

CENTRAL POWER RESEARCH INSTITUTE



CPRI

TEST REPORT

Test Report Number : DCCD – 14020 **Dated:** 26.06.2014

Name & Address of the Customer : M/s. Span Electromech
180, Akkalkot Road, MIDC Area,
Solapur – 413 006, Maharashtra, India
Ref: Customer request form, dated: 18.06.2014

Name & Address of the Manufacturer : M/s. Span Electromech
180, Akkalkot Road, MIDC Area,
Solapur – 413 006, Maharashtra, India

Particulars of sample tested : 440V AC, 4000A LT Panel
Condition of the Sample on Receipt : Good, After short circuit test
Type : Indoor Type
Designation : LT Panel
Serial Number : 07/14-15
Number of samples tested : One
Date(s) of Test(s) : 19.06.2014
CPRI sample code no : HPL14S0089

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

Name of the witnessing persons
Customers representatives : Mr. Nikhil P Patwa - Proprietor
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 : Three 1) 0404-1, SHEET 1/1
2) 0404-2, SHEET 1/1
3) 0404-3, SHEET 1/1


(Dr. C.VISWANATHA)
Test Engineer




(K. MALLIKARJUNAPPA)
Joint Director

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Test Report No.: DCCD -14020

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TEST RESULTS

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

Temporary connections:

Connections	Material	Quantity (Numbers)	Length (mm)	Section (mm ²)	Remarks
Incoming side	Copper Flexible Braids	One	2000	1300	Each Phase
		Two	2000	600	Each Phase
	Aluminium Busbars	Three	2000	200X10	Each Phase
Outgoing side	Aluminium Busbars	Three	2000	200X10	Each Phase
	Aluminium Busbars (Shorting Busbar)	Three	559	200X10	Across R Y and B phases

2. Magnitude of current passed:

R Phase: 4000 Amps	Y Phase: 4000 Amps	B Phase: 4000 Amps
Frequency: 49.8 Hz to 50.0 Hz		

(Dr. C.VISWANATHA)
Test Engineer

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TEST RESULTS

Average ambient temperature: 32.2°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 (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	36.6	44.0	42.7	Within limit	Within limit	Within limit
Outgoing Terminals	70	37.4	41.0	37.5	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						
Incoming Busbar		55.7	61.9	63.0	---	---	---
Outgoing Busbar		47.9	53.8	54.9	---	---	---
Joints		65.0	67.7	62.6	---	---	---
Accessible external enclosures and covers: - Metal surfaces							
Enclosure	30	20			Within limit		


(Dr.C.VISWANATHA)
 Test Engineer