

CPRI

TEST REPORT



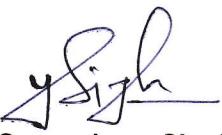
CENTRAL POWER RESEARCH INSTITUTE
(A Govt. of India Society)
Regional Testing Laboratory
3A, Institutional Area, Sector - 62
Noida - 201 309

CENTRAL POWER RESEARCH INSTITUTE



TEST REPORT

Test Report Number	:	CPRINOAHVMISC23T0458	Date: 05 September 2023
Name and Address of the Customer	:	M/s Everrise Engineering 7/19-B, Keeranatham, Saravanampatti Post, Coimbatore, Tamilnadu-641035.	
Name and Address of the Manufacturer	:	M/s Everrise Engineering 7/19-B, Keeranatham, Saravanampatti Post, Coimbatore, Tamilnadu-641035.	
Particulars of sample tested	:	415 V, 4000 A, L.T. Panel	
Type	:	Main Electrical Panel	
Description of test sample	:	Refer Sheet 2 of 6	
Serial Number	:	ERE/71	
Number of samples tested	:	One	
Date(s) of Test(s)	:	01 September 2023	
CPRI Sample code Number(s)	:	NOAHVMISC23S0428	
Particulars of tests conducted	:	Refer sheet 3 of 6	
Test in accordance with Standard/Specification	:	As per customer requirement & procedure followed as per IS/IEC 61439-1: 2011 & IS/IEC 61439-2: 2011	
Sampling Plan	:	Nil	
Customer's Requirement	:	Nil	
Deviations if any	:	Nil	
Name of the witnessing persons	:	Mr. C. Venkataraman	
Customers representative	:		
Other than customer's representatives	:	Nil	
Test subcontracted with address of the laboratory	:	Nil	
Documents constituting this report (in words)	:		
Number of Sheets	:	Six	
Number of Oscillogram(s)	:	Nil	
Number of Graph(s)	:	Nil	
Number of Photograph(s)	:	One	
Number of Test Circuit Diagram(s)	:	Nil	
Number of Drawing(s)	:	Three	


(Gangeshwar Singh)
 Test Engineer




(M.K. Jaiswal)
 Head of Division
 Reviewed and Authorized by

CENTRAL POWER RESEARCH INSTITUTE

TEST REPORT



Test Report Number: CPRINOAHVMISC23T0458

Date: 05 September 2023

DESCRIPTION OF SAMPLE TESTED

(As assigned by the manufacturer)

Sample	:	L.T. Panel
Rated voltage (Volts)	:	415
Rated current (Amps)	:	4000
Frequency (Hz)	:	50
Insulation level	:	690 V
No. of Phase	:	3Ph + N
Rated Short Time Current	:	70 kA _{rms} for one seconds with initial peak of 154 kA _{peak}
Pollution Degree	:	3
Material Group	:	IIIa

(Gangeshwar Singh)
Test Engineer

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SUMMARY OF TESTS CONDUCTED

- | | | |
|----------------------------|---|---|
| 1. Tests conducted | : | 1. Verification of Temperature Rise
2. Verification Di-electric Property
3. Verification of Clearance & Creepage Distance |
| 2. Rating for which tested | : | 1. 4000 Amps, 50Hz, 2. 1.89kV _{rms}
3. As per customer requirement |
| 3. Schedule of tests | | |

Tests Conducted	Clause Numbers	Sheet
Verification of Temperature Rise	As per customer requirement	4 & 5 of 6
Verification of Di-electric Property	As per customer requirement	5 of 6
Verification of Clearance & Creepage Distances	As per customer requirement	5 of 6

- | | | |
|----------------------------------|---|-------------------------|
| 4. Oscillogram Numbers | : | Nil |
| 5. Graph Numbers | : | Nil |
| 6. Photograph Numbers | : | CPRINOAHVMISC23T0458P01 |
| 7. Test Circuit Diagram Numbers. | : | Nil |
| 8. Drawing Numbers | : | As given bellow |

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	ERE/71	1 of 3	00
2	ERE/71	2 of 3	00
4	ERE/71	2 of 3	00

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.

