

CPRI

TEST REPORT



Central Power Research Institute

(A Govt. of India Society,)

P.B. No.8066, Sadashivanagar Post Office

Prof. Sir.C.V. Raman Road,

Bangalore - 560 080(INDIA)



CPRI

HEAT RUN TEST LABORATORY
DIAGNOSTIC, CABLES & CAPACITORS DIVISION
CENTRAL POWER RESEARCH INSTITUTE

P.B.NO.8066, SADASHIVANAGAR SUB P.O
PROF.SIR.C.V.RAMAN ROAD, BANGALORE - 560 080, INDIA
Phone: + 91 (0) 80-2360 4435 Fax: 080 - 2360 4435



NABL Accredited
Laboratory
Cert. No. T- 0010

Sheet 1 of 4

TEST REPORT

Test Report Number : DCCD - 11042 Dated: 27.07.2009

Name & Address of the Customer : M/s. Krishnaa Energy Private Limited,
DP 69, SIDCO Industrial Estate,
Thirumudivakkam,
Chennai-600 044
Ref: Letter No.: Nil Dated: 24.07.2009

Name & Address of the Manufacturer : M/s. Krishnaa Energy Private Limited,
DP 69, SIDCO Industrial Estate,
Thirumudivakkam,
Chennai-600 044

Particulars of sample tested : 3000 Amps, PCC L.T. Panel.
Condition of the Sample on Receipt : New
Type : Nil
Designation : PCC L.T. Panel
Serial Number : Nil
Number of samples tested : One
Date(s) of Test(s) : 24.07.2009
CPRI sample code no : SC09S1369

Particulars of tests conducted : Temperature rise test at 3000 Amps

Test in accordance with standard/specification : IS 8623 Part-1-1993/ IEC 60439 Part-I-1985.
Sampling plan : Nil
Customers requirement : Temperature rise test at 3000 Amps,
Breaker is not in the circuit
Deviations if any : Nil

Name of the witnessing persons
Customers representatives : Mr. P.Ramachandran (Manger -R & D)
Other than Customers representatives : Mr. Murthy Pillai
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 : Two : 1) KEPL-09-03 Sheet 1 of 2
2) KEPL-09-02 Sheet 2 of 2

(G.P.VITTAL)
Test Engineer



(S.RAMA PRASATH)
ENGINEERING OFFICER-V

AUTHORISED SIGNATORIES



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TEST RESULTS

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

Temporary connections:

| Connections | Material | Quantity (Numbers) | Length (mm) | Section mm ² | Remarks |
|---------------|------------------------------------|--------------------|-------------|-------------------------|-------------------|
| Incoming side | Copper flexible braids | Four | 2000 | 500 | Each Phase |
| | Aluminium Busbar | Four | 1600 | 100X12 | Each Phase |
| Outgoing side | Aluminium Busbar | Four | 1600 | 100X12 | Each Phase |
| | Aluminium Busbar (Shorting Busbar) | Four | 900 | 100X12 | Across RYB Phases |

2. **Magnitude of current passed:**

| | | |
|-----------------------------|--------------------|--------------------|
| R phase: 3000 Amps | Y Phase: 3000 Amps | B Phase: 3000 Amps |
| Frequency: 49.3Hz to 49.9Hz | | |


 (G.P.VITTAL)
 Test Engineer



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Average ambient temperature: 33.1°C
Temperature rise of the various parts at steady state:

| Parts of Assemblies | Temperature rise limits as given in Table - III & Cl.8.2.1 of IS: 8623- Part- I -1993 / IEC Pub: 60439-1 -1985- (K) | Temperature rise (K) | | | Results / Remarks | | |
|--|--|----------------------|---------|---------|-------------------|--------------|--------------|
| | | R Phase | Y Phase | B Phase | R Phase | Y Phase | B Phase |
| Terminals for external insulated conductors : | | | | | | | |
| a) Incoming terminal | 70 | 30.9 | 32.8 | 29.4 | Within limit | Within limit | Within limit |
| b) Outgoing terminal | 70 | 22.5 | 33.2 | 31.9 | 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 | | | | | | |
| - Busbar | | 33.1 | 35.8 | 34.7 | ---- | ---- | ---- |
| - Busbar Joints | | 35.2 | 35.7 | 33.9 | ---- | ---- | ---- |
| Accessible external enclosures and covers: Metal surfaces (body) | 30 | 10.5 | | | Within limit | | |

