

केन्द्रीय विद्युत अनुसंधान संस्थान
CENTRAL POWER RESEARCH INSTITUTE
स्विचगिअर परिक्षण तथा विकास केन्द्र
Switchgear Testing & Development Station,
गोविन्दपुरा, Govindpura, भोपाल Bhopal – 462 023

तिब्र डाक द्वारा / **BY SPEED POST**
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संदर्भ क्र, एस.टी.एस./एसटीएल/
Reference No. STDS/STL(21)/263

दिनांक :
Date : 16 December 2021

प्रति, / To
मेसर्स / M/s. Control Blue Automation & Software (I) Pvt. Ltd.,
GE-125, Rajdanga Main Road,
Kolkata, West Bengal-700 107

विषय :- अंतिम परीक्षण रिपोर्ट का प्रेषण क्र. एसटीएस/ CPRIBPLSTNCMISC21T0331
Sub :- Dispatch of Final Test Report No STL/

महोदय/Dear Sir,

Re-issue
कृपया इस पत्र के साथ हमारी प्रयोगशाला में 415V, 800A, LT Panel
दिनांक 21 September 2021 को किये गये परीक्षण की उपर्युक्त दर्शायी गयी अंतिम परीक्षण रिपोर्ट संलग्न है।


Please find enclosed herewith the above mentioned test report for test conducted on
at our Laboratory during the month.

अगर इस रिपोर्ट में कोई विसंगति है तो इसकी सुचना हमें रिपोर्ट जारी करने के 45 दिन के अन्दर लिखित में दी जाए ताकि हम
आवश्यक सुधार कर सकें, जिसके लिए रिपोर्ट की सभी प्रतियाँ वापस की जाय। कृपया ध्यान दिया जाए कि इस दिनांक के बाद
मिलने वाले निवेदन पर विचार नहीं किया जाएगा।

Discrepancies in this report must be brought to our notice in writing within 45 days of the date of issue of this
report for effecting necessary corrections for which all the copies of report must be returned please note that
request received beyond this date will not be entertained.

धन्यवाद/Thanking You

भवदीय/ Your faithfully


संयुक्त निदेशक, एसटीएल
Joint Director, STL
STDS, Bhopal



परीक्षण रिपोर्ट TEST REPORT



केन्द्रीय विद्युत अनुसंधान संस्थान
(विद्युत मंत्रालय, भारत सरकार के अधीन एक स्वायत्त सोसायटी)
CENTRAL POWER RESEARCH INSTITUTE

(An Autonomous Society under the Ministry of Power, Govt. of India)

एस टी एल के सदस्य
Member of STL

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CENTRAL POWER RESEARCH INSTITUTE



TEST REPORT

CPRI

Test Report Number : **CPRIBPLSTNCMISC21T0331** **Date:11 November 2021**
Name and Address of the Customer : M/s. Control Blue Automation & Software (I) Pvt. Ltd.,
GE-125, Rajdanga Main Road, Kolkata,
West Bengal-700 107
Name and Address of the Manufacturer : M/s. Control Blue Automation & Software (I) Pvt. Ltd.,
GE-125, Rajdanga Main Road, Kolkata,
West Bengal-700 107
Particulars of Sample tested : 415V, 800A, LT Panel
Type : LT Panel
Description of test sample : 415V, 800A, LT Panel
Serial Number : Nil
Number of Sample tested : One
Date(s) of Test(s) : 21 September 2021 & 22 September 2021
CPRI sample code number(s) : STNCMISC21S0266
Particulars of test(s) conducted : Verification of Temperature rise
Test in accordance with : As per customer's requirement.
Standard/specification :
Sampling Plan : Nil
Customer's Requirement : 1) Test(s) to be conducted as per Cl. 10.10.2.3.7 (a) of IS/IEC 61439-1:2011.
2) Maximum Temperature rise limit on Busbar & Busbar joints shall be 70K.
3) Temporary connections used for temperature rise test were of Aluminium, Size: (80X10)mm-2 Nos./Phase, 1830mm Long on both Incoming & Outgoing Sides.
Deviations, if any : Test was conducted on the sample with main busbars only, without any switchgear in the sample.
Name of the witnessing persons :
Customer's Representatives : Mr. Subhra Kanti Roy.
Other than Customer's Representatives : Nil
Test subcontracted with address of the laboratory : None
Documents constituting this report (in words) :
No. of Sheet(s) : Seven
No. of Oscillogram(s) : Nil
No. of Graph(s) : Nil
No. of Photograph(s) : One
No. of Test Circuit Diagram(s) : Nil
No. of drawing(s) : Two