(Gangeswar Singh)
 Test Engineer

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TEST REPORT

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Test Report Number: CPRINOAHVMISC23T0458

Date: 05 September 2023

TEST RESULTS

1). Test conducted: Verification of Temperature Rise

Date of test	:	01.09.2023
Starting time (Hrs)	:	09:15
Shut down time (Hrs)	:	14:15
Test current (A)	:	4000
Size of the conductor used for temporary connection	:	Cu busbar size 150 x 10 sqmm x 4 nos./phase connection
Frequency (Hz)	:	50
Phase	:	3
Avg. ambient temperature at shut down	:	36.0 °C

Arrangement of thermocouple locations: As per drawing no: ERE/71 Sheet 2 of 3

Thermocouples		Maximum Temperature (°C)	Temperature Rise (K)
Locations	Numbers		
Incoming Terminal- R1	T01	71.3	35.3
Incoming Terminal- Y1	T02	75.7	39.7
Incoming Terminal- B1	T03	69.6	33.6
Incoming Terminal- R2	T04	71.5	35.5
Incoming Terminal- Y2	T05	70.1	34.1
Incoming Terminal- B2	T06	63.1	27.1
HBB+VBB Joint- R	T07	59.0	23.0
HBB+VBB Joint- Y	T08	62.0	26.0
HBB+VBB Joint- B	T09	63.0	27.0
VBB+HBB Joint- R1	T10	55.0	19.0
VBB+HBB Joint- Y1	T11	58.3	22.3
VBB+HBB Joint- B1	T12	61.0	25.0
VBB+ HBB Joint- R2	T13	63.5	27.5
VBB+ HBB Joint- Y2	T14	61.6	25.6
VBB+ HBB Joint- B2	T15	57.0	21.0
O/G Terminal- R1	T16	60.1	24.1
O/G Terminal- Y1	T17	64.4	28.4
O/G Terminal- B1	T18	69.3	33.3
O/G Terminal- R2	T19	65.4	29.4
O/G Terminal- Y2	T20	66.7	30.7
O/G Terminal- B2	T21	64.4	28.4
Enclosure Top	T22	45.7	9.7
Enclosure Side	T23	47.2	11.2

Observation: The maximum temperature rise obtained was within the limits as per the requirements of the customer. After temperature rise test, sample subjected to the HV test to check the effect of temperature rise on adjacent parts of sample. The sample withstood 1.89 kV_{rms} for 1 Min.

(Gangeshwar Singh)
Test Engineer

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TEST RESULTS

2. Test conducted: Verification of Dielectric Properties

Test Details:

Sl. No.	Voltage applied to	Connected to earth	Voltage applied kV _{rms}	Remarks
1	R	Y,B,N & Frame	1.89	Withstood for 60 sec
2	Y	R,B,N & Frame	1.89	Withstood for 60 sec
3	B	R,Y,N & Frame	1.89	Withstood for 60 sec
4	N	R,Y,B & Frame	1.89	Withstood for 60 sec
5	R,Y,B & N	Frame	1.89	Withstood for 60 sec

3. Test conducted: Verification of Clearance & Creepage Distance:

Clearance & Creepage Distances were measured as per standard and the value found for clearance was 17.0 mm and for creepage distance was 20 mm which are within the limits as specified in standard for pollution degree -3 and material group-IIIA.

Conclusion: The sample tested complies with the requirements of the customer for the tests conducted.


 (Gangeshwar Singh)
 Test Engineer

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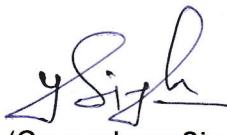
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NOTE

- a) CPRI is responsible for the test results relate only to the sample(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.


