

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)**



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SHORT CIRCUIT LABORATORY
CENTRAL POWER RESEARCH INSTITUTE
P.B.NO.8066, SADASHIVANAGAR POST OFFICE
SIR C.V.RAMAN ROAD, BANGALORE - 560 080 (INDIA)
Phone : +91 (0) 80 - 23602662 Fax : +91 (0) 80 - 23601213



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Laboratory
Certificate no. T-0010
Sheet 1 of 4

TEST REPORT

Test Report Number SC07309A dated: 3rd August, 2007
Name & Address of the Customer M/s. Krishna Electric, 250A, North Phase, Sidco Industrial Estate, Ambattur, Chennai - 600 098, Tamilnadu.
Name & Address of the Manufacturer M/s. Krishna Electric, 250A, North Phase, Sidco Industrial Estate, Ambattur, Chennai - 600 098, Tamilnadu.
Particulars of sample tested AC Metal Enclosed Switchgear & Controlgear- Switchgear Panel with Vacuum Circuit Breaker
Condition of the sample on receipt New
Type Cubicle
Designation EVOLIS
Serial number KE - 001
Number of samples tested One
Date (s) of test (s) 28th June, 2007
CPRI sample code no(s). SC07S1296
Particulars of tests conducted Short-time withstand current & peak withstand current tests
Test in accordance with Standard / specification Sub-clause 6.5 of IS 3427:1997 / IEC 298:1990 & sub-clause 6.6 of IEC 62271-200 : 2003-11
Sampling plan Not applicable
Customer's requirement 26.3kA rms for 3.0 seconds & 65.75kA peak
Deviations if any Test on earth busbar not conducted as per customer's instructions
Name of the witnessing persons
Customer's representative Mr. K. S. Suresh Kumar, Manager - Production
Other than customer's representatives None
Test subcontracted with address of the laboratory None
Documents constituting this report (In words)
Number of sheets Four
Number of oscillograms One
Number of graphs Nil
Number of photos Four
Number of test circuit diagrams One
Number of drawings Seventeen

(D. Krishnamurthy)
Test Engineer

(B. R. Ravishankar)
Joint Director

AUTHORISED SIGNATORIES



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Report number: SC07309A

Description of sample tested (rating as assigned by the manufacturer)

Test sample	Switchgear Panel with Vacuum Circuit Breaker
Type	Cubicle
Designation	EVOLIS
Rated voltage	11 kV
Rated insulation level	28 / 75 kV
Rated current	1250 A
Rated frequency	50 Hz
Number of poles	Three
Interrupter details	
Make	Merlin Gerin
Type	SA S1227
Bottle Serial No.	R Phase: 0506022332 Y Phase: 0506021332 B Phase: 0506024332
Rated short-time withstand current & peak withstand current	26.3 kA rms for 3.0 seconds & 65.75 kA peak

Documents attached to this report

Oscillogram number (s)	SC07309A.S01
Photo number (s)	SC07309A.PB1, SC07309A.PA1, SC07309A.PA2 & SC07309A.PA3
Test circuit diagram number (s)	CRTL/SC/STC-03
Drawing number (s)	KE-001 Sheet No. 01/17, KE-001 Sheet No. 02/17, KE-001 Sheet No. 03/17, KE-001 Sheet No. 04/17, KE-001 Sheet No. 05/17, KE-001 Sheet No. 06/17, KE-001 Sheet No. 07/17, KE-001 Sheet No. 08/17, KE-001 Sheet No. 09/17, KE-001 Sheet No. 10/17, KE-001 Sheet No. 11/17, KE-001 Sheet No. 12/17, KE-001 Sheet No. 13/17, KE-001 Sheet No. 14/17, KE-001 Sheet No. 15/17, KE-001 Sheet No. 16/17 & KE-001 Sheet No. 17/17


Test Engineer



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Schedule of tests

SHORT-TIME WITHSTAND CURRENT & PEAK WITHSTAND CURRENT TESTS

Test conditions

Source Short-circuit generator
Phase Three
Frequency 50 Hz
Neutral Isolated

Test sample

Phase Three; Bottom horizontal busbars connected to source.
Condition before test In clean & new condition, VCB operable on no-load.
Mounting Vertical

Test details

Test circuit number CRTL/SC/STC-03
Short-circuit applied On the outgoing terminals of the VCB panel
Short-circuit point Grounded

Test results

Table with 5 columns: Oscillogram Number, Current (kA) (Peak, RMS), Duration - seconds, Ambient Temperature - °C, Observations. Row 1: SC07309A.S01, 68.16, R-26.16, Y-28.06, B-25.74, Average: 26.65, 3.09, 25, During test: No abnormality. After test: VCB operable on no-load at the first attempt.