(K.V. Gangadhar Reddy)
Test Engineer



(Sarita Dongre)
Head of Division
Reviewed and Authorized by

CENTRAL POWER RESEARCH INSTITUTE



TEST REPORT

CPRI

Test Report Number: CPRIBPLSTNCMISC21T0331

Date: 11 November 2021

DESCRIPTION OF THE SAMPLE TESTED (As assigned by the manufacturer)

Sample	:	415V, 800A, LT Panel
Designation	:	Nil
Rated voltage (Volts)	:	415
Rated current (Amps)	:	800
Frequency (Hz)	:	50
Insulation level (Vrms/kVp)	:	660/-
No. of phases	:	3
No. of poles	:	4
Dimensions of the sample (mm)	:	As per drawing.
Contacts / terminals material	:	Aluminium Terminals for Panel

(K.V. Gangadhar Reddy)
Test Engineer

CENTRAL POWER RESEARCH INSTITUTE



TEST REPORT

CPRI

Test Report Number: CPRIBPLSTNCMISC21T0331

Date: 11 November 2021

SUMMARY OF TESTS CONDUCTED

1. Tests conducted : Verification of temperature rise
2. Rating for which tested : 3-phase, 800A, 50 Hz

3. Schedule of tests

Tests Conducted	Clause Numbers	Sheet
Verification of Temperature rise	As per customer's requirement	5 of 7 & 6 of 7

4. Oscillogram No(s) : Nil
5. Graph Numbers : Nil
6. Photograph Numbers : CPRIBPLSTNCMISC21T0331P01
7. Test Circuit Diagram Numbers : Nil
8. Drawing Numbers : Refer sheet 4 of 7

(K.V. Gangadhar Reddy)
Test Engineer

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TEST REPORT

CPRI

Test Report Number: CPRIBPLSTNCMISC21T0331

Date: 11 November 2021

LIST OF DRAWINGS

Drawing Numbers

The manufacturer has guaranteed that the sample submitted for the test(s) has been manufactured in accordance with the following drawings

Sl.No.	Drawing Number	Sheet Number	Revision Number
1	CBASP/TR/2021/01	1 of 2	01
2	CBASP/TR/2021/01	2 of 2	01

It is verified that these drawings adequately represent the sample tested. Verification of these drawings by CPRI is limited to dimensional check only wherever possible.

(K.V. Gangadhar Reddy)
Test Engineer

CENTRAL POWER RESEARCH INSTITUTE



TEST REPORT

CPRI

Test Report Number: CPRIBPLSTNCMISC21T0331

Date: 11 November 2021

TEST RESULTS

Test Conducted : Verification of temperature rise
Condition of the Sample : New
Date of Test : 21 September 2021 & 22 September 2021
Starting Time(Hrs.) : 12:32
Shut down time(Hrs.) : 17:32
Test current (A) : 800
Size of conductor used : Aluminium busbar, (80X10)mm x 2 Nos/ph., Length : 1.83 metre at
Incoming and outgoing sides
Size of conductor inside the panel : Material: Aluminium busbar, Size P-(80X10)mm X 2 No.
N-(80X10)mm X 1 No.
Frequency (Hz) : 50
Phase : 3
Avg. ambient : 29.2°C
Temperature at shut down
Arrangement of thermocouple locations : As mentioned below

Thermocouple		Maximum Temperature Recorded (°C)	Temperature Rise (K)
Locations	Numbers		
Incoming Terminal R-ph	T1	44.7	15.5
Incoming Terminal Y-ph	T2	41.7	12.5
Incoming Terminal B-ph	T3	44.8	15.6
Horizontal Busbar Middle R-ph	T4	50.0	20.8
Horizontal Busbar Middle Y-ph	T5	52.1	22.9
Horizontal Busbar Middle B-ph	T6	50.4	21.2
Horizontal & Vertical Busbar Joint R-ph	T7	49.8	20.6
Horizontal & Vertical Busbar Joint Y-ph	T8	55.5	26.3

(K.V. Gangadhar Reddy
Test Engineer

CENTRAL POWER RESEARCH INSTITUTE



TEST REPORT

CPRI

Test Report Number: CPRIPLSTNCMISC21T0331

Date: 11 November 2021

TEST RESULTS

Thermocouple		Maximum Temperature Recorded (°C)	Temperature Rise (K)
Locations	Numbers		
Horizontal & Vertical Busbar Joint B-ph	T9	51.7	22.5
Outgoing Terminals R-ph	T10	41.2	12.0
Outgoing Terminals Y-ph	T11	42.6	13.4
Outgoing Terminals B-ph	T12	41.7	12.5
Enclosure-1	T13	36.1	6.9
Enclosure-2	T14	34.1	4.9

- Observation:
- 1) The temperature rise obtained was within the limits as specified in the standard & specified by the customer.
 - 2) Power frequency withstand voltage test was conducted on the sample 1.89kVrms for 5 seconds in all the conditions as per standard to check the effect of temperature rise on adjacent parts of the equipment. Sample withstood the test. No puncture or flash over was noticed during the test

CONCLUSION

: The sample tested complies with the requirement of the customer for the test(s) conducted.

