ABHIVRUDDHI
CONTROLS
TM

ABHIVRUDDHI CONTROLS

FORMERLY SAMRUDDHI CONTROLS

MANUFACTURERS OF ELECTRICAL CONTROL PANELS

ISO 9001:2015 CERTIFIED

MEMBER OF MULTILATERAL RECOGNITION ARRANGEMENT
IAF

Contact:

+91 9481313495 | +91 9845026863

ravi@abhivruddhicontrols.com | srh@abhivruddhicontrols.com

Address: # 60, VISL Layout, Thalaghattapura, Kanakapura Main Road,
Bengaluru – 560062

www.abhivruddhicontrols.com

ABHIVRUDDHI
CONTROLS

Experience
25
years

ABOUT
ABHIVRUDDHI CONTROLS
FORMERLY SAMRUDDHI CONTROLS

ABHIVRUDDHI CONTROLS is an **ISO 9001-2015** certified company, Partnership Firm.Our partners are qualified Engineers with over **25 years' experience** in manufacturing various Electrical Control Panels.

Primarily based out of BENGALURU, our facility is a comfortable **6000 sqft,** and equipped with the latest and best technology out there in the market with DG power back up.

We are registered with:

- **GST, IGST**
- **UDYAM Registration (MSME)**
- **ISO 9001-2015**

The panel boards offered by us are type tested at **M/s. Central Power Research Institute, Govt. of India for:**

1. **IEC 61439 I-II**
2. **Short Circuit Withstanding (65KA 4000A for 1Sec.),**
3. **Temperature Rise Test (4000A) and**
4. **IP-54 Degree of Protection.**
5. **IP-65 Degree of Protection.**

Abhivruddhi Controls has more than adequate backup of experienced Engineers, Supervisors and Electricians for Manufacturing of Panel Boards and providing service works.

We feature in-house manufacturing facilities for Assembly and Testing of panel boards and other necessary equipments, as required by our valued clients.
We make use of CAD / ZWCAD Software for preparing multidimensional drawings and other details as per customer requirement.

OUR
VALUES

Be accountable for the customer exceptional satisfaction and any activity
towards that goal. Be accountable for one's personal and professional development. Take the lead to reach for information that makes our activities progress. Be responsible and accountable for leading action plans.

OUR
QUALITY AND RELIABILITY

Quality and reliability are an inherent part of our product and service delivery. The combination of highly experienced and skillful workforce plus the use of latest technology enables us to bring you consistently great quality on time. Our commitment to quality has remained un-wavered for more than a decade and a half making us an established name in the industry.

Improvement in quality is embedded deep in the ethos of our organization. For this reason, we conduct periodic training sessions for our technicians. This attitude at the root of our organization has allowed us to effortlessly and consistently maintain quality to international standards.

We do not stop at that. A certified quality control team conducts periodic sampling and inspection of our products and processes to check for durability, stability and performance. We do all this while keeping affordability in mind – the reason why we have a high client retention rate till date.