MEASUREMENT OF RESISTANCE OF THE MAIN CIRCUIT

Table with 6 columns: Condition of the sample, Test current (A) d.c., Ambient Temperature °C, Resistance - μΩ (R-phase, Y-Phase, B-Phase). Row 1: Before short-time withstand current & peak withstand current tests, 100, 26.9, 82, 82, 81. Row 2: As after short-time withstand current & peak withstand current tests, 100, 24.5, 80, 81, 81.

POWER FREQUENCY HIGH VOLTAGE WITHSTAND TEST

Table with 2 columns: Power frequency high voltage was applied, Remarks. Row 1: a) With VCB in close condition, between each pole and all other poles, frame connected to earth, Withstood 28kV rms for 1.0 minute. Row 2: b) With VCB in open condition, between all incoming terminals connected together and all outgoing terminals connected together, Withstood 28kV rms for 1.0 minute.

Physical Inspection

Condition of insulators :No visible damage
Condition of vacuum interrupter :No visible damage

Handwritten signature and 'Test Engineer' text.



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NOTE

- a) This is not a certificate of rating. A certificate of rating is not issued as only limited tests as requested by the customer were carried out.
- b) The test results relate only to the item(s) tested.
- c) Publication or reproduction of this report in any form other than by complete set of the whole report and in the language written, is not permitted without the written approval of CPRI.
- d) Corrections / erasings invalidate the test report.
- e) Any anomaly / discrepancy in the test report should be brought to our notice within 45 days from the date of issue.

Additional Information:

CPRI issues following types of reports/certificates:

Test Report:

The test report contains the record of the values of test parameters as obtained during testing, the physical condition of the sample during / after the test(s) and copy of oscillogram(s). Test report is issued when partial tests are performed as against the complete test requirement for proving specific ratings.

Sealed Certificate:

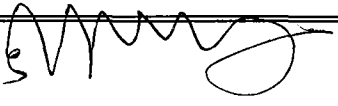
The sealed certificate is issued, on request and payment of the prescribed charges thereof only when the sample of particular type and rating has satisfactorily passed all the specified tests in compliance with the condition stipulated in a published National / International standard.

CPRI issues the following type test certificates based generally on STL Guidelines:

- I. Type test certificate of Short Circuit Performance.
- II. Type test certificate of Switching Performance.
- III. Type test certificate of Temperature Rise Performance.
- IV. Type test certificate of Dielectric Performance.
- V. Type test certificate of complete type test.