(K.V. Gangadhar Reddy)
Test Engineer

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TEST REPORT

CPRI

Test Report Number: CPRIBPLSTNCMISC21T0331

Date: 11 November 2021

NOTE

- a) The Test results relate only to the item(s) tested.
- b) Publication or reproduction of this Test Report/Test Certificate in any form other than by complete set of the whole Test Report/Test Certificate and in the language written is not permitted without the written consent of CPRI.
- c) Any Corrections/erasure invalidates the Test Report/Test Certificate
- d) Any anomaly/discrepancy in the Test Report/ Test Certificate should be brought to the notice of CPRI within 45 days from the date of issue.
- e) All documents constituting the Test Report/Test Certificate are stitched together with a continuous silk thread/silk ribbon, the two ends of which have been brought over the front sheet of the Test Report/Test Certificate and sealed with a CPRI logo printer paper sticker/embossed.

(K.V. Gangadhar Reddy)
Test Engineer

.....End of Test Report.....

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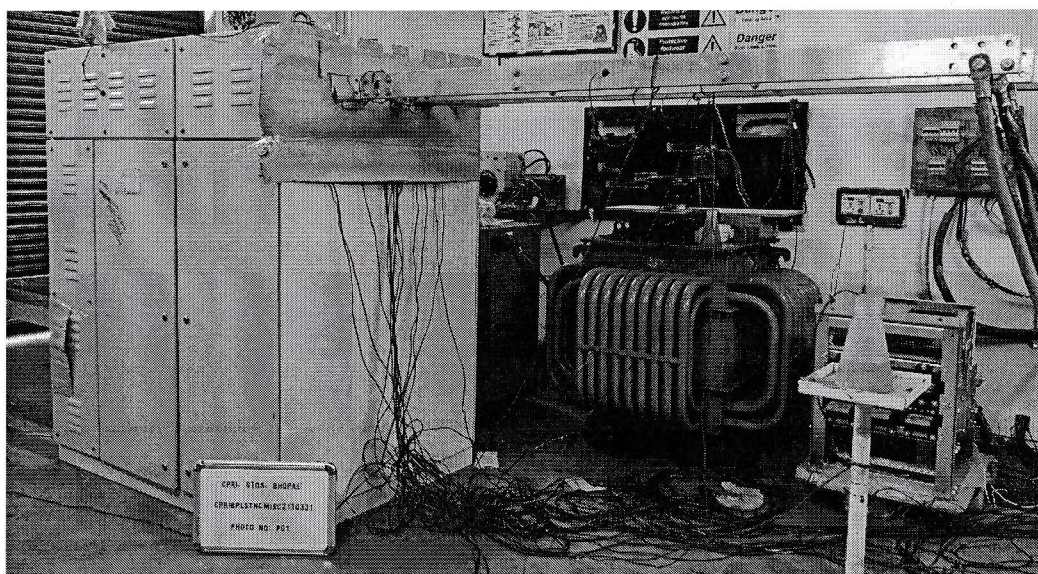
TEST REPORT