TEAM
ABHIVRUDDHI CONTROLS

Mr. Ravikumar S

Mr. Shridhar Hegde

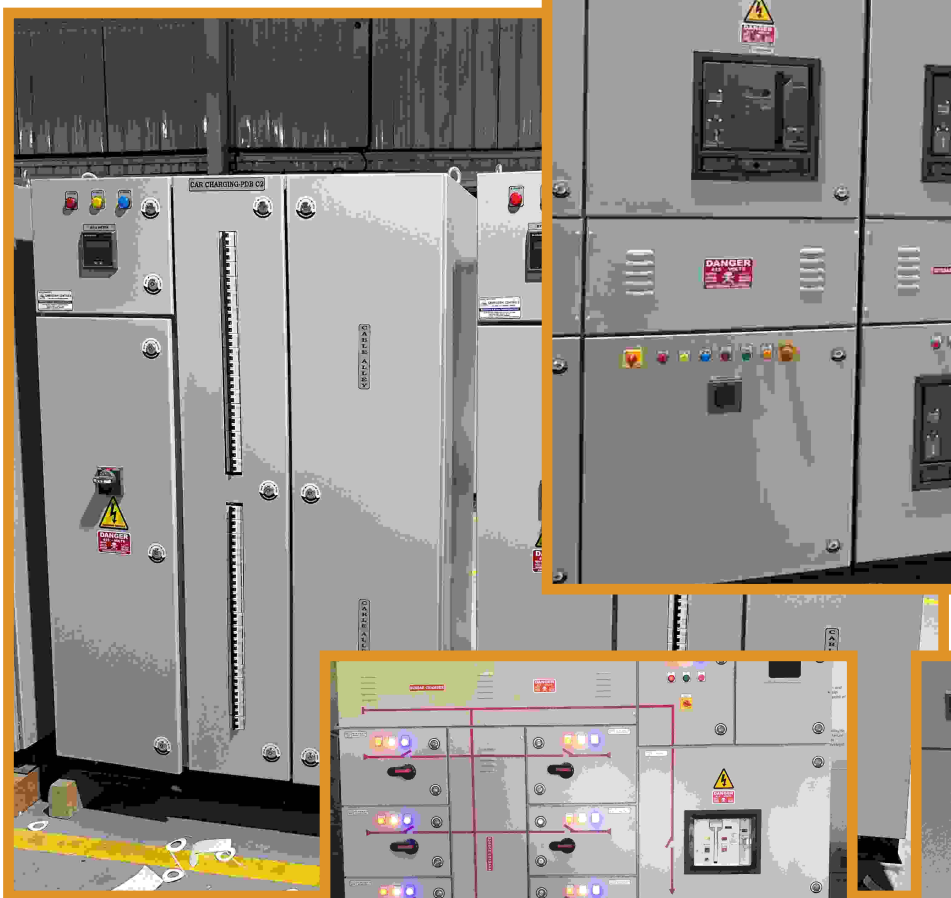
WHY
ABHIVRUDDHI CONTROLS

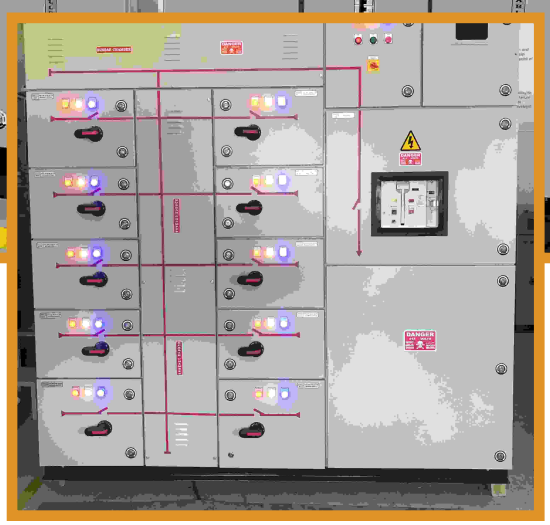
We're always striving to be better than the competition. It's a way of thinking that constantly leads to better ways of doing things. We're both customers and vendors in a long chain of business transactions. When we help each other be more successful we both benefit.

We build win-win relationships. Each company wins by using the strengths of the other to their advantage. Our customers win by using our design and production abilities to their advantage and we win by using their marketing and sales abilities to ours. A success story is a win-win relationship where each company benefits.


BUSBAR CHAMBER
DANGER


DANGER


CAR CHARGING PDB C2
CABLE ALLEY


DANGER


MAIN LT PANEL
DANGER

OUR PRODUCTS

PANEL BOARDS

We manufacture the following wide range of Panel boards

- L.T Distribution Panel
- APFC Panel
- EB/DG Synchronizing Panel
- Feeder Pillars & Outdoor Kiosks
- LT Metering Cubical
- FCMA soft Starter Panel
- Relay & Control Panel
- Remote Control Desk
- ACB Control Panel
- UPS IO Panel
- SBP Panel
- LT Kiosk
- HVAC Panels
- Load Bank Panel
- ACDB panel
- Solar LT Panel
- AMF Panel
- Metering Panel
- MCC Panel
- Bus Ducts
- PLC Panel
- Digital Soft Starter Panel
- Annunciation Panel
- Battery Charger Panel
- PCC Panel
- MBP Panel
- BBP Panel
- PDU Panel
- Fire MCC Panel
- Isolation Transformer Panel
- DCDB Panel
- UPS Testing Panel

Also We do customised panels

MEDIUM VOLTAGE PANELS

- 3.3 kV, 6.6kV, 11 kV & 33 kV – Indoor & Outdoor Panel
- Single & line-up Panel
- 3,3 kV, 6.6kV –Capacitor Panel
- 3,3 kV, 6.6kV - FCMA soft Starter Panel

At Abhivruddhi Controls, we set our quality benchmarks way beyond the industry standards. The entire process of panel manufacturing is planned and executed under controlled conditions for quality delivery. We don't merely aim at meeting your expectations. On the contrary, our constant endeavor is to consistently exceed your expectations.

We listen! You are the customer and delivering anything below your expectations is not acceptable to us. For this, we have developed a culture of listening to our customers and customizing products to the exact specifications. With us, product delivery is truly a collaborative effort.

OUR STANDARDS OF WORKING

IS 6005	Code of Practice for Phosphate Iron & Steel
IS 5082	Wrought Aluminium for Electrical purposes
IS 375	Arrangement for Busbar main connection and accessories
IS 13947	Part I & II Moulded Case Circuit Breaker
IS 6875	Control Switches/Push Buttons
IS 3231	Relays
IS 2705	Specifications of Current Transformers.
IS 2147	Degree of Protection & Protection for Enclosures
IS 10118	Code of Practice for selection and maintenance of Switchgears and Control

THE TECHNICAL SPECIFICATIONS

415V	Rated Service Voltage
50Hz.	Rated Frequency
3Ph. & N	Busbar System
65KA rms for 1Sec.	Fault Level Withstand
IP-52/IP-54/IP-55	Degree of Protection for Panel Boards

OUR BEST
TESTING EQUIPMENTS

- 5KV High Voltage testing Kit
- 1KV DC Insulation Resistance Tester (Megger)
- 5KV DC Insulation Resistance Tester (Megger)
- Phase Sequence Indicator
- Multi Meters
- Tong Testers
- Vernier Callipers
- Screw Gauge
- DFT Meter (For Paint thickness measurement)
- 1000A secondary injection Load & Under/ Over Voltage Tester
- 100A relay test kit
- 90KV high voltage test kit
- 1000A DC secondary load test kit
- Conductivity meter
- Torque wrenches – mechanical and electrical

OUR WORK
SERVICE AFTER SALES

At Abhivruddhi Controls, we have a dedicated team of Service Engineers who are always available to honour your after-sales requirements. Special emphasis is given to such problems as it is looked upon as an opportunity for learning through vital user feedback.