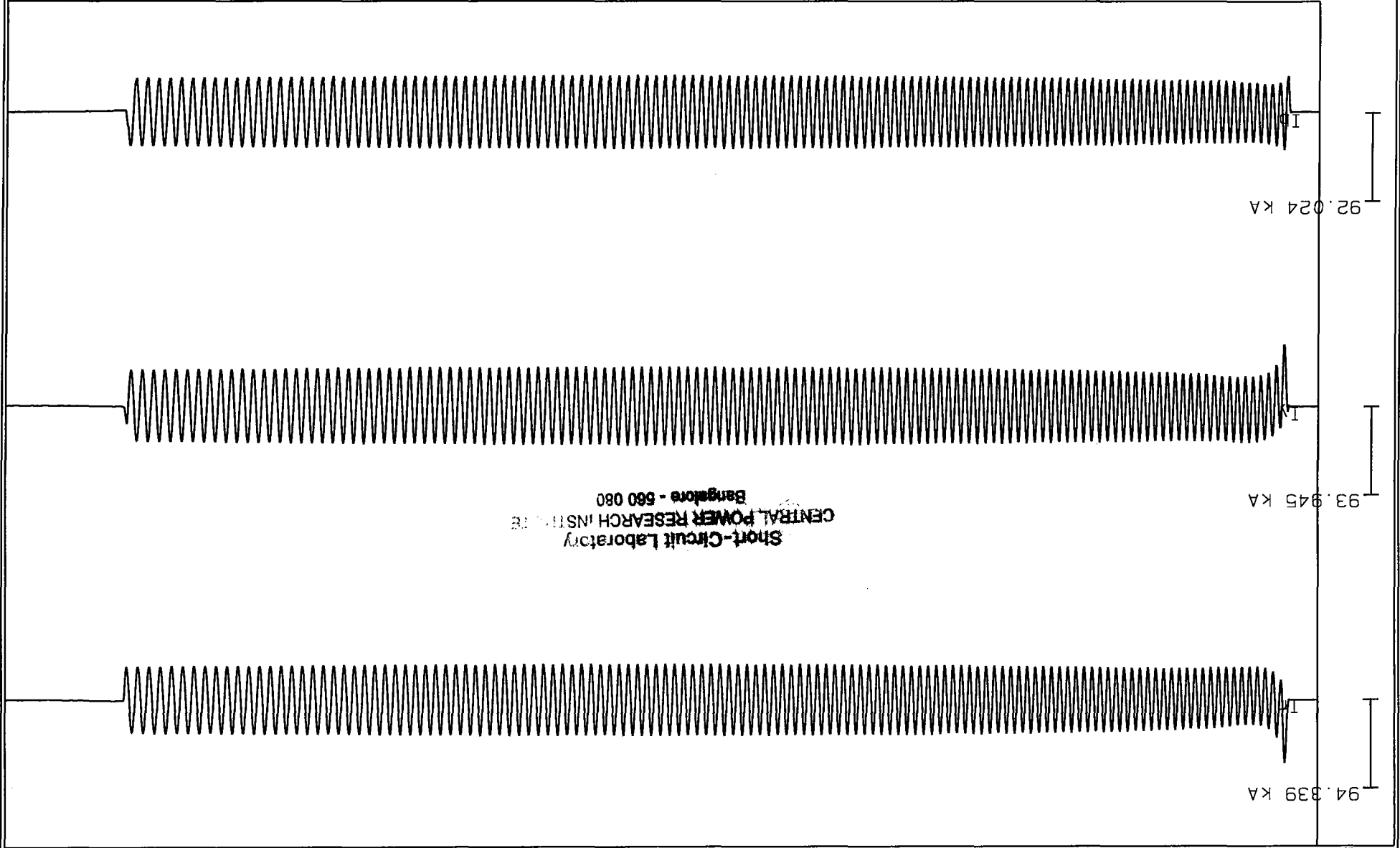

Test Engineer

TEST ENGINEER



696.86 msec

SC07309A.S01 DT: 28/06/07



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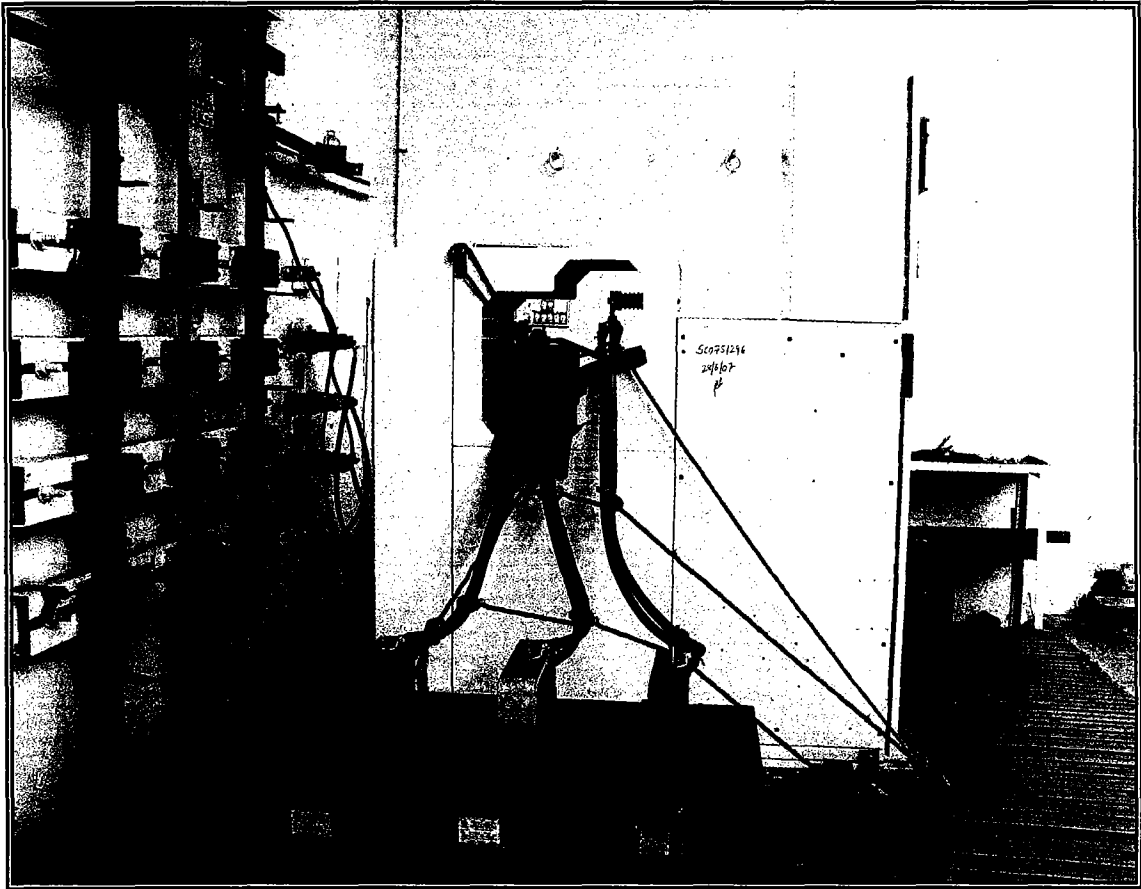


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Mounting arrangement (Before test)