(Gangeshwar Singh)
Test Engineer

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

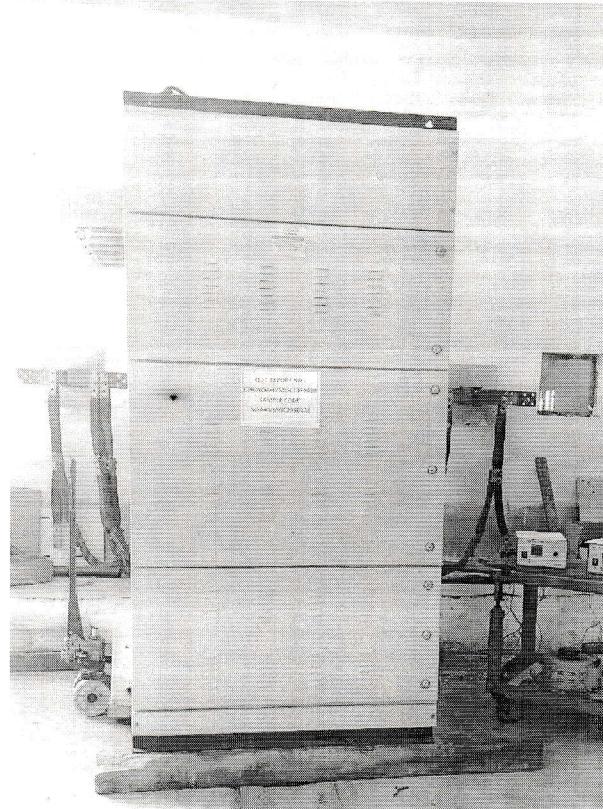