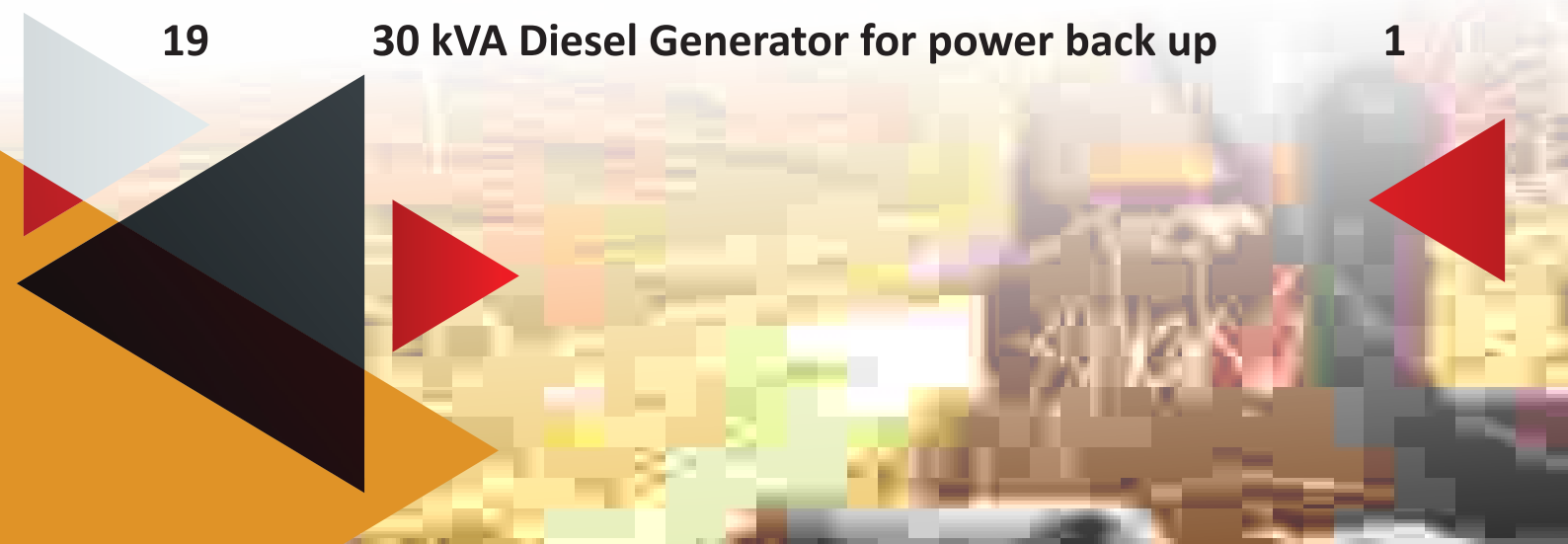
WE
BELIEVE IN

- Quality and Reliability
- Customization and Flexibility
- Environmental Sustainability
- Safety and Compliance
- Customer-Centric Approach
- Cost Efficiency and Competitiveness
- Adaptability to Market Changes
- Employee Development and Well-being

OUR BEST

MACHINERY DETAILS

SL.NO	MACHINERY DETAILS	QTY
1	Hydraulics bending & punching M/c for Bus bar	1
2	Hydraulic Cutting and Bending Machine	1
3	3 Ton Capacity Crane, Panel loading & Unloading	1
4	Welding machine, welding cables & accessories	1
5	Pillar drilling machine	1
6	Motorized Cut off Machine	1
7	Hand Drilling Machine	3
8	Bench Grinding Machine	1
9	Hand Grinding Machine	2
10	Hand Sundering Machine	2
11	Hydraulics Crimping Tools -95-240 Sq mm	1
12	Crimping Tools -0.5 – 10 Sq mm	6
13	Crimping Tools -6 – 16 Sq mm	2
14	Hot Air Gun	3
15	Jig Saw Machine	1
16	Ferruling /Numbering Machine	1
17	Mini Pallet Truck	4
18	Imported Heavy duty CNC Busbar Bending, Cutting & Punching Machine	1
19	30 kVA Diesel Generator for power back up	1



OUR VALUABLE CLIENTS

Schneider Electric

TOYOTA BOSHOKU

syngenta

TOYOTA

KEYA HOMES

Karnataka Neeravari Nigam Limited

JAIN Irrigation Inc
world leader in micro irrigation

HSHS St. John's Hospital

Kempegowda INTERNATIONAL AIRPORT BENGALURU

greenleap projects

moglix

Bisineer®
TOTAL WATER SOLUTIONS

U-SOLAR
a clean energy enterprise

promac

IFB
IFB Industries Limited

ENERPARC

orb

wipro

MAN

HAL

DRDO
DEFENCE R&D ORGANISATION
MINISTRY OF DEFENCE

Karnataka Urban Water Supply & Drainage Board

Likhitha
ENTERPRISES

CAPSTONE life

BANGALORE METROPOLITAN TRANSPORT CORPORATION

Neycer

akash
ENTERPRISES

Corporate Leisure

Wintac
LIMITED

KTTM

L&W
BUILDING WITH INTEGRITY

AIRPORTS AUTHORITY OF INDIA

St. John's
National Academy of Health Sciences

sdi

OUR

ISO CERTIFICATES

Accredited Registrar - 119012A

Registration Certificate

This is to certify that

ABHIVRUDDHI CONTROLS

60, VISL LAYOUT, THALAGHATTAPURA, KANAKAPURA MAIN ROAD, BENGALURU - 560062, KARNATAKA, BHARATH.

Has been assessed by RAPL and found to comply with the requirements of

ISO 9001 : 2015

Quality Management Systems

For the following activities:

DESIGN AND MANUFACTURE OF ELECTRICAL CONTROL PANELS, TESTING, ERECTION, COMMISSIONING AND INSTALLATION SERVICES.

Certificate Number: E2023126088
Date of certification: 14/12/2023
Ist Surveillance on or before: 13/12/2024
IInd Surveillance on or before: 13/12/2025
Certification Valid Until: 13/12/2026

Director (Certification)
Royal Assessments Pvt. Ltd.