SC07309A.PB1


Test Engineer

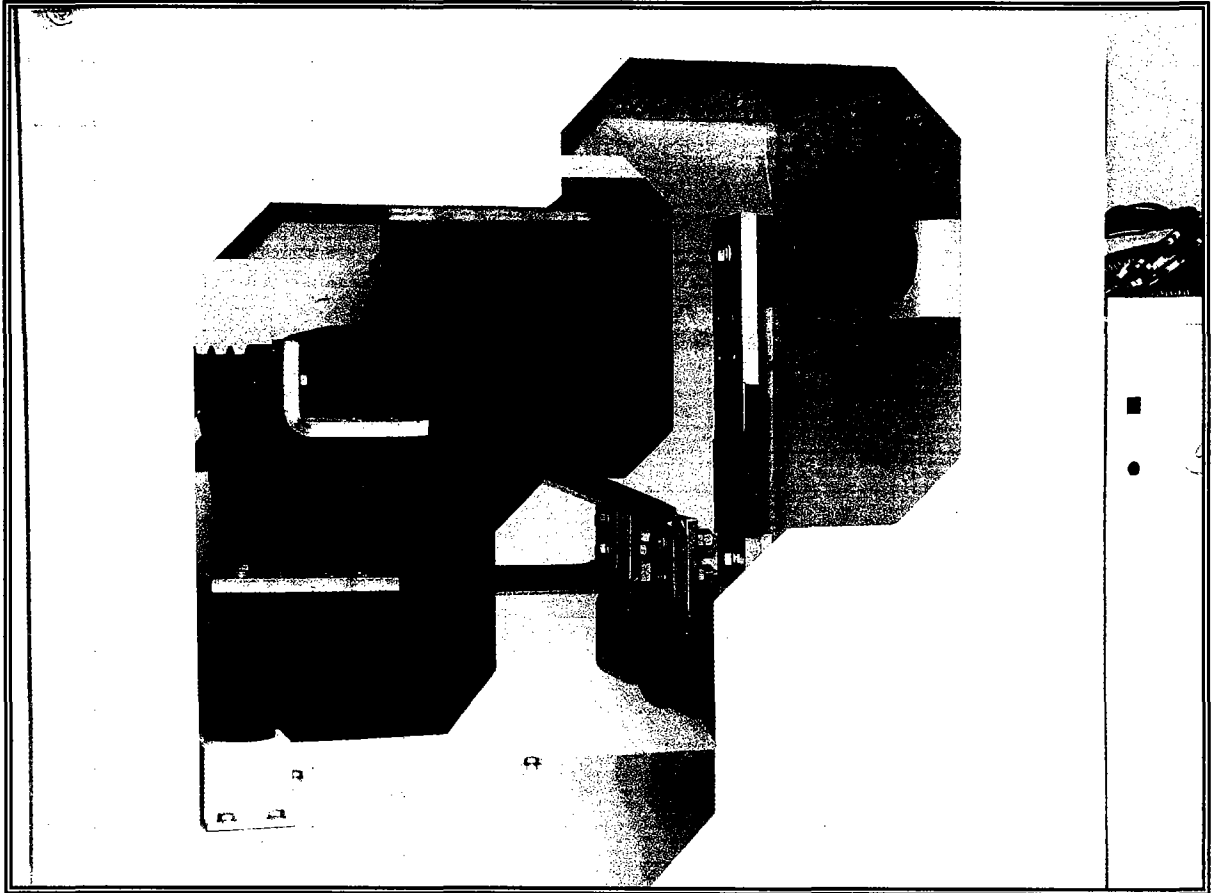


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Condition