CPRI

Test Report Number: CPRIBPLSTNCMISC21T0331

Date: 11 November 2021

TEST RESULTS

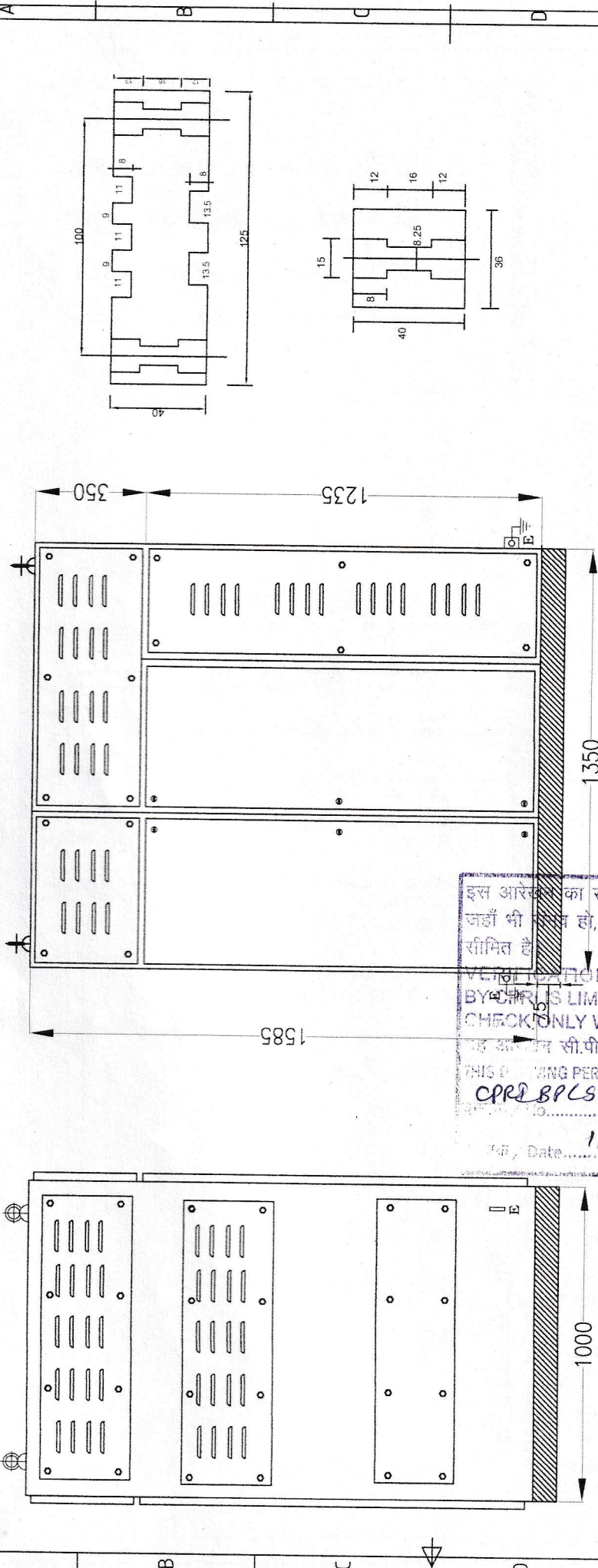


Photograph Number: CPRIBPLSTNCMISC21T0331P01

K.V. Gangadhar Reddy

(K.V. Gangadhar Reddy)
Test Engineer

RHS VIEW



1. MOC	2.0 mm. (CRCA)
2. PAINTING	POWDER COATING SIEMENS GRAY (RAL-7032)
3. BUSBAR	80X10X2 NO. AI. FOR R, Y, B & 80X10X01 NO. AI.
4. GENERAL TOLERANCE	10 ±%
5. RATED CURRENT	800 Amp
6. RATED VOLTAGE	415 VAC
7. RATED FREQUENCY	50 Hz
8. INSULATION VOLTAGE	660 V

इस आरेख का सत्यापन सी.पी.आर.आई. द्वारा जहाँ भी किया हो, केवल आयाम जाँच तक ही सीमित है।
 VERIFICATION OF THIS DRAWING BY CPRI IS LIMITED TO DIMENSIONAL CHECK ONLY WHEREVER POSSIBLE
 यह आरेख सी.पी.आर.आई. के परीक्षण रिपोर्ट THIS DRAWING PERTAINING TO CPRI TEST REPORT CPRI BPLSTNC M28C24 T033 से संबंधित है।
 Date: 11 November 2021

Beedhi
 परीक्षण इंजीनियर
 एस.टी.डी.एस., सी.पी.आर.आई., भोपाल
 Test Engineer
 STDS, CPRI, Bhopal

REV	DATE	DRAWN	DESIGN	CHECKED	APPROVED	REVISION DESCRIPTION	1	2	3
00	01/21/09/2021					AS PER CPRI COMMENTS			
CONTROL BLUE AUTOMATION & SOFTWARE (I) PVT. LTD. ADDRESS: GE-125, RAJ-DANGA MAIN ROAD, KOLKATA-700107 PHONE-033-24413339							CLIENT	GENERAL ARRANGEMENT	TITLE
							SUPPLIER	415A, 800A LT PANEL	80X10X2 NO. AI. FOR R, Y, B & 80X10X01 NO. AI.
							DRG. NO.	CBASP/TR/2021/01	CBAS/PL
							REF. NO.		
							P.O. NO.		
							W.O. NO.		
							SHEET NO.	1	TOTAL SHEET
							DRAWING NOT TO SCALE	2	8

सी पी आर आई संगठन

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(विद्युत मंत्रालय, भारत सरकार के अधीन एक स्वायत्त सोसायटी)

Central Power Research Institute

(An Autonomous Society under the Ministry of Power, Govt. of India)

स्विचगियर परीक्षण तथा विकास केन्द्र

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2586343 (STN-II) 2586944 (SUPP. LAB.)

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Fax : 0755-2587774 Grams : POWERRESEARCH

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