623 A, Tower-B, iThum, Plot No. A - 40, Sector - 62, Noida 201301, India.
www.royalapl.com info@royalapl.com
Phone : +91 120 4251329
This Certificate can be verified at www.royalapl.com

OUR
CPRI CERTIFICATES
4000A TEMPERATURE RISE TEST CERTIFICATE

CPRI

TEST REPORT

Central Power Research Institute

(A Govt. of India Society)
P.B.No. 8066, Sadashivanagar Post Office,
Sir C.V. Raman Road,
Bangalore - 560 080 (INDIA)

CENTRAL POWER RESEARCH INSTITUTE

TEST REPORT

Test Report Number : CPRIBLREATD23T0364 Date: 16 October 2023

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

Sample	: 415 V LT PANEL
Rated Voltage	: 415V
Rated Current	: 63 A
Number of Phase(s)	: 3 Phase+Neutral

(D. Venkatesh)
Test Engineer

CENTRAL POWER RESEARCH INSTITUTE

TEST REPORT

Test Report Number	: CPRIBLREATD23T0364	Date: 16 October 2023
Name and Address of the Customer	:	M/s. SAMRUDDHI CONTROLS No.60, VISL Layout, Thalaghattapura Kanakapura Main Road Bengaluru-560 062
Name and Address of the Manufacturer	:	M/s. SAMRUDDHI CONTROLS No.60, VISL Layout, Thalaghattapura, Kanakapura Main Road Bengaluru-560 062
Particulars of sample tested	:	415 V LT PANEL
Type	:	Outdoor, Empty Panel
Description of test sample	:	Refer Sheet 2 of 5
Serial Number	:	SAMRUDDHI-IP-001-2023-24
Number of samples tested	:	One
Date(s) of Test(s)	:	29 September 2023 and 04 October 2023
CPRI Sample code Number(s).	:	EATDIP23S0188
Particulars of tests conducted	:	IP 54 Category 1 Test
Test in accordance with Standard/Specification	:	IS/IEC 60529 2001 RA 2019 STANDARD
Sampling Plan	:	Not Applicable
Customer's Requirement	:	Nil
Deviations if any	:	Nil
Name of the witnessing persons		
Customers representative	:	Mr.Ravikumar S-CEO
Other than customer's representatives	:	None
Test subcontracted with address of the laboratory	:	None
Documents constituting this report (in words)		
Number of Sheets	:	Five
Number of Oscillogram(s)	:	Nil
Number of Graph(s)	:	Nil
Number of Photograph(s)	:	Six
Number of Test Circuit Diagram(s)	:	Nil
Number of Drawing(s)	:	Two

(D. Venkatesh)
Test Engineer

(Dr. P. Chandra Sekhar)
Head of Division
Reviewed and Authorized by

CENTRAL POWER RESEARCH INSTITUTE

TEST REPORT

Test Report Number : CPRIBLREATD23T0364 Date: 16 October 2023

SUMMARY OF TESTS CONDUCTED

1. Tests conducted : IP 54 Category 1 Test
2. Rating for which tested : 415V, 63A
3. Schedule of tests :

Tests Conducted	Clause Numbers	Sheet
IP 5X Category 1	11.5, 13.4,13.5	4 of 5
IP X4	11.5, 14.2.4(b)	4 of 5

4. Oscillogram Numbers : Nil
5. Graph Numbers : Nil
6. Photograph Numbers : CPRIBLREATD23T0364P01,CPRIBLREATD23T0364P02, CPRIBLREATD23T0364P03,CPRIBLREATD23T0364P04, CPRIBLREATD23T0364P05, CPRIBLREATD23T0364P06
7. Test Circuit Diagram Numbers : Nil
8. Drawing Numbers :

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

Sl. No.	Drawing Number	Sheet Number	Revision Number
1	SCI/CPRI/23-24/108.03	1 of 2	00
2	SCI/CPRI/23-24/108.03	2 of 2	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.

(D. Venkatesh)
Test Engineer

CENTRAL POWER RESEARCH INSTITUTE

TEST REPORT

Test Report Number : CPRIBLREATD23T0364 Date: 16 October 2023

TEST RESULTS

Condition of Sample on the Receipt : Good.
Serial Number of sample tested : SAMRUDDHI-IP-001-2023-24

Sl. No.	PARTICULARS TESTS CONDUCTED	REFERENCE CLAUSE	OBSERVATIONS
1.0	IP 5X Category 1 Test, as per IEC 60529 Edition 2.2, 2013 -08 Standard.	Clause No.11.5, 13.4,13.5 Protection against ingress of solid foreign objects – Dust Protection Test.	No entry of dust observed insi "415 V LT PANEL" enclosure "Protection is satisfactory"
2.0	IP X4 Test as IEC 60529 Edition 2.2, 2013 -08 Standard.	Clause No. 11.5, 14.2.4(b) Protection against harmful ingress of water - Hand held spray nozzle, water flow rate 10 l/min ±5% and at a distance of 0.5m.	No entry of water observed ins "415 V LT PANEL" enclosure

Conclusion: The sample tested complies with the requirement of clause (s) 11.5, 13.4, 13.5 and 14.2.4(b) IS/IEC 60529 2001 RA 2019 Standard for the test (s) conducted, subject to the enclosure meeting the de degree of protection of final product after assembly of electrical equipment enclosed as per Clause No 11

(D. Venkatesh)
Test Engineer

CENTRAL POWER RESEARCH INSTITUTE

TEST REPORT

Test Report Number : CPRIBLREATD23T0364 Date: 16 October 2023

NOTE

a) The Test results relate only to the sample(s) tested.
b) Publication or reproduction of this Test Report in any form other than by complete set of the whole Test Report and in the language written is not permitted without the written consent of CPRI
c) Any Corrections/erasure invalidates the Test Report.
d) Any anomaly/discrepancy in the Test Report should be brought to the notice of CPRI within 45 days from the date of issue embossed.
e) NABL has Accredited this laboratory as per ISO/IEC17025:2017, vide certificate no TC-5452 for the tests carried out

TC-5452

(D. Venkatesh)
Test Engineer

End of Test Report

OUR
CPRI CERTIFICATES

CPRI

TEST REPORT

Central Power Research Institute

(A Govt. of India Society)
P.B.No. 8066, Sadashivanagar Post Office,
Sir C.V. Raman Road,
Bangalore - 560 080 (INDIA)

CENTRAL POWER RESEARCH INSTITUTE

TEST REPORT

Test Report Number : CPRIBLREATD23T0359 Date: 16 October 2023

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

Sample : 415 V LT PANEL
Rated Voltage : 415V
Rated Current : 63 A
Number of Phase(s) : 3 Phase+Neutral