of the sample (After test)

SC07309A.PA1


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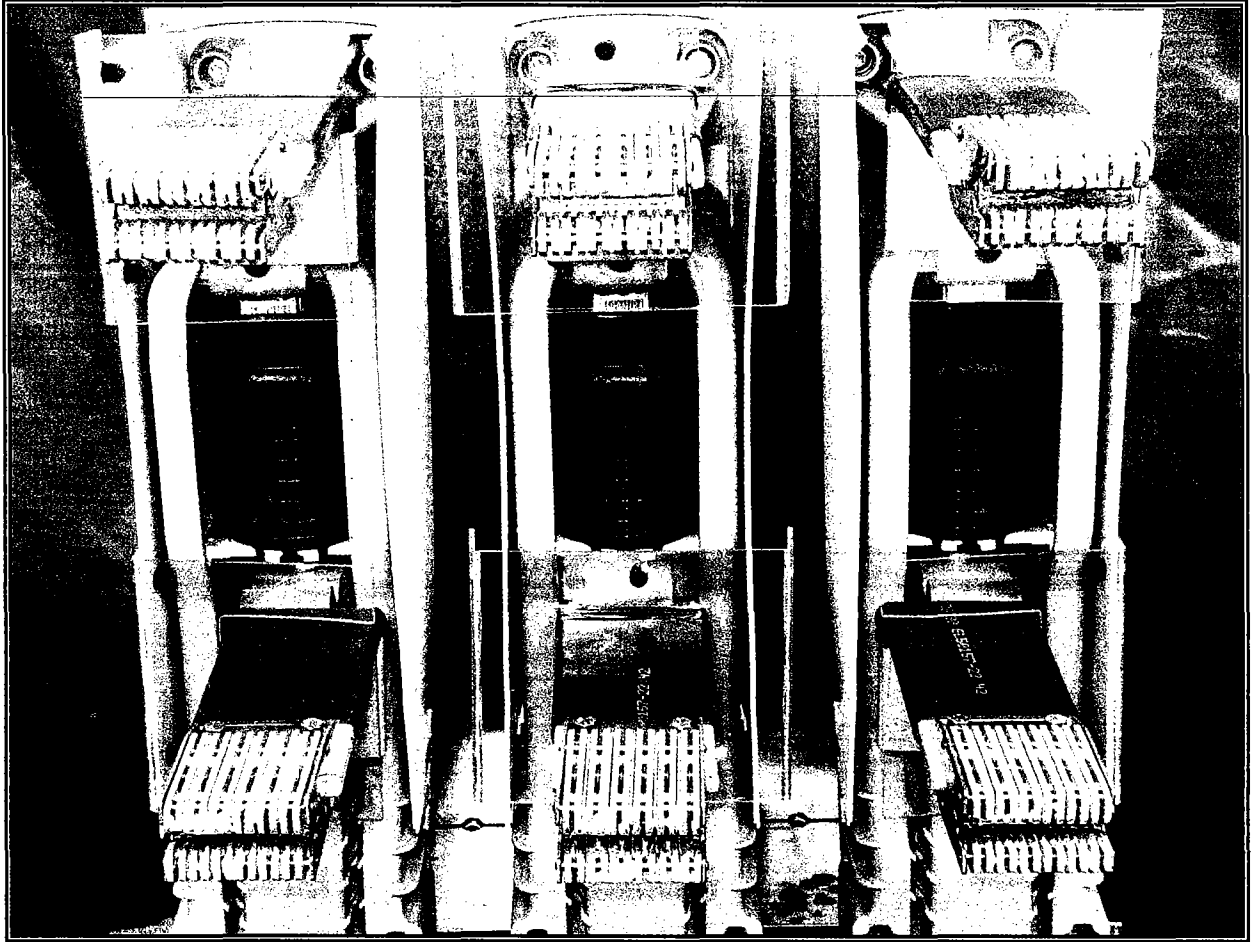