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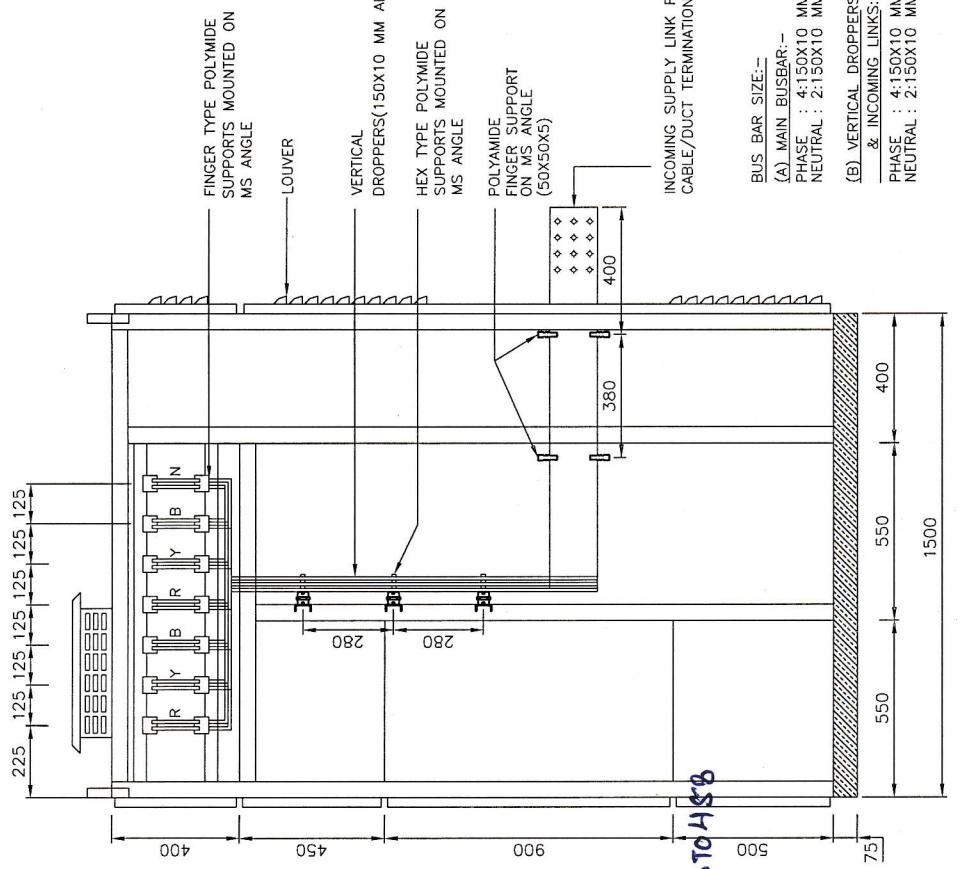
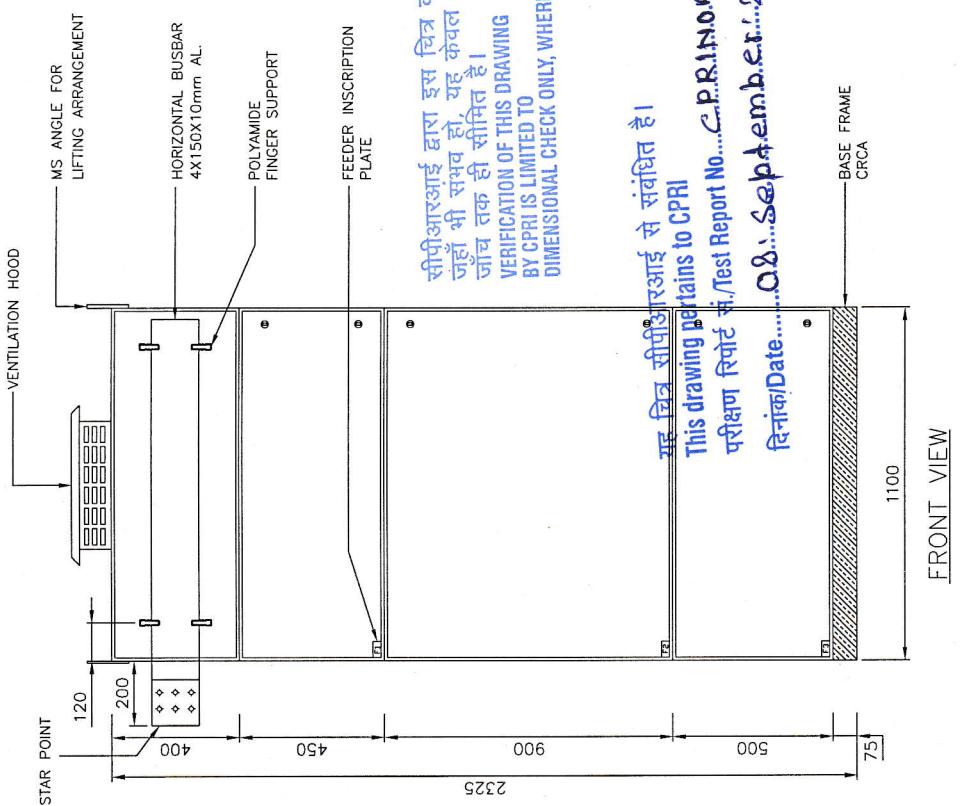
Test Report Number: CPRINOAHVMISC23T0458