(D. Venkatesh)
Test Engineer

CENTRAL POWER RESEARCH INSTITUTE

TEST REPORT

Test Report Number : CPRIBLREATD23T0359 Date: 16 October 2023

SUMMARY OF TESTS CONDUCTED

1. Tests conducted : IP 55 Category 1 Test
2. Rating for which tested : 415V, 63A
3. Schedule of tests

Tests Conducted	Clause Numbers	Sheet
IP 6X Category 1	11.5,13.4,13.6	4 of 5
IP X5	11.5,14.2.5	4 of 5

4. Oscillogram Numbers : Nil
5. Graph Numbers : Nil
6. Photograph Numbers : CPRIBLREATD23T0359P01,CPRIBLREATD23T0359P02 CPRIBLREATD23T0359P03,CPRIBLREATD23T0359P04, CPRIBLREATD23T0359P05, CPRIBLREATD23T0359P06
7. Test Circuit Diagram Numbers : Nil
8. Drawing Numbers

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

Sl. No.	Drawing Number	Sheet Number	Revision Number
1	SC/CPRI/23-24/108.03	1 of 2	00
2	SC/CPRI/23-24/108.03	2 of 2	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

(D. Venkatesh)
Test Engineer

CENTRAL POWER RESEARCH INSTITUTE

TEST REPORT

Test Report Number : CPRIBLREATD23T0359 Date: 16 October 2023

Test Report Number : CPRIBLREATD23T0359
Date of Issue : 16 October 2023
Customer's Reference : Verbal
Name and Address of the Customer : M/s SAMRUDDHI CONTROLS
No 60, VISL Layout, Thalaghattapura,
Kanakapura Main Road
Bengaluru-560 062
Name and Address of the Manufacturer : M/s. SAMRUDDHI CONTROLS
No 60, VISL Layout, Thalaghattapura,
Kanakapura Main Road
Bengaluru-560 062
Particulars of sample tested : 415 V LT PANEL
Type : Outdoor, Empty Panel
Description of test sample : Refer Sheet 2 of 5
Serial Number : SAMRUDDHI-IP-001-2023-24
Number of samples tested : One
Date(s) of Test(s) : 29 September 2023 and 04 October 2023
CPRI Sample code Number(s). : EATDIP2350188
Particulars of tests conducted : IP 55 Category 1 Test
Test in accordance with Standard/Specification : IS/IEC: 60529 2001 RA 2019 STANDARD
Sampling Plan : Not Applicable
Customer's Requirement : Nil
Deviations if any : Nil
Name of the witnessing persons
Customers representative : Mr.Ravikumar.S-CEO
Other than customer's representatives : None
Test subcontracted with address of the laboratory : None
Documents constituting this report (in words)
Number of Sheets : Five
Number of Oscillogram(s) : Nil
Number of Graph(s) : Nil
Number of Photograph(s) : Six
Number of Test Circuit Diagram(s) : Nil
Number of Drawing(s) : Two

(D. Venkatesh)
Test Engineer

(Dr. P. Chandra Sekhar)
Head of Division
Reviewed and Authorized by

CENTRAL POWER RESEARCH INSTITUTE

TEST REPORT

Test Report Number : CPRIBLREATD23T0359 Date: 16 October 2023

TEST RESULTS

Condition of Sample on the Receipt : Good
Serial Number of sample tested : SAMRUDDHI-IP-001-2023-24

Sl. No.	PARTICULARS		OBSERVATIONS
	TESTS CONDUCTED	REFERENCE CLAUSE	
1.0	IP 6X Category 1 Test, as per IS/IEC: 60529 2001 RA 2019 Standard.	Clause No. 11.5,13.4, 13.6 Protection against ingress of solid foreign objects – Dust Tight Test.	No entry of dust observed inside "415 V LT PANEL" enclosure. "Protection is satisfactory"
2.0	IP X5 Test as per IS/IEC: 60529 2001 RA 2019 Standard.	Clause No. 11.5, 14.2.5 Protection against harmful ingress of water – Hose jet of water using nozzle of dia. 6.30 mm, water flow rate 12.5 l/min ± 5% and 3 m distance.	No entry of water observed inside "415 V LT PANEL" enclosure.

Conclusion: The sample tested complies with the requirement of clause (s) 11.5, 13.4, 13.6 and 14.2.5 of IS/IEC 60529 2001 RA 2019 Standard for the test (s) conducted, subject to the enclosure meeting the declared degree of protection of final product after assembly of electrical equipment enclosed as per Clause No 11.5

(D. Venkatesh)
Test Engineer

CENTRAL POWER RESEARCH INSTITUTE

TEST REPORT

Test Report Number : CPRIBLREATD23T0359 Date: 16 October 2023

NOTE

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

b) Publication or reproduction of this Test Report in any form other than by complete set of the whole Test Report and in the language written is not permitted without the written consent of CPRI.

c) Any Corrections/erasure invalidates the Test Report.

d) Any anomaly/discrepancy in the Test Report should be brought to the notice of CPRI within 45 days from the date of issue embossed

e) NABL has Accredited this laboratory as per ISO/IEC17025:2017, vide certificate no TC-5452 for the tests carried out.