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Condition of the sample (After test)

SC07309A.PA3


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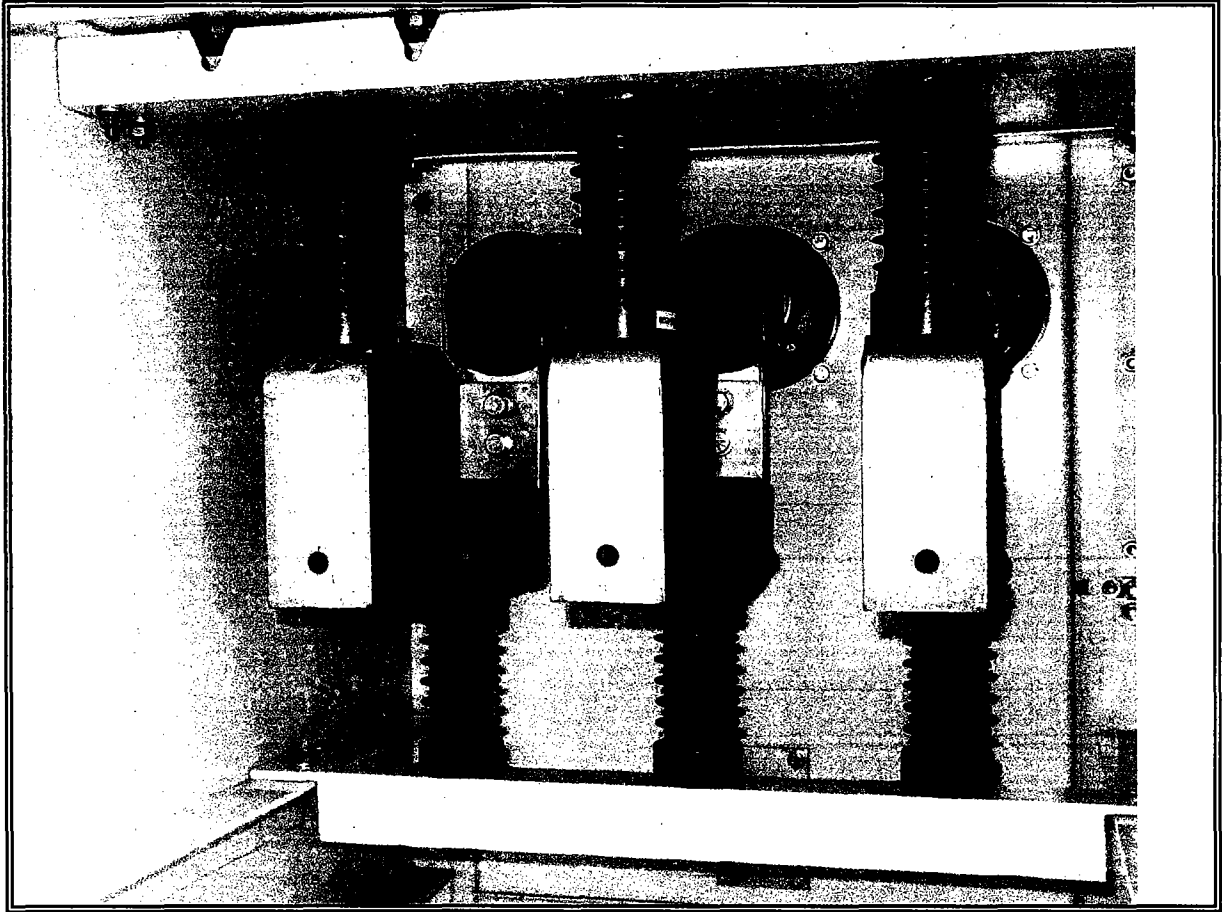


