सी पी आर आई
भारत
CPRI
INDIA

परीक्षण रिपोर्ट
TEST REPORT

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 Ministry of Power, Govt. of India)

एस टी एल के सदस्य

Member of STL

स्विचगियर परीक्षण तथा विकास केन्द्र

SWITCHGEAR TESTING & DEVELOPMENT STATION

गोविन्दपुरा, भोपाल - 462023

GOVINDPURA BHOPAL - 462023

दूरभाष/Telephone +91 (0) 755 - 2586682 फैक्स/Fax +91 (0) 755-2587774

CENTRAL POWER RESEARCH INSTITUTE

TEST REPORT

CPRI

Test Report Number	: **CPRIBPLSTNBMISC22T0283**	**Date: 20 October 2022**
Name and Address of the Customer	:	Varad Electricals & Electronics 302, Third Floor, Sahilraj, Kamathe Vasti, Shivane, Pune, Maharashtra, 411023
Name and Address of the Manufacturer	:	Varad Electricals & Electronics 302, Third Floor, Sahilraj, Kamathe Vasti, Shivane, Pune, Maharashtra, 411023
Particulars of sample tested	:	LT PCC Panel (Non-Extendable) 415 V, 5000A
Type	:	Indoor & Outdoor
Description of test sample	:	Refer sheet 2 of 6
Serial Number	:	VEE/TYPETEST/01
Number of samples tested	:	One
Date(s) of Test(s)	:	26 September 2022
CPRI Sample code Number(s)	:	STNBMISC22S0706
Particulars of tests conducted	:	Verification of the short circuit withstand strength
Test in accordance with Standard/Specification	:	As per customer's requirement and procedure generally followed as per cl.10.11.5.3.3 & 10.11.5.3.5 of IS/IEC:61439-1,2011 & IS/IEC:61439-2, 2011
Sampling Plan	:	Nil
Customer's Requirement	:	SCWS test to be conducted only on busbars.
Deviations if any	:	SCWS test was conducted only on busbars.
Name of the witnessing persons Customers representative	:	Mr. Lalit Kumar (Elec. Engineer)
Other than customer's representatives	:	None
Test subcontracted with address of the laboratory	:	Nil

Documents constituting this report (in words)

Number of Sheets	:	Six
Number of Oscillogram(s)	:	Two
Number of Graph(s)	:	Nil
Number of Photograph(s)	:	One
Number of Test Circuit Diagram(s)	:	Two
Number of Drawing(s)	:	Two

(Saumitra Pathak)
Test Engineer

(Sumbul Munshi)
Head of Division
Reviewed and Authorized by

CENTRAL POWER RESEARCH INSTITUTE

TEST REPORT

Test Report Number : **CPRIBPLSTNBMISC22T0283** **Date: 20 October 2022** **CPRI**

DESCRIPTION OF SAMPLE TESTED
(As assigned by the manufacturer)

Test Sample	:	LT PCC Panel (Non-Extendable) 415 V, 5000A
Type	:	Indoor & Outdoor
Designation	:	LT PCC Panel
Serial number	:	VEE/TYPETEST/01
Voltages		
Rated Voltage (U_n) in V	:	415
Rated Insulation Voltage (U_i) in V	:	660
Rated impulse withstand voltage (U_{imp}) in kV	:	NA
Currents		
Rated Current (I_{nA}) in A	:	5000
Rated current of a main outgoing circuit (I_{nc}) in A	:	NA
Rated conditional short-circuit current (I_{cc}) in kA	:	NA
Rated short-time withstand current (I_{cw}) in kA	:	65 kArms for 1.0 second with initial peak of 143 kApeak
Rated frequency (f_n) in Hz	:	50
Degree of protection	:	IP52
Material group	:	Nil
From of separation	:	Nil
Number of Phases	:	Three Phase + Neutral
Extendable	:	No

NA : Not Applicable

(Saumitra Pathak)
Test Engineer

CENTRAL POWER RESEARCH INSTITUTE

TEST REPORT

Test Report Number : **CPRIBPLSTNBMISC22T0283** **Date: 20 October 2022** **CPRI**

SUMMARY OF TESTS CONDUCTED

1. Tests conducted : Verification of Short-circuit withstand strength test
2. Rating for which tested : 65 kArms for 1.0 second with initial peak of 143 kApeak
3. Schedule of tests

Tests Conducted	Clause no.	Reference
Verification of Short-circuit withstand strength test (Incoming circuit and main busbars & Neutral conductor)	As per customer's requirement	Sheet 5 of 6

1. Oscillogram number(s) : CPRIBPLSTNBMISC22T0283S002, CPRIBPLSTNBMISC22T0283S004
2. Graph Number(s) : Nil
3. Photograph Number(s) : CPRIBPLSTNBMISC22T0283P01
4. Test Circuit diagram number(s) : OLTS/TCD-STC-01 & OLTS/TCD-STC-02
5. Drawing Number(s) : Refer sheet 4 of 6

(Saumitra Pathak)
Test Engineer

CENTRAL POWER RESEARCH INSTITUTE

TEST REPORT

Test Report Number : **CPRIBPLSTNBMISC22T0283** **Date: 20 October 2022** **CPRI**

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	VEE/STC/01	1 OF 2	-
2	VEE/STC/01	2 OF 2	-

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

(Saumitra Pathak)
Test Engineer

CENTRAL POWER RESEARCH INSTITUTE

TEST REPORT

CPRI

Test Report Number : **CPRIBPLSTNBMISC22T0283** **Date: 20 October 2022**

Verification of the short circuit withstand strength

Test conducted	:	Verification of the short circuit withstand strength
Test Source	:	Station Transformers
Number of phases	:	Three & Neutral
Frequency	:	50 Hz
Condition Test Sample before test	:	New
Test connections	:	Connected to source
Safety parameter	:	Test sample was insulated from earth and connected to the neutral of the supply via a fusible element consisting of a copper wire 0.8 mm in diameter and at least 50 mm long for detection of fault.
Transformer neutral & short circuit point	:	Refer Test Circuit Diagram No. OLTS/TCD-STC-01 for three phase test and OLTS/TCD-STC-02 for single phase test.

Test results:

Oscillogram Number	Peak kApk	RMS in kA			Duration (second)	Equivalent current in kArms for said duration
		Ir	Iy	Ib		
CPRIBPLSTNBMISC22T0283S002	144.80 (R-phase)	65.53	65.81	65.62	1.0	65.81
(Three phase Short circuit withstand strength test conducted on busbars consisting of HBB+VBB)						
CPRIBPLSTNBMISC22T0283S004	83.40	39.94			1.0	39.94
(Single phase short circuit withstand strength test conducted on neutral & nearest phase of busbars consisting of HBB+VBB)						

Observations

During test : No abnormality observed.

After test : No abnormality observed in visual inspection. Fine wire fuse was found intact. All busbars & supports were found intact.

Remarks : After test, the sample withstood HV test at 1.0 kVrms for five second.

Conclusion : **The sample tested complies with the requirement of the customer for the test conducted.**

(Saumitra Pathak)
Test Engineer

CENTRAL POWER RESEARCH INSTITUTE

TEST REPORT

CPRI

Test Report Number : **CPRIBPLSTNBMISC22T0283** **Date: 20 October 2022**

Note

a) The test results relate only to the sample(s) tested.

b) Publication or reproduction of the 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 correction/erasure invalidates this 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.

(Saumitra Pathak)
Test Engineer

---------- **End of Test Report** ----------