

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 | SC171471 | Dated: 17 th August, 2017 |
| Name & Address of the Customer | M/s. Infinite Electro Tech Pvt. Ltd., # 29, Dhankodi Raja Street, Ekkattuthangal, Chennai – 600 097, Tamil Nadu, India. | |
| Name & Address of the Manufacturer | M/s. Infinite Electro Tech Pvt. Ltd., # 29, Dhankodi Raja Street, Ekkattuthangal, Chennai – 600 097, Tamil Nadu, India. | |
| Particulars of sample tested | Copper Bonded MS Earth Rod | |
| Condition of the sample on Receipt | New | |
| Type | --- | |
| Description of test sample | 12.5 mm dia & 3000 mm Long Copper Bonded MS Earth Rod | |
| Serial Number(s) | --- | |
| Number of samples tested | One | |
| Date (s) of test (s) | 9 th August, 2017 | |
| CPRI sample code no(s). | SC17S0595 | |
| Particulars of tests conducted | Short-time withstand current and peak withstand current | |
| Test in accordance with Standard / specification | Customer's instruction | |
| Sampling plan | Not applicable | |
| Customer's requirement | 9 kA rms for 1.0 s & 20 kA peak | |
| Deviations if any | --- | |
| Name of the witnessing persons | | |
| Customer's representative | Mr. Anirudha Basu, GM | |
| Other than customer's representative | 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 | Two | |
| Number of test circuit diagrams | One | |
| Number of drawings | One | |


(Sakthivel.P)
Test Engineer




(Swaraj Kumar Das)
Joint Director

Sheet 1 of 4

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Report Number: SC171471

Dated: 17th August, 2017

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

| | |
|---|---|
| Test sample | Copper Bonded MS Earth Rod |
| Type | --- |
| Serial Number | --- |
| Size & Length of Earth electrode | 12.5 mm dia & 3000 mm Long Copper Bonded MS Earth Rod |
| Short-time withstand current and peak withstand current | 9 kA rms for 1.0 s & 20 kA peak |

Documents attached to this report

| | |
|--------------------------------|-----------------------------|
| Oscillogram number(s) | SC171471.S01 |
| Photograph number(s) | SC171471.PB1 & SC171471.PA1 |
| Test circuit diagram number(s) | CRTL/SC/STC-01A |
| Drawing number (s) | CP12001 |


Test Engineer

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Schedule of test

SHORT-TIME WITHSTAND CURRENT AND PEAK WITHSTAND CURRENT

TEST CONDITIONS

Source

Number of phases
Frequency

Short-circuit generator
Single
50 Hz

Test sample

Condition of the sample
Mounting

In clean & new condition; one end of the
earth rod connected to source
Horizontal, isolated from ground

Test details

Test circuit drawing number
Short-circuit applied
Short-circuit point

CRTL/SC/STC-01A
On the other end of the earth rod
Grounded

TEST RESULTS

| Oscillogram Number | Current (kA) | | Duration (s) | Observation |
|--------------------|--------------|------|--------------|--|
| | peak | rms | | |
| SC171471.S01 | 20.69 | 9.16 | 1.07 | During test: No Abnormality After test: No visible damage to earth rod. |

Physical Inspection: No visible damage. Earth rod slightly bent at the end.


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NOTE

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

Additional Information:

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.

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.

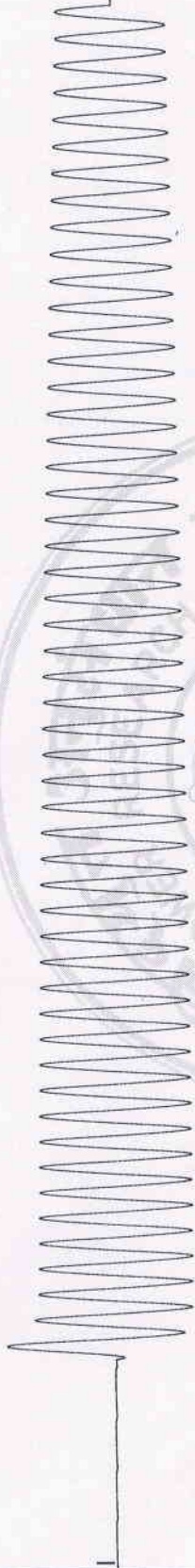
CPRI issues the following type test certificates based generally on STL Guidelines:

- 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.