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Condition of the sample (After test)

SC07309A.PA2

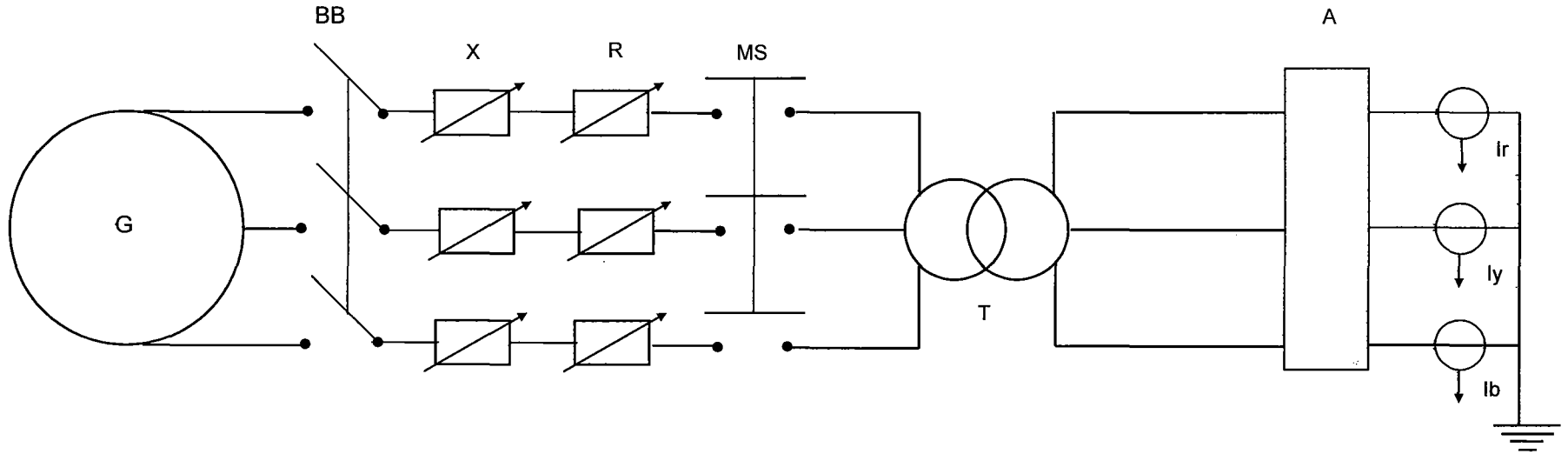

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Schematic of main & measurement circuits - Three phase test

