

CPRI

TEST REPORT



Central Power Research Institute

(A Govt. of India Society)

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Bangalore - 560 080 (INDIA)

CENTRAL POWER RESEARCH INSTITUTE



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TEST REPORT

Test Report Number : DCCD – 13717 **Dated:** 02.01.2014

Name & Address of the Customer : M/s. Lakshmi Electrical Works
Pu-1, Electrical and Electronics Estate
Thuvakudi, Trichy-620 015, Tamil Nadu
Ref: Customer request form, dated: 30.12.2013

Name & Address of the Manufacturer : M/s. . Lakshmi Electrical Works
Pu-1, Electrical and Electronics Estate
Thuvakudi, Trichy-620 015, Tamil Nadu

Particulars of sample tested : 5000A, 415V, 3phase LT Panel

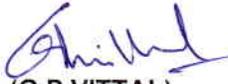
Condition of the Sample on Receipt : New
Type : Indoor
Designation : Nil
Serial Number : 1213
Number of samples tested : One
Date(s) of Test(s) : 31.12.2013
CPRI sample code no : SC13S2618

Particulars of tests conducted : Temperature rise test at 4000 Amps
Test in accordance with standard/specification : IS: 8623-Part 1-1993 / IEC: 60439-Part 1-1985 (RA-2008) and as per customer requirement

Sampling plan :
Customers requirement : Nil
Deviations if any : Temperature rise test at 4000 Amps
Nil

Name of the witnessing persons
Customers representatives :
Other than Customers representatives : Mr. P. Ramesh
Test subcontracted with address of the laboratory : Nil
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 : Two 1) LEW/1002/2013-14, Sheet 1of 2,
2) LEW/1002/2013-14, Sheet 2of 2,


(G.P.VITTAL)
Test Engineer




(K. MALLIKARJUNAPPA)
Joint Director

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TEST RESULTS

1. Temperature Rise Test: As per Cl 8.2.1 of IS: 8623-Part 1-1993 / IEC: 60439-Part 1-1985 (RA-2008) and as per customer requirement

Temporary connections:

Connections	Material	Quantity (Numbers)	Length (mm)	Section (mm ²)	Remarks
Incoming side	Copper Flexible Braids	One Two	2000 2000	1300 600	Each Phase Each Phase
	Copper Busbars	Four	1825	100x12	Each Phase
Outgoing side	Copper Busbars	Four	1825	100x12	Each Phase
	Copper Busbars (Shorting busbars)	Four	870	100x12	Across R Y and B phases

2. Magnitude of current passed:

R Phase: 4000 Amps	Y Phase: 4000 Amps	B Phase: 4000 Amps
Frequency: 49.9 Hz to 50.1 Hz		


(G.P.VITTAL)
Test Engineer

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TEST RESULTS

Average ambient temperature: 29.3°C
Temperature rise of the various parts at steady state:

Parts of Assemblies	Temperature rise limits as given in Table - III & Cl.7.3 of IS: 8623- Part-1-1993 / IEC Pub: 60439-Part1-1985 (RA-2008) (K)	Temperature rise (K)			Results / Remarks		
		R Phase	Y Phase	B Phase	R Phase	Y Phase	B Phase
Terminals for external insulated conductors :							
Incoming Terminals	70	43.7	42.5	51.6	Within Limit	Within limit	Within limit
Outgoing Terminals	70	42.4	39.7	30.0	Within limit	Within limit	Within limit
Busbars and conductors, plug-in-contacts of removable or withdrawable parts which connect to busbars :	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						
Horizontal Busbar		58.9	67.3	54.7	---	---	---
Joints		63.1	63.0	65.2	---	---	---
Vertical Busbar		62.0	59.0	61.4	---	---	---
Accessible external enclosures and covers: - Metal surfaces							
Enclosure	30	21.6			Within limit		


(G.P.VITTAL)
 Test Engineer