</sup> cross, Bhyraveshwara Industrial Estate,  
Andrahalli Main Road, Peenya 2<sup>nd</sup> Stage  
Bangalore-560091  
Ref: Customer Request Form, Dated: 30.10.2014

**Name & Address of the Manufacturer** : M/S. ALP Technologies  
# 14 & 15 , 14<sup>th</sup> Cross, Bhyraveshwara Industrial Estate  
Andrahalli Main Road , Peenya 2<sup>nd</sup> Stage  
Bangalore-560091

**Particulars of sample tested** : 2000A, LT MCC Panel  
**Condition of the Sample on Receipt** : New  
Type : Nil  
Designation : MCC Panel  
Serial Number : ALP148090  
Number of samples tested : One  
Date(s) of Test(s) : 31.10.2014  
CPRI sample code no : HPL14S0294

**Particulars of tests conducted** : Temperature Rise Test at 2000A

**Test in accordance with standard/specification** : IS 8623-1:1993 / IEC 60439- 1: 1985  
Sampling plan : Nil  
Customers requirement : Temperature rise test at 2000 Amps  
Deviations if any : Nil

**Name of the witnessing persons**  
Customers representatives : Mr.Subramanya.S.K  
Other than Customers representatives : Nil  
Test subcontracted with address of the laboratory : NA

**Documents constituting this report (in words)**  
Number of Sheets : Four  
Number of oscillograms : Nil  
Number of graphs : Nil  
Number of photos : Nil  
Number of Test Circuit Diagrams : Nil  
Number of Drawings : One 1) ALP14-9001\_TR, Page 01 of 01,REV:00

  
(V MOHAN BABU)  
Test Engineer



  
(K. MALLIKARJUNAPPA)  
Joint Director

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Dated: 26.11.2014

## TEST RESULTS


1. **Temperature Rise Test:** As per Clause 8.2.1 of IS 8623-1:1993 / IEC 60439- 1: 1985

Temporary connections:

Connections	Material	Quantity (Numbers)	Length (mm)	Section (mm <sup>2</sup> )	Remarks
Incoming side	Copper Flexible Braids	Two	2000	600	Each Phase
	Copper Busbars	Two	2000	100X10	Each Phase
Outgoing side	Copper Busbars	Two	2000	80X12	Each Phase
	Copper Busbars (Shorting Busbar)	One	550	100X12	Across R, Y and B phases

2. **Magnitude of current passed:**

R Phase: 2000 Amps	Y Phase: 2000 Amps	B Phase: 2000 Amps
Frequency: 49.7 Hz to 50.0 Hz		

  
(V MOHAN BABU)  
Test Engineer


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### NOTE

- a) The test results relate only to the item(s) tested.
- b) Publication or reproduction of this test report/certificate in any form other than by complete set of the whole report/certificate and in the language written, is not permitted without the written consent of CPRI
- c) Any correction/erasure invalidates the test report/certificate.
- d) NABL has Accredited this laboratory as per ISO 17025-2005 standard vide certificate no. T-0010 for the tests carried out
- e) Any anomaly/discrepancy in this test report/certificate should be brought to the notice of CPRI within 45 days from the date of issue.



(V MOHAN BABU)  
Test Engineer

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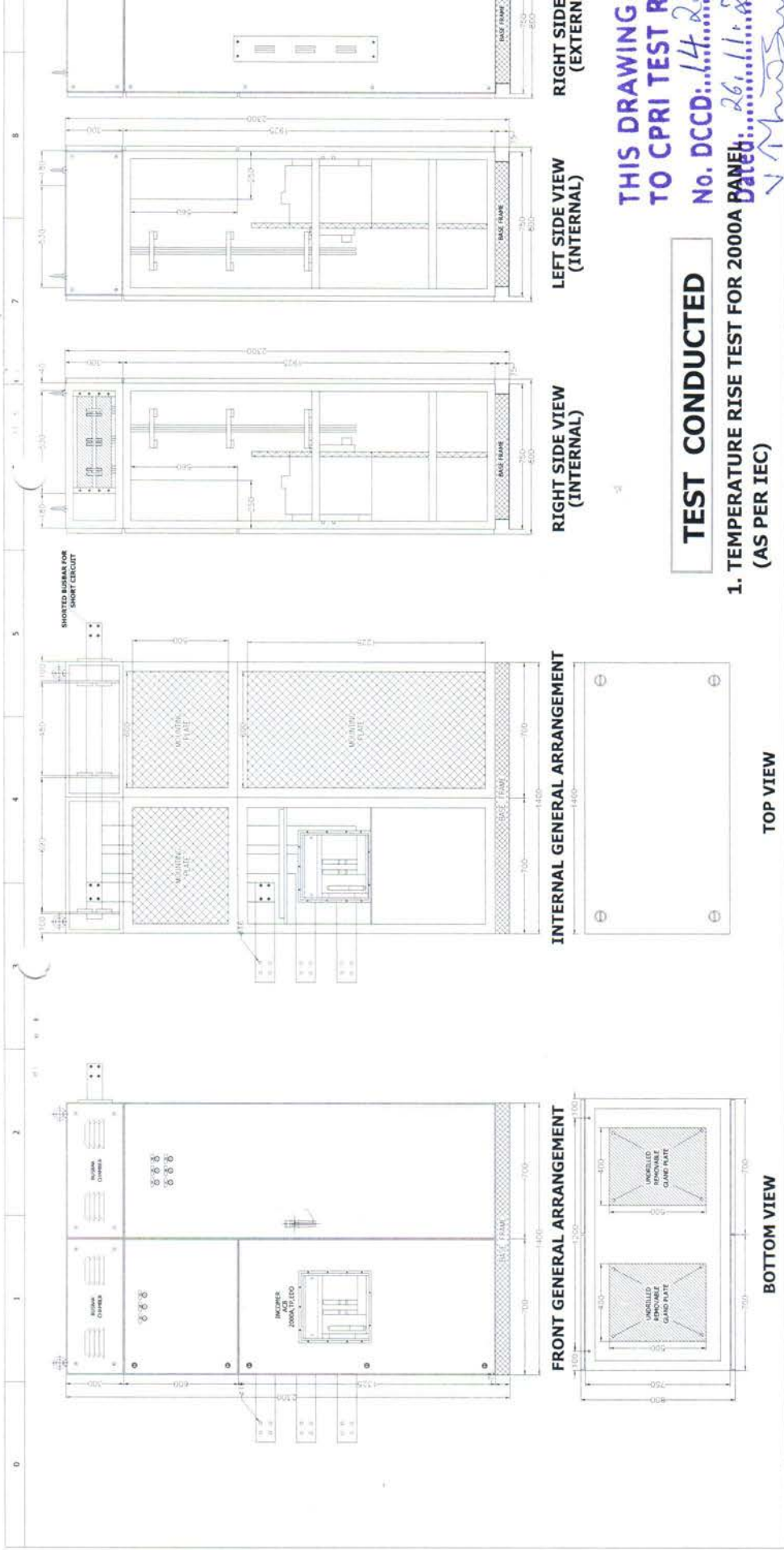
Dated: 26.11.2014