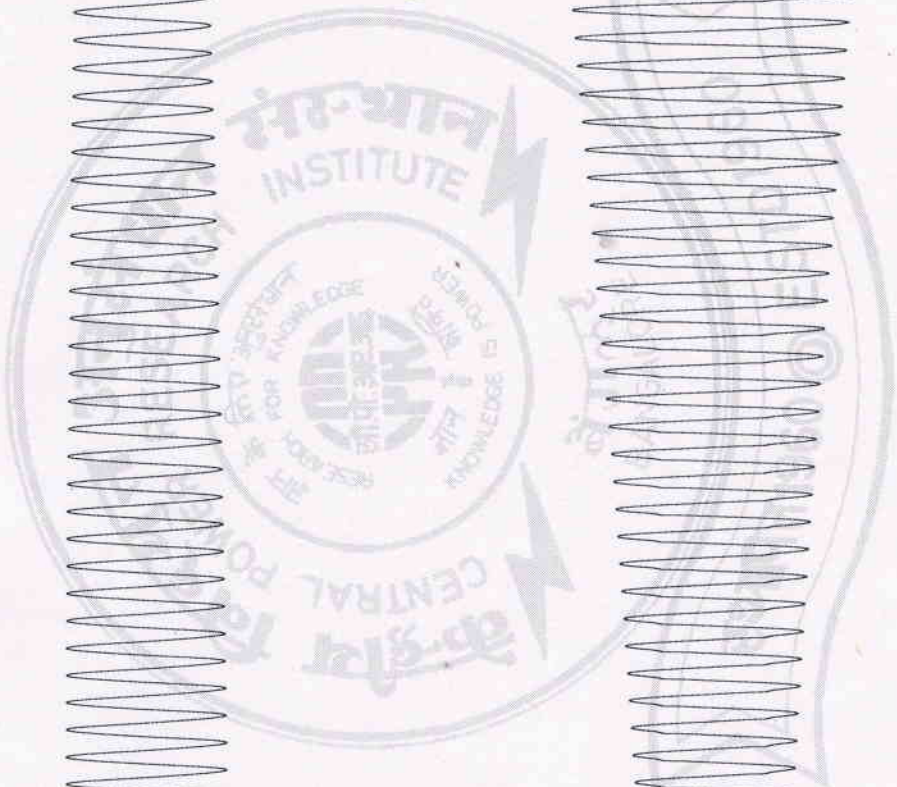

Test Engineer

Sheet 4 of 4

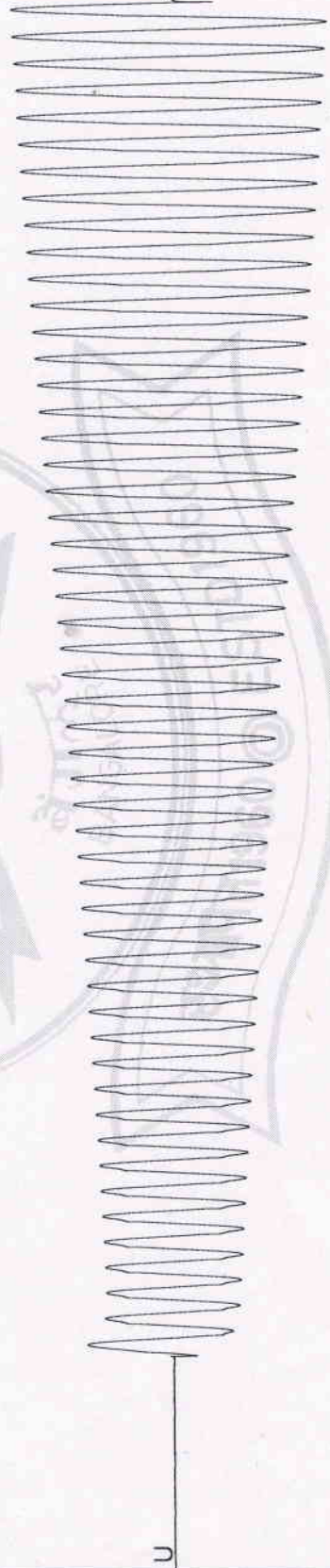
13.55 kA



लघु पथन प्रयोगशाला
 Short-Circuit Laboratory
 केन्द्रीय विद्युत अनुसंधान संस्थान
 Central Power Research Institute
 कोलकाता / Bengaluru - 560 080



92.58 V



170.10 milli seconds

Handwritten Signature
 TEST ENGINEER

SC171471.S01

Dt: 8/9/2017

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Mounting arrangement (Before test)

SC171471.PB1


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Condition of the sample (After test)