Date: 05 September 2023



Photograph Number: CPRINOAHVMISC23T0458P01

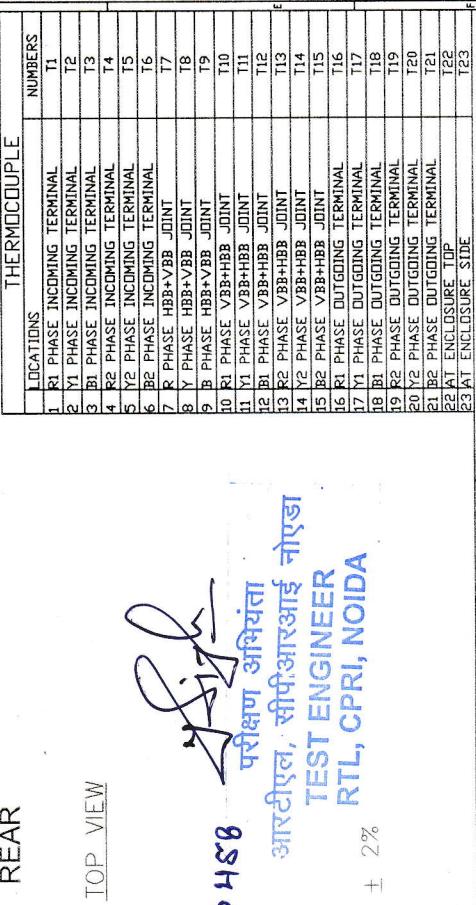