### TEST RESULTS

Average ambient temperature: 28.0°C, Temperature rise of the various parts at steady state:

Parts of Assemblies	Temperature rise limits as given in Table - III & Clause 8.2.1 of IS 8623-1:1993 / IEC 60439- 1: 1985 (K)	Temperature rise (K)			Results / Remarks		
		R Phase	Y Phase	B Phase	R Phase	Y Phase	B Phase
<b>Terminals for external insulated conductors :</b>							
Incoming Terminals	70	50.0	53.1	42.1	Within limit	Within limit	Within limit
Outgoing Terminals	70	53.7	57.4	57.8	Within limit	Within limit	Within limit
<b>Busbars and conductors, plug-in-contacts of removable or withdrawable parts which connect to busbars :</b>							
Joint near Incoming Terminal	Limited by : -Mechanical strength of conducting material - Possible effect on adjacent equipment - Permissible temperature limit of the insulating materials in contact with conductor -The effect of the temperature of the conductor on the apparatus connected to it; -For plug-in contacts, nature and surface treatment of the contact material	35.1	59.0	41.0	----	----	----
Horizontal Busbar		65.9	62.0	57.0	----	----	----
Vertical Busbar		56.8	71.5	57.4	----	----	----
Joint between Horizontal busbar and Vertical busbar		60.5	66.8	57.0	----	----	----
<b>Accessible external enclosures and covers; - Metal surfaces</b>							
Enclosure	30	7.4			Within limit		

  
**(V MOHAN BABU)**  
**Test Engineer**



**TEST CONDUCTED**

1. TEMPERATURE RISE TEST FOR 2000A PANEL (AS PER IEC)

THIS DRAWING TO CPRI TEST R No. DCCD:14 & Dated: 26/11/2014

**GENERAL NOTES**

1. NAME : CONTROL PANEL
2. CONSTRUCTION : CRCA SHEET STEEL FOLDED/WELDED.
3. SHEET STEEL THICKNESS:
  - a). BASE FRAME : ISMC 75 WITH BLACK PAINT.
  - b). LOAD BEARING MEMBERS - 2.0mm.
  - c). DOORS AND OTHERS - 2mm.
  - d). PARTITIONS : 1.6mm.
  - e). GLAND PLATE : 3mm.

4. IP a). PROTECTION : IP42

5. PAINT / FINISH: POWDER COATED
  - a). EXTERIOR : RAL7032/TEXTURE FINISH
  - b). INTERIOR : RAL7032/TEXTURE FINISH
  - c). BASE FRAME : BLACK/PAINT

6. BUS BAR:
  - a). MAIN BUS : 2Rx80x12mm. Cu. Busbar
  - b). HORIZONTAL BUS : 2Rx80x12mm. Cu. Busbar
  - c). VERTICAL BUS : 2Rx100x10mm. Cu. Busbar

7. VOLTAGE AND FREQUENCY:

- a). RATED VOLTAGE : 690V +/-10%, 3Ph, 3W
- b). RATED FREQUENCY : 50Hz +/- 3%

8. GASKET : NEOPRENE GASKET .

9. DOOR BEEDING : POLY URETHENE 20X6mm

10. TYPE : INDOOR

11. ACB NOT INCLUDED FOR TESTING

Test Engineer

DATE: 22.10.2014	MANUFACTURER: M/S. ALP Technologies	Project Description: TEMPERATURE RISE TEST -2000A PANEL	Customer: *****	Page Description: GENERAL ARRANGEMENT DRAWING FRONT, SIDE AND INTERNAL VIEW	VENDOR DOC NO: ALP14-9001_TR
APPROVED BY: SK	No.14 & 15, 14th Cross, Bhyraveshwara Industrial Estate, Andrahalli Main Road, Peenya 2nd Stage Bangalore-560 091, Land Line - 080 - 28367788	TEMPERATURE RISE TEST -2000A PANEL	*****	INITIAL DRAWINGS	22.10.2014
CHECKED BY: KJ				Rev	Date
DRAWN BY: KJ				Description	