SC171471.PA1

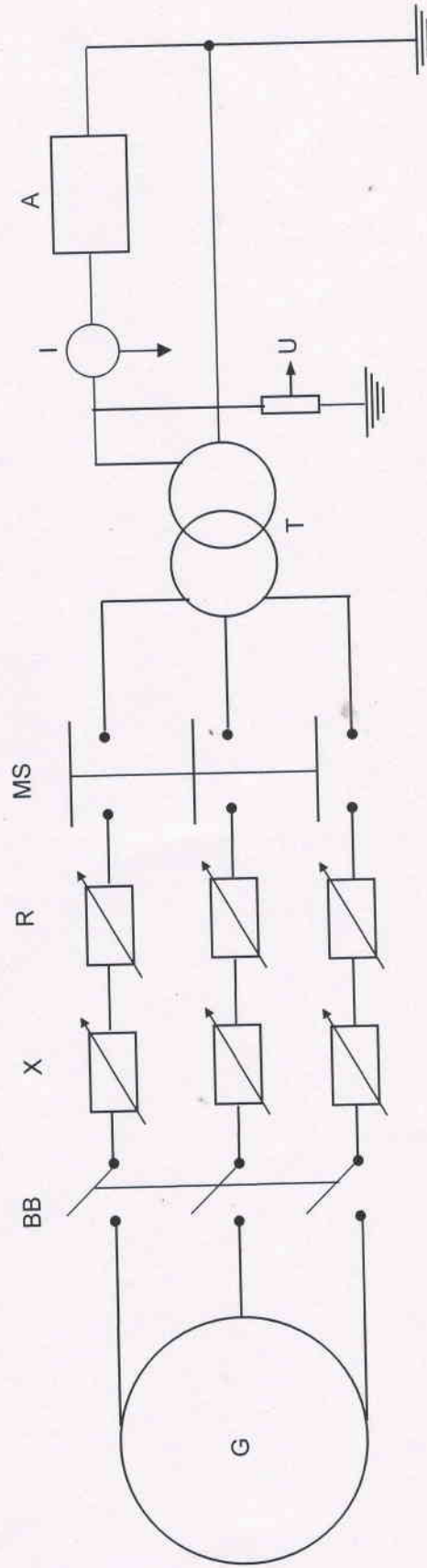

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Schematic of main & measurement circuits - Single phase test

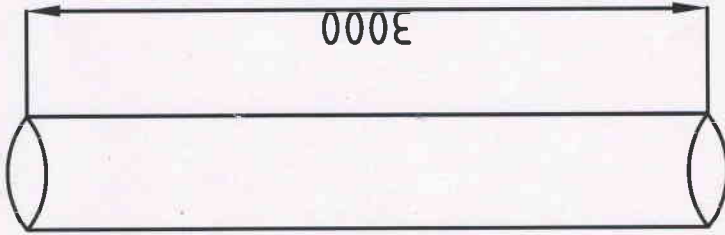
Circuit Number: CRTL/SC/STC-01A



- G Short-circuit Generator
- BB Back up Circuit Breaker
- X Reactance
- R Resistors
- MS Make Switch
- T Step-down transformer
- A Sample under test
- I Current Sensor
- U Voltage divider

[Signature]
Test Engineer

Ø12.5



क्रे.ति.अ.सं. द्वारा इस रेखाचित्र का सत्यापन जहाँ
कहीं भी संभव हो सके विषय-आरंभ तक ही सीमित है।
THE VERIFICATION OF THIS DRAWING
BY CPRI IS LIMITED TO DIMENSIONAL
CHECKS ONLY WHEREVER POSSIBLE

रिपोर्ट क्रमांक.....
से संबंधित दस्तावेज
Document Pertaining to
Report No. SC171471

S. C. Lab
परीक्षण अभियन्ता / Test Engineer
ल. प. प्रयोगशाला / S. C. LAB
सी. पी. आर. आई. / CPRI
बंगलूरु / Bengaluru

NOTE :

ALL DIMENSIONS IN MM

GENERAL TOLERANCES +/-5%

COPPER COATING THICKNESS 250 MICRONS

| | | | |
|---------------|--|------------|--|
| TITLE: | Ø12.5 COPPER BONDED MS EARTH ROD | | |
| | M/s INFINITE ELECTRO TECH PVT LTD #29, DHANKODI RAJA STREET, EKKATTUTHANGAL CHENNAI-600097 | | |
| DATE | SCALE | DRAWING NO | |
| 20-07-2017 | NTS | CP12001 | |