TC-5452

(D. Venkatesh)
Test Engineer

End of Test Report

OUR BEST
CPRI CERTIFICATES

CPRI

TEST REPORT

Central Power Research Institute

(A Govt. of India Society)
P.B.No. 8066, Sadashivanagar Post Office,
Sir C.V. Raman Road,
Bengaluru - 560 080 (INDIA)

CENTRAL POWER RESEARCH INSTITUTE
(Member of STL)

CPRI

TEST REPORT

Test Report Number	:	CPRIBLRSCL23T1319 Date: 27 October 2023
Name and Address of the Customer	:	M/s Samruddhi Controls, No 60, VISL Layout, Thalaghattapura, Kanakapura Main Road, Bengaluru – 560062, Karnataka, India
Name and Address of the Manufacturer	:	M/s Samruddhi Controls, No 60, VISL Layout, Thalaghattapura, Kanakapura Main Road, Bengaluru – 560062, Karnataka, India
Particulars of sample tested	:	415V 4000A LT Panel
Type	:	Indoor
Description of the sample	:	Refer Sheet 2 of 7
Serial Number	:	SAMRUDDHI-001-STC/HRT-23
Number of samples tested	:	One
Date (s) of Test (s)	:	29 September 2023
CPRI sample code no(s)	:	SCL23S1198
Particulars of tests conducted	:	Short-circuit withstand strength on main busbars
Test in accordance with Standard / specification	:	Subclause 10.11.5.3.3 & 10.11.5.3.5.1 of IEC 61439-1:2020 & IEC 61439-2 :2020
Sampling plan	:	Not applicable
Customer's requirement	:	65kA rms for 1.0 s & 143kA peak on main phase busbars only
Deviations if any	:	Nil
Name of the witnessing persons Customer's representatives	:	Mr. Ravi Kumar, S CEO
Other than customer's representatives	:	None
Test subcontracted with Address of the laboratory	:	None
Documents constituting this report (in words)		
Number of Sheet(s)	:	Seven
Number of Oscillograms(s)	:	Two
Number of Graph(s)	:	Nil
Number of Photo(s)	:	Two
Number of Test Circuit Diagram(s)	:	Two
Number of Drawing(s)	:	Two

(Sakthivel. P)
Test Engineer

(Swaraj Kumar Das)
Head of Division
Reviewed and Authorized by

ULR-TC5452230SCLT1318F
Discipline: Electrical Testing
Group: Switchgear & Protective Equipment

SHORT CIRCUIT LABORATORY
P.B.NO 8066, SADASHIVANAGAR POST OFFICE
SIR C.V. RAMAN ROAD, BENGALURU - 560 080 (INDIA)
Phone: +91 (0) 80 - 22072353 Fax: +91 (0) 80 - 23601213

Sheet 1 of 7

CENTRAL POWER RESEARCH INSTITUTE
(Member of STL)

CPRI

TEST REPORT

Test Report Number: CPRIBLRSCL23T1319 Date: 27 October 2023

DESCRIPTION OF SAMPLE TESTED
(As assigned by the manufacturer)

Test sample	:	LT Panel
Type	:	Indoor
Serial number	:	SAMRUDDHI-001-STC/HRT-23
Rated voltage	:	415V
Rated insulation voltage	:	660V
Rated current	:	4000A
Rated frequency	:	50 Hz
Number of phases	:	Three & Neutral
Rated short-time withstand current & peak withstand current	:	65kA rms for 1.0 s & 143kA peak on phase busbars and 39kA rms for 1.0 s & 81.9kA peak on neutral busbar

(Sakthivel. P)
Test Engineer

CENTRAL POWER RESEARCH INSTITUTE
(Member of STL)

CPRI

TEST REPORT

Test Report Number: CPRIBLRSCL23T1319 Date: 27 October 2023

SUMMARY OF TEST CONDUCTED

1	Test conducted	: Short-circuit withstand strength on main busbars
2	Rating for which tested	: 65kA rms for 1.0 s & 143kA peak on phase busbars & 39kA rms for 1.0 s & 81.9kA peak on neutral busbar
3	Schedule of tests	:

The Clause numbers of the standard IEC 61439-1 2020 & IEC 61439-6 2012 pertain to the test(s) Conducted are detailed in the following table

Tests Conducted	Clause numbers	Sheet
Verification of the short-circuit withstand strength on main bus-bars & neutral conductor	10.11.5.3.3 & 10.11.5.3.5.1	6 of 7
Power-frequency withstand voltage	10.9.2	6 of 7

4	Oscillogram Numbers	: CPRIBLRSCL23T1319S002 & CPRIBLRSCL23T1319S004
5	Photograph Numbers	: CPRIBLRSCL23T1319P01 & CPRIBLRSCL23T1319P02
6	Test Circuit Diagram Numbers	: CRTL/SC/STC-04A & CRTL/SC/STC-02A
7	Drawing Numbers	: Refer Sheet 4 of 7

CENTRAL POWER RESEARCH INSTITUTE
(Member of STL)

CPRI

TEST REPORT

Test Report Number: CPRIBLRSCL23T1319 Date: 27 October 2023

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	SCI/CPRI/23-24/105.01	1 OF 2	00
2	SCI/CPRI/23-24/105.01	2 OF 2	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

(Sakthivel. P)
Test Engineer

CENTRAL POWER RESEARCH INSTITUTE
(Member of STL)

CPRI

TEST REPORT

Test Report Number: CPRIBLRSCL23T1319 Date: 27 October 2023

TEST RESULTS

SHORT-CIRCUIT WITHSTAND STRENGTH ON MAIN BUSBARS

Test conditions

Source	Short-circuit generator
Phase	
Test on phase busbars	Three
Test on neutral busbar	Single
Frequency	50 Hz
Test termination	
Condition before test	Good, extended terminals of top horizontal busbars connected to source.
Enclosure	2 mm thick CRCA sheet, isolated from earth and connected to the source neutral through a fine-wire fuse (PVDF) of diameter 0.8mm and length of 80 mm in series with a 0.1ohms resistor
Test details	
Test circuit drawing number	
Test On phase busbars	CRTL/SC/STC-04A
Test On neutral busbar	CRTL/SC/STC-02A
Short-circuit applied	On the end of vertical busbars
Short-circuit point	Grounded

Ambient Temperature: 27°C

Test on: Horizontal and vertical phase busbars of LT Panel

Oscillogram Number	Current (kA) Peak	Current (kA) RMS	Duration (s)	Observations
CPRIBLRSCL23 T1319S002	151.70 (R-phase)	R – 66.00 Y – 65.69 B – 63.35 Average=64.32*	1.05	During test: No abnormality. After test: Fine-wire fuse intact