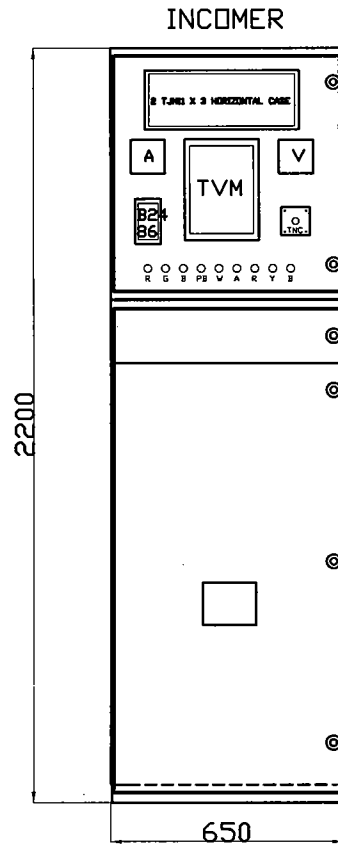
Circuit Number: CRTL/SC/STC-03



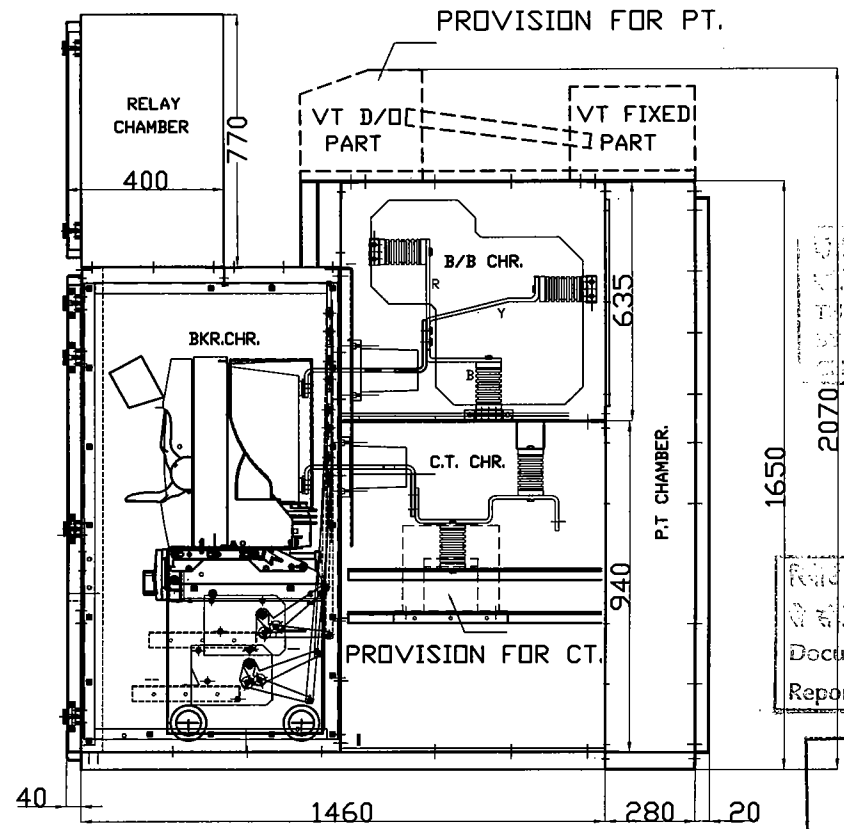
G Short-circuit Generator
BB Back Up Circuit Breaker
X Reactor
R Resistor
MS Make Switch

T Step Down Transformer
A Sample Under Test
Ir, Iy & Ib Current Sensors


Test Engineer



FRONT VIEW



SIDE VIEW (INCOMER)

DESCRIPTION:- 11KV VACUUM CIRCUIT BREAKER	
RATING	:- 1250A
SL.NO	:- KE - 001
STR	:- 26.3KA / 3sec
HSV	:- 12KV
ILV	:- 28KV
IMPULSE VOLTAGE	:- 75KVP

NOTES:-
 BUSBAR & JUMPERS 63X12.5 COPPER BAR
 EARTH CONN. 50X6 COPPER
 CABLE ENTRY :- REAR BOTTOM
 PROVISION FOR CT.
 PROVISION FOR PT.
 ENCLOSURE MATERIAL CRCA SHEET
 2mm THICK , COLOUR IVORY.

REVISIONS
 1. ...
 2. ...
 3. ...
 CHECKS ONLY WHENEVER POSSIBLE

Document Pertaining to
 Report No. SC07309A

[Signature]
 परीक्षण अभियन्ता / Test Engineer
 ल.प. प्रयोगशाला / S. C. LAB
 सी. पी. आर. वार्ड / CPRI
 बंगलूरु / Bangalore

Company Name:- KRISHNA ELECTRIC 250 A , NORTH PHASE, SIDCO INDUSTRIAL ESTATE, AMBATTUR, CHENNAI - 600 098.		
Drawing Name:- NEME PLATE DETAILS		
Scale:- All Dimension are in MM	Drg. No.- KE - 001	Drawn by:- JAGAN
Folio / Sheet No:- 01 / 17	Date:- 20-06-07	

GENERAL TOLERANCE: ±10mm