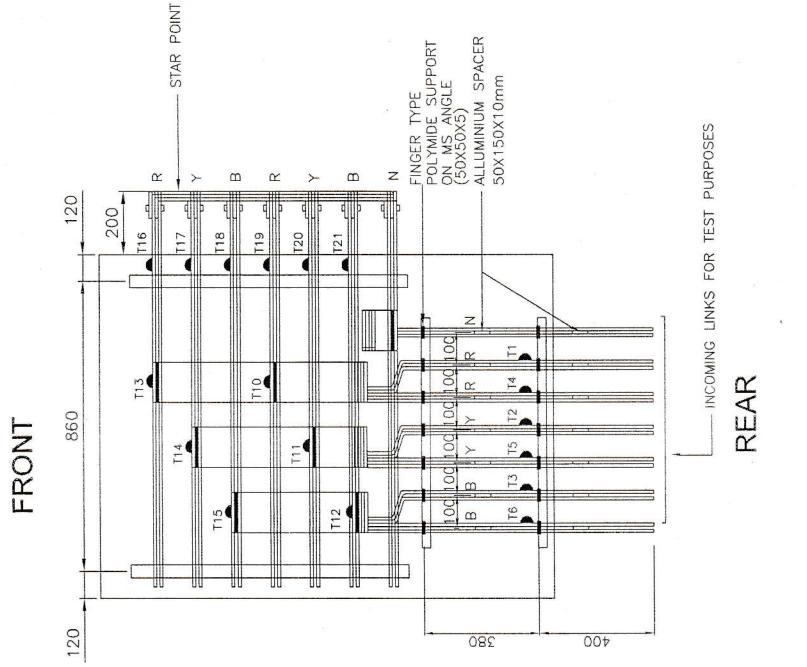
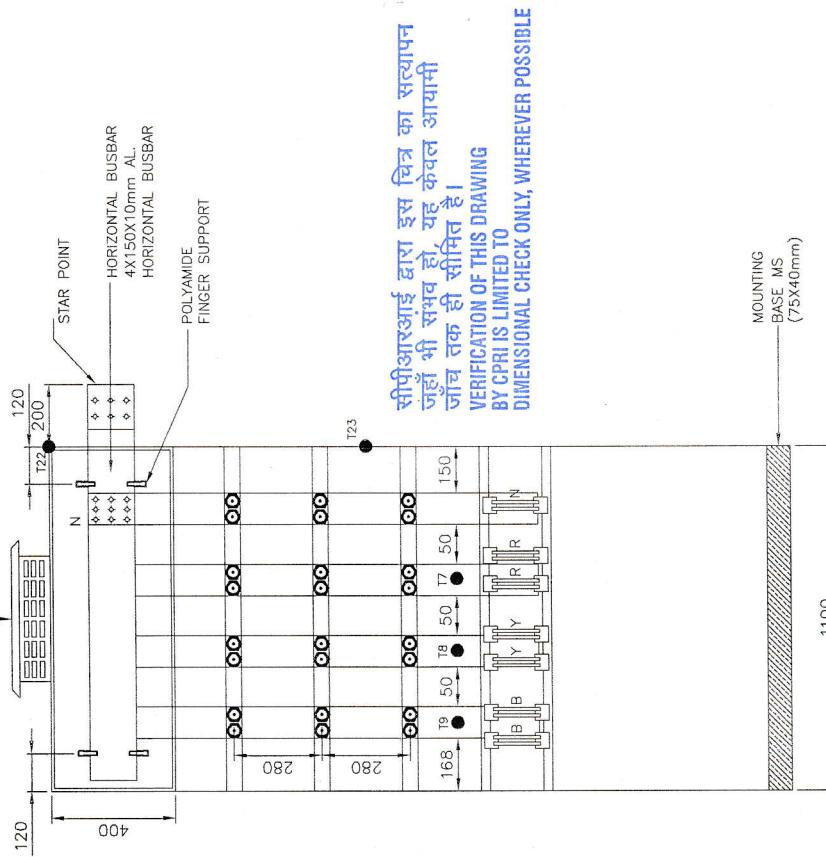
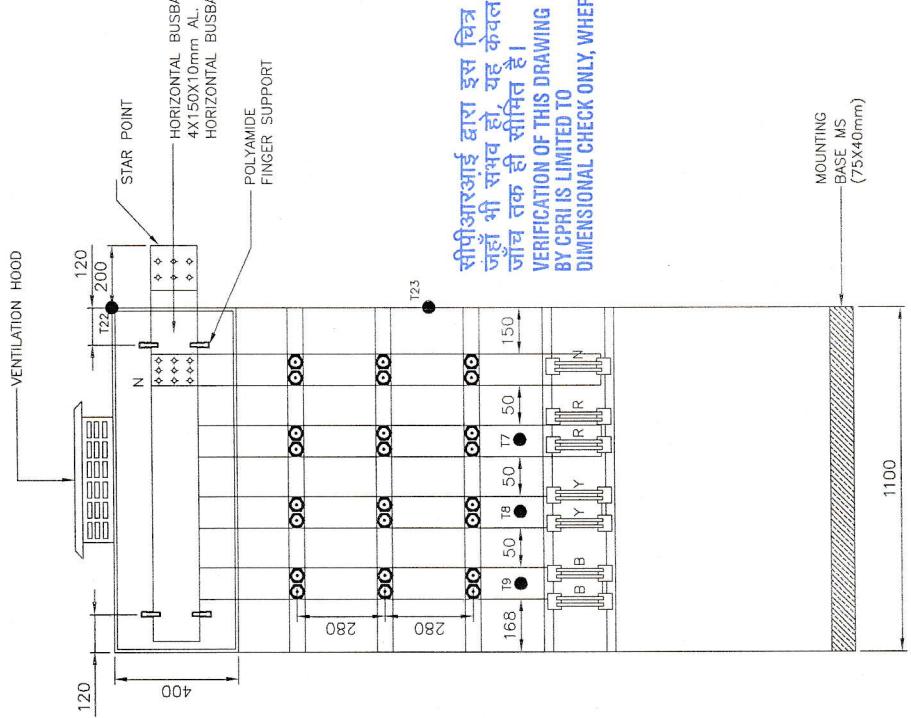