*Equivalent to 65.64kA rms for 1.0 s

Test on: Horizontal & vertical neutral busbar of LT Panel with nearest phase busbar as return conductor

Oscillogram Number	Current (kA) Peak	Current (kA) RMS	Duration (s)	Observations
CPRIBLRSCL23 T1319S004	85.79	37.38*	1.10	During test: No abnormality. After test: Fine-wire fuse intact

*Equivalent to 39.17 kA rms for 1.0s

(Sakthivel. P)
Test Engineer

CENTRAL POWER RESEARCH INSTITUTE
(Member of STL)

CPRI

TEST REPORT

Test Report Number: CPRIBLRSCL23T1319 Date: 27 October 2023

TEST RESULTS

POWER FREQUENCY WITHSTAND VOLTAGE

Condition of the sample: As after the short-circuit withstand strength test

Test procedure	Observations
A power frequency voltage of 1960V rms for 60 s was applied between:	
1 All live parts, connected together and earthed enclosure	Withstood; No disruptive discharge noticed
2 Each live part and all the other live parts connected to earthed enclosure	

Physical Inspection

Bus-bars	No visible damage or deformation
Supports	Intact

Remarks: The sample tested complies with the requirement of subclause(s) 10.11.5.3.3 & 10.11.5.3.5.1 of IEC 61439-1 :2020 & IEC 61439-2 :2020 for the test(s) conducted

(Sakthivel. P)
Test Engineer

CENTRAL POWER RESEARCH INSTITUTE
(Member of STL)

CPRI

TEST REPORT

Test Report Number: CPRIBLRSCL23T1319 Date: 27 October 2023

NOTE

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e) All documents constituting this Test Report are attached together with a continuous silk thread the two ends of which have been brought over the front sheet of this Test Report and sealed with a CPRI logo printed paper sticker

f) NABL has accredited this laboratory as per ISO/IEC 17025: 2017 vide Certificate no. TC-5452 for the tests carried out

TC-5452

(Sakthivel. P)
Test Engineer

End of Test Report

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CPRI

TEST REPORT

Central Power Research Institute

(A Govt. of India Society)
P.B.No. 8066, Sadashivanagar Post Office,
Sir C.V. Raman Road,
Bengaluru - 560 080 (INDIA)

CENTRAL POWER RESEARCH INSTITUTE

TEST REPORT

CPRI

Test Report No. CPRIBLRSCL23T1386 Date: 8 November 2023

DESCRIPTION OF SAMPLE TESTED
(As assigned by the manufacturer)

Test sample	:	LT Panel
Type	:	Indoor
Serial number	:	SAMRUDDHI-001-STC/HRT-23
Rated voltage	:	415 V
Rated current	:	4000 A
Frequency	:	50 Hz
Number of phase(s)	:	Three & Neutral
IP code	:	IP 42

Bus-bar details:

Main bus-bar(s) : Aluminium Busbar of size 200mm x 12mm – Three runs per phase

(Rakesh. K.G)
Test Engineer

CENTRAL POWER RESEARCH INSTITUTE

TEST REPORT

CPRI

Test Report Number	:	CPRIBLRSCL23T1386	Date: 8 November 2023
Name & Address of the Customer	:	M/s. Samruddhi Controls, No.80, VISL Layout, Thalaghattapura, Kanakapura Main Road, Bengaluru - 560 062, Karnataka, India.	
Name and Address of the Manufacturer	:	M/s. Samruddhi Controls, No.80, VISL Layout, Thalaghattapura, Kanakapura Main Road, Bengaluru - 560 062, Karnataka, India.	
Particulars of sample tested	:	415 V, 4000 A LT Panel	
Type	:	Indoor	
Description of test sample	:	Refer Sheet 2 of 7	
Serial Number	:	SAMRUDDHI-001-STC/HRT-23	
Number of samples tested	:	One	
Date(s) of Test(s)	:	17 October 2023	
CPRI Sample code No(s).	:	SCL23S1198	
Particulars of tests conducted	:	Temperature-rise	
Test in accordance with Standard/Specification	:	Sub-Clause 10.10.2.3.5 of IEC 61439-1:2020 & IEC 61439-2:2020	
Sampling Plan	:	Not applicable	
Customer's Requirement	:	Nil	
Deviations if any	:	Nil	
Name of the witnessing persons Customers representative	:	Mr. Ravi Kumar. S., CEO	
Other than customer's representatives	:	None	
Test subcontracted with address of the laboratory	:	None	

Documents constituting this report (in words)

Number of Sheet(s)	:	Seven
Number of Oscillogram(s)	:	Nil
Number of Graph(s)	:	Nil
Number of Photograph(s)	:	Two
Number of Test circuit Diagram(s)	:	Nil
Number of Drawing(s)	:	Three

(Rakesh. K.G)
Test Engineer

(Swaraj Kumar Das)
Head of Division
Reviewed and Authorized by

CENTRAL POWER RESEARCH INSTITUTE

TEST REPORT

CPRI

Test Report No. CPRIBLRSCL23T1386 Date: 8 November 2023

SUMMARY OF TESTS CONDUCTED

1	Tests conducted	:	Temperature-rise
2	Rating for which tested	:	4000A
3	Schedule of tests	:	Refer Sheet 5 of 7 & Sheet 6 of 7
4	Photograph Numbers	:	CPRIBLRSCL23T1386P01 & CPRIBLRSCL23T1386P02
5	Drawing Numbers	:	Refer Sheet 4 of 7

(Rakesh. K.G)
Test Engineer

CENTRAL POWER RESEARCH INSTITUTE

TEST REPORT

CPRI

Test Report No. CPRIBLRSCL23T1386 Date: 8 November 2023

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	SC/CPRI/23-24/108.03	1 OF 3	00
2	SC/CPRI/23-24/108.02	2 OF 3	00
3	SC/CPRI/23-24/108.02	3 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

(Rakesh. K.G)
Test Engineer

CENTRAL POWER RESEARCH INSTITUTE

TEST REPORT

CPRI

Test Report No. CPRIBLRSCL23T1386 Date: 8 November 2023

TEST RESULTS

TEMPERATURE-RISE : IEC 61439-2:2020 & Subclause 10.10.2.3.5 of IEC 61439-1:2020)

Procedure: Temperature-rise test was carried-out by using the temporary connections mentioned in the table below and by feeding the current of 4000A. The temperature measurements were recorded at different locations as per the referred standard until it reaches steady state, which are indicated in the drawings enclosed (DWG NO: SC/CPRI/23-24/108.02 Sheet 1 OF 3 Rev. 00 & SC/CPRI/23-24/108.02 Sheet 2 OF 3 Rev 03.)