(G.P.VITTAL)
Test Engineer



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TEST REPORT

Test Report No.: DCCD -11042

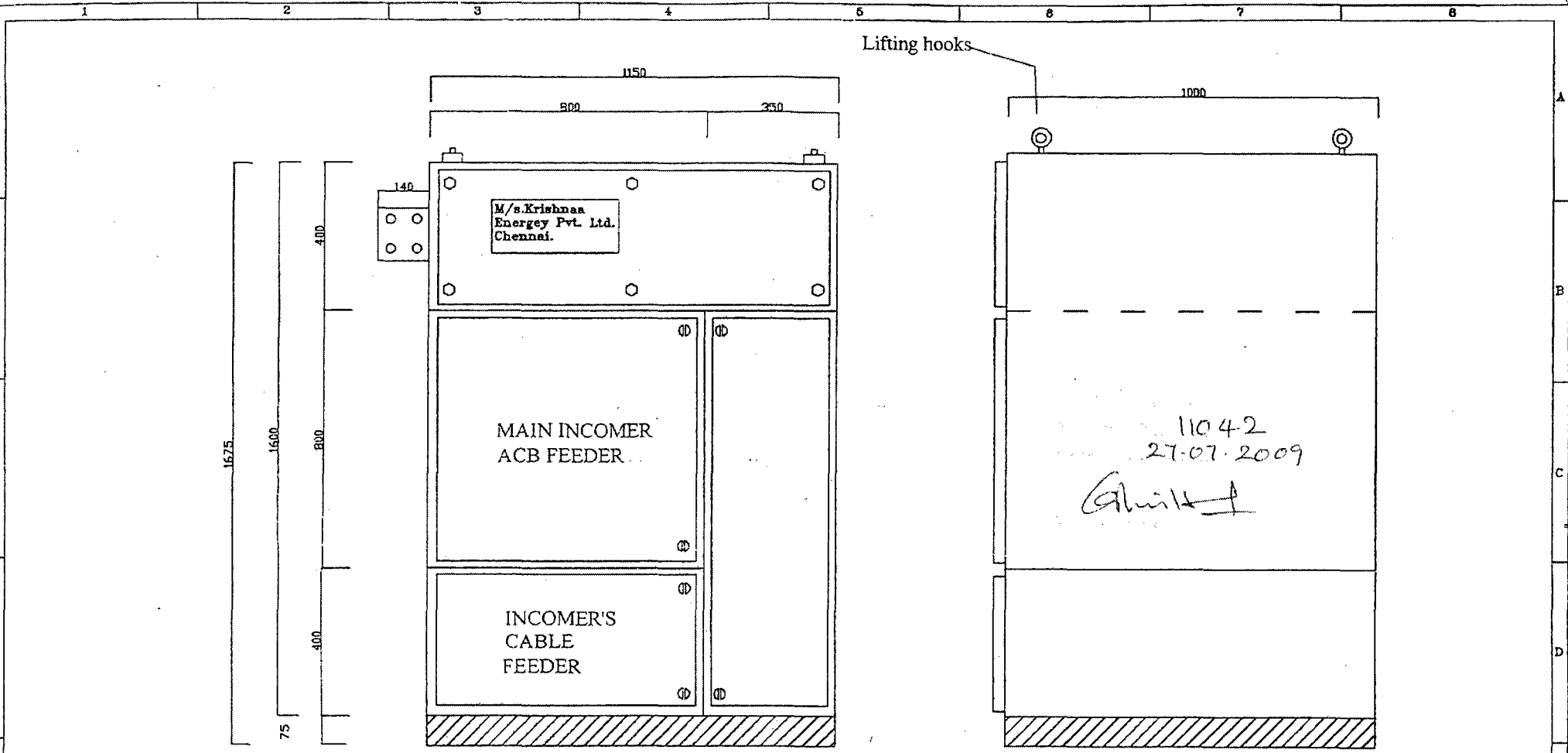
Dated: 27.07.2009

NOTE

- a) The test results relate only to the item(s) tested.
- b) Publication or reproduction of this test report in any form other than by complete set of the whole report and in the language written, is not permitted without the written consent of CPRI
- c) Any correction/erasure invalidates this test report.
- d) Any anomaly/discrepancy in this test report should be brought to our notice within 45 days from the date of issue.

A handwritten signature in black ink, appearing to read 'G.P. Vittal'.