(Gangeshwar Singh)
Test Engineer



परीक्षण अभियंता
आरटीएल, सीपीआरआई नोएडा
**TEST ENGINEER
RTL, CPRl, NOIDA**

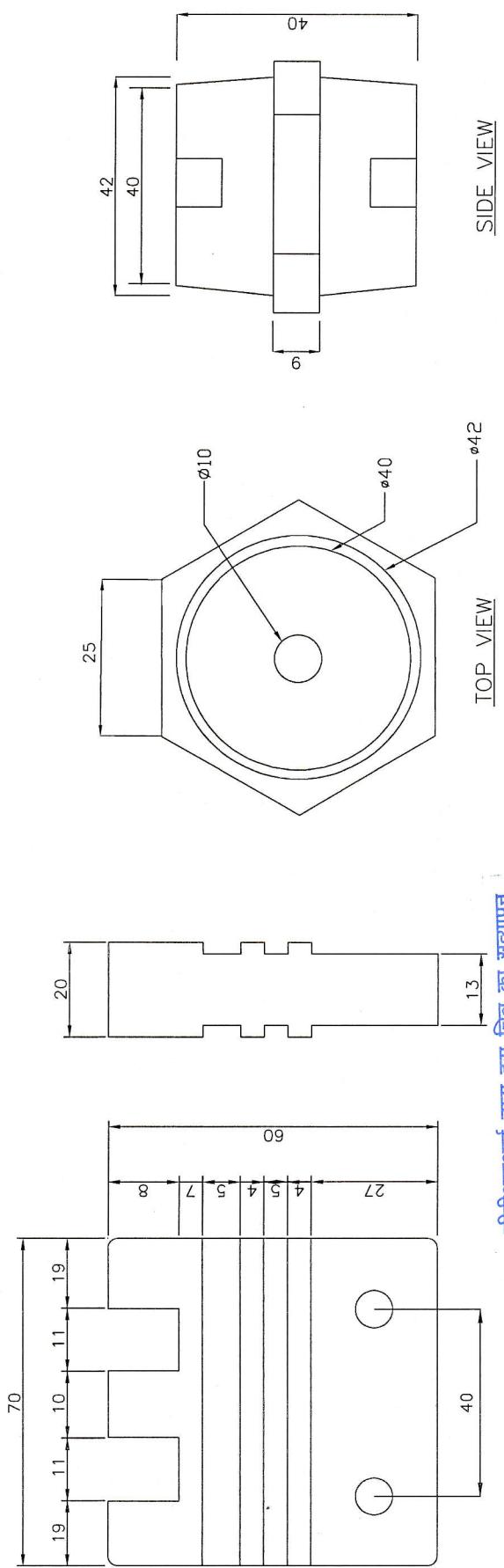
MFD. BY: EVERRISE ENGINEERING
7/19-B, KEEGANATHAM,
SARAVANAMPATTI POST, COMBAIRORE,
PROJECT : TEMPERATURE RISE TEST, 4000 A

TITLE		GENERAL ARRANGEMENT DRAWING FOR		DRAWING NO.	
SCALE	SR.NO.	CONSULTANT:	DRAWING NO.	SHEET NO.	REV.
0	23.08.23	ISSUED FOR TESTING	V C	V C	V C



PROJECT : TEMPERATURE RISE TEST, 4000 A			CONSULTANT :		
GENERAL ARRANGEMENT DRAWING FOR 415V, 4000A, LT PANEL			DRAWING NO. ERE/71		
SCALE	SR.NO.	DRAWING NO.	SHEET NO. REV.		
NIT	2	ERE/71	92 OF 03	00	

REV DATE	ISSUED FOR TESTING	V C	V C	V C	
02.08.23					
DESCRIPTION	BY	CHKD	APRD.		
REV DATE					



सीपीआरआई द्वारा इस चित्र का सत्यापन
उद्देश्य भी सम्भव है। यह केवल आयामी
जांच तक ही सीमित है।

VERIFICATION OF THIS DRAWING
BY CPRI IS LIMITED TO
DIMENSIONAL CHECK ONLY, WHEREVER POSSIBLE

DETAIL DRAWING
FINGER TYPE SUPPORT

FOR PH & N
MATERIAL : POLYIMIDE
TOLERANCE = $\pm 1\text{MM}$
MAKE : POWERMAT

यह चित्र सीपीआरआई से संबंधित है।
This drawing pertains to CPRI
परीक्षण रिपोर्ट सं./Test Report No.CPRI.N.Q.AHVMS.C23.T0 458
दिनांक/Date.....Q.B....September...2023

SIDE VIEW

DETAIL DRAWING
HEX TYPE SUPPORT

FOR PH & N
MATERIAL : POLYIMIDE
TOLERANCE = $\pm 1\text{MM}$
MAKE : POWERMAT

प्रक्षण अभियंता
आरटीएल, सीपीआरआई नोएडा
TEST ENGINEER
RTL, CPRI, NOIDA

MFD. BY: EVERRISE ENGINEERING
7/19-B, KEEGANATHAM,
SARAVANAMPATTI POST, COIMBATORE,
TAMIL NADU-641035

PROJECT : TEMPERATURE RISE TEST, 4000 A				CONSULTANT:	
TITLE GENERAL ARRANGEMENT DRAWING FOR 415V, 400A, LT PANEL				SCALE	DRAWING NO.
REV.	DATE	DESCRIPTION	BY	N.T.S.	E.R.E/T1
0	25.08.23	ISSUED FOR TESTING	V C V C		
		REV. DATE	DESCRIPTION	CHKD APPD	