Details of Temporary Connections

Temporary connection	Material of busbar	Quantity (numbers)	Length (mm)	Cross-section mm²	Remarks
Incoming Terminal	Copper	04	3000	100 x 10	Each phase
Outgoing Terminal	Copper	04	2000	100 x 10	Each phase
Shorting Link (Outgoing side)	Copper	04	900	100 x 10	Across R,Y & B Phases

(Rakesh. K.G)
Test Engineer

CENTRAL POWER RESEARCH INSTITUTE

TEST REPORT

CPRI

Test Report No. CPRIBLRSCL23T1386 Date: 8 November 2023

TEST RESULTS

Average ambient temperature (T23, T24, T25): 34.9°C
Air velocity measured: Less than 0.4 m/s
Test Frequency: 50 Hz

Location of Thermocouple	Temperature Rise (K) Recorded values R Phase	Y Phase	B Phase	Limit as per standard	Observation
Panel incoming terminal (T1,T2,T3)	42.5	44.9	46.0	70	Within limit
Mid-point of HBB (T4,T5,T6)	53.2	58.1	54.8	90	Within limit
HBB TO VBB Joint (T7,T8,T9)	51.8	57.1	52.2	90*	Within limit
Mid-point of VBB (T10,T11,T12)	44.2	53.0	47.3	90*	Within limit
Joint near Panel Outgoing terminal (T13,T14,T15)	31.1	41.8	36.1	65*	Within limit
Panel outgoing terminal (T16,T17,T18)	28.2	37.5	33.8	70	Within limit
Support insulator (T16)		35.2		--	--
Inside air (T20)		41.1		--	--
Enclosure front (T21)		20.2		30	Within limit
Enclosure rear (T22)		22.5		30	Within limit

HBB: Horizontal Bus Bar, VBB: Vertical Bus Bar

Note: " * " Limits declared by the customer for Aluminium busbars & joints

Conclusion: The sample tested complies with the requirement of Sub-clause 10.10.2.3.5 of IEC 61439-1:2020 & IEC 61439-2:2020 for the test conducted.

(Rakesh. K.G)
Test Engineer

CENTRAL POWER RESEARCH INSTITUTE
(Member of STL)

TEST REPORT

CPRI

Test Report Number: CPRIBLRSCL23T1319 Date: 27 October 2023

TEST RESULTS

POWER FREQUENCY WITHSTAND VOLTAGE

Condition of the sample: As after the short-circuit withstand strength test

Test procedure	Observations
A power frequency voltage of 1800V rms for 60 s was applied between:	
1. All live parts connected together and earthed enclosure	Withstood; No disruptive discharge noticed
2. Each live part and all the other live parts connected to earthed enclosure	

Physical Inspection
Bus-bars: No visible damage or deformation
Supports: Intact

Remarks: The sample tested complies with the requirement of subclause(s) 10.11.5.3.3 & 10.11.5.3.5.1 of IEC 61439-1 :2020 & IEC 61439-2: 2020 for the test(s) conducted.

(Sakthivel. P)
Test Engineer

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TC-5452

(Sakthivel. P)
Test Engineer

End of Test Report

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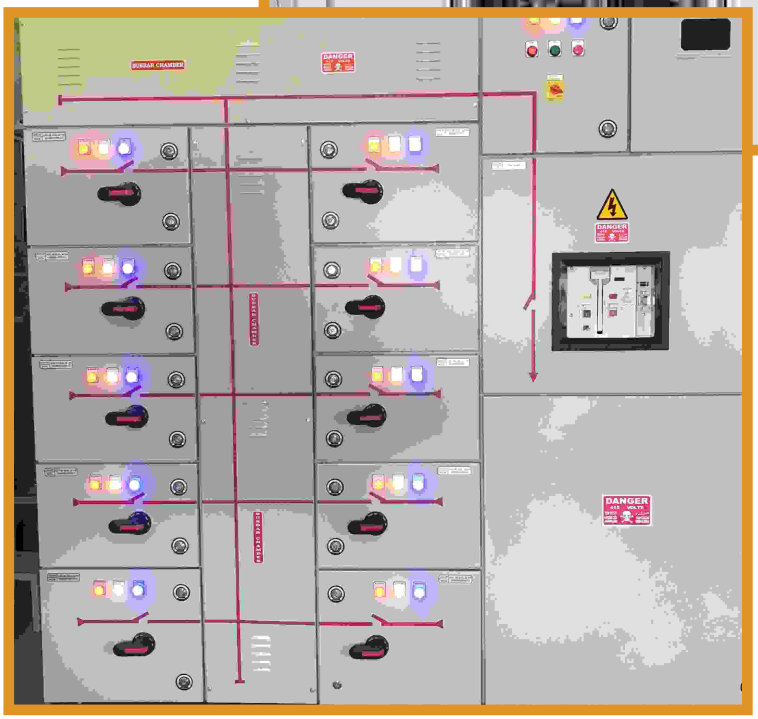
PANELS GALLERY



Contact:

+91 9481313495 | +91 9845026863

Address: # 60, VISL Layout, Thalaghattapura, Kanakapura Main Road,
Bengaluru – 560062