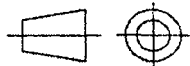
(G.P.VITTAL)
Test Engineer

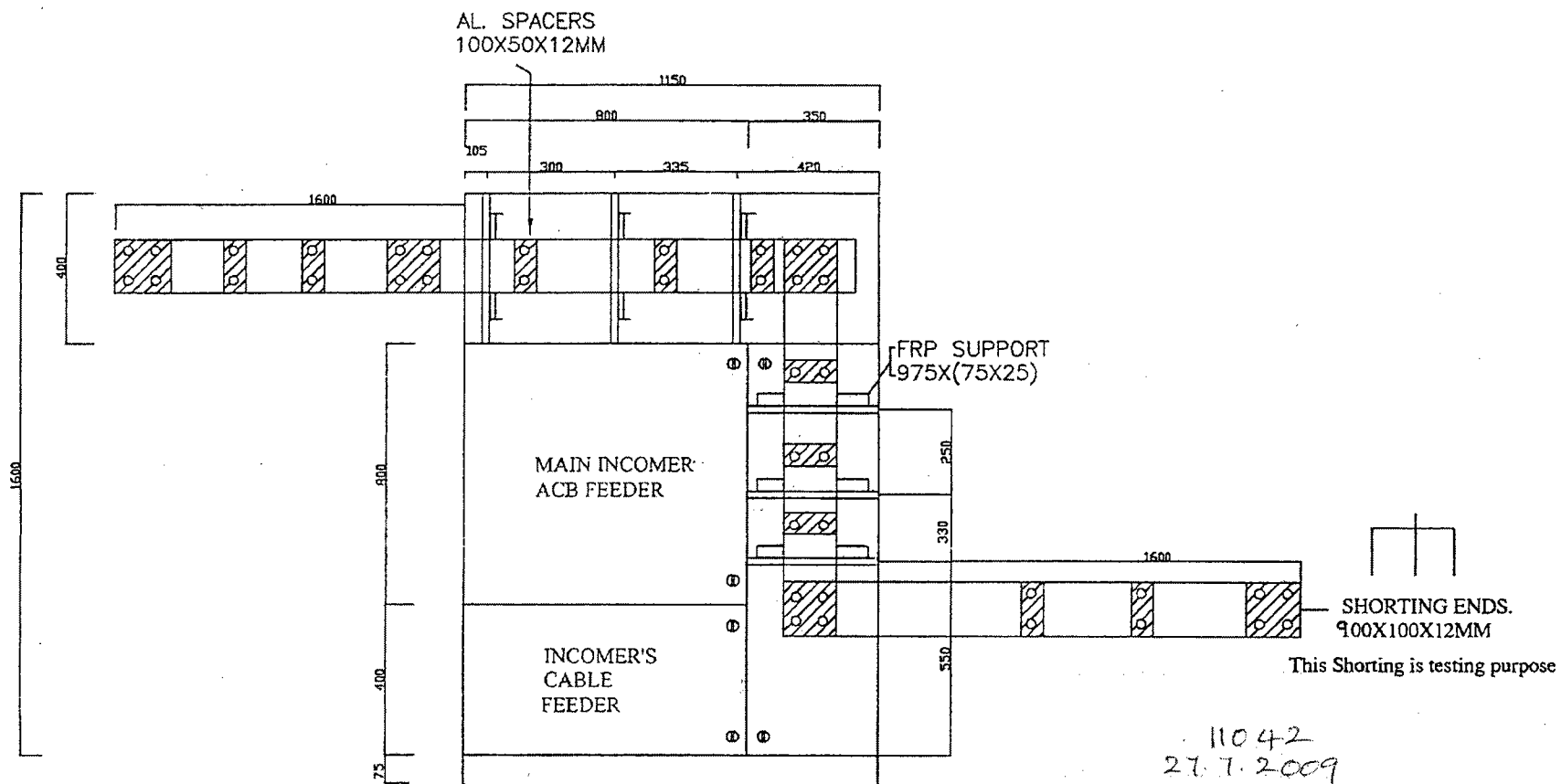


FRONT VIEW

SIDE VIEW

Body Enclosure Made of 14 Swg
(2mm) CRCA sheet.

| | | | | | | | | | | | |
|--------------|-------------|-----------|------|---|------|-------|--|----------|--|---|-------------|
| TYPE: INDOOR | | QTY: 1 NO | | ALL DIMENSION ARE IN mm | | | TITLE: 3000 Amps TEMPERATURE RISE TEST | | | SCALE : NTS | |
| 0 | | BJM | PR | KTS | | 19/06 | MFG BY:  KRISHNAA ENERGEY PRIVATE LIMITED | | |  | |
| REV. DATE | DESCRIPTION | DRAWN | CHD. | APPD. | SIGN | DATE. | DP 69, SIDCO Industrial Estate, Thirumudivakkam, Chennai-44 | | | SHT.No. | DRAWING No. |
| CUSTOMER : | | | | | | | | | | 1 OF 2 | KEPL-09-03 |
| P.O.REF : | | | | PROJECT : 3000 Amps TEMPERATURE RISE TEST | | | | JOB REF: | | | |

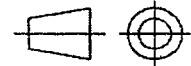



FRONT VIEW

11042
27.7.2009
Chit

HORIZONTAL BUS BARS- 1200X100X12X4 NOS. FOR PH.
HORIZONTAL BUS BARS- 1200X100X12X2 NOS. FOR NTL..

VERTICAL BUS BARS- 1050X100X12X4 NOS. FOR PH.
VERTICAL BUS BARS- 1050X100X12X2 NOS. FOR NTL..

| | | | | | | | | | | | |
|--------------|------|--|-------|-------------------------|-------|-----------|--|--|--|---|--|
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| P.O.REF : | | PROJECT : 3000 Amps TEMPERATURE RISE TEST | | JOB REF: | | 2 OF 2 | | KEPL-09-02 | | | |