

CENTRAL POWER RESEARCH INSTITUTE
(Member of STL)
TEST REPORT



CPRI

Test Report Number : CPRIBLRHVDMISC23T0041 **Date:** 28 February 2023

Name and Address of the Customer : M/s. Proton Lightning Protector System,
Room No. 217, 2nd floor, Triveny Complex,
T.B. Road, Kottayam, PIN 686001,
(Post Box No.: 710, Kottayam-01)
Ref. No.: Nil. Date: 19 January 2023.

Name and Address of the Manufacturer : M/s. Proton Lightning Protector System,
Room No. 217, 2nd floor, Triveny Complex,
T.B. Road, Kottayam, PIN 686001,
(Post Box No.: 710, Kottayam-01).

Particulars of sample tested
Type

: Nil.

Description of test sample

: STERAN – ESE - PS 70.

Serial Number

: Nil.

Number of samples tested

: One.

Date(s) of Test(s)

: 19 January 2023.

CPRI Sample code Number(s).

: HVD23S0023.

Particulars of tests conducted

: Lightning impulse current withstand test (8/20 μ s).

Test in accordance with Standard/Specification

: As per customer's request.

Sampling Plan

: Not applicable.

Customer's Requirement

: Refer sheet 3 of 4.

Deviations if any

: Nil.

Name of the witnessing persons

Customers representative

: Mr. Benny T. Jacob (Managing Director).

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 Oscillogram(s)

: Six.

Number of Graph(s)

: Nil.

Number of Photograph(s)

: Four.

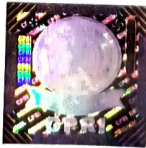
Number of Test Circuit Diagram(s)

: One.

Number of Drawing(s)

: One.

(Jithin Pauly P.)
Test Engineer



(Prabhakar C)
Joint Director
Reviewed and Authorized by

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SUMMARY OF TESTS CONDUCTED

1. Tests conducted : As per customer's request.
2. Rating for which tested : Three '+ve & three '-ve lightning impulse currents (8/20 μ s) of 70kA.
3. Schedule of tests

Tests Conducted	Clause Numbers	Sheet
Lightning impulse current withstand test (8/20 μ s).	As per customer's request.	3 of 4

4. Oscillogram Numbers : As per Table 1 (Sheet 3 of 4).
5. Graph Numbers : Nil.
6. Photograph Numbers : P01, P02, P03 & P04.
7. Test Circuit Diagram Numbers. : TCD01.

Drawing Numbers

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

SI. No.	Drawing Number	Sheet Number	Revision Number
1	01	-	-

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.

(Jithin Pauly P.)
Test Engineer

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TEST RESULTS

TEST PROCEDURE

Three positive and three negative lightning impulse current shots of 8/20 μ s ($T_1 = 7-9\mu$ s & $T_2 = 18-22\mu$ s) wave shape with a magnitude of 70kA ($\pm 10\%$ tolerance) shall be applied with minimum of 1 minute time interval. The current is injected through the tip of the sample by maintaining a small air gap and is discharged through the bottom of the sample. The sample should be checked for any external physical damage after test. The test was conducted as per the above procedure and the results are tabulated below.

Table 1: Lightning impulse current withstand test (8/20 μ s).

Shot No.	Polarity	Current Applied (kA)	Osc. No
1	+Ve	70.2	17894
2		70.0	17895
3		69.9	17896
4	- Ve	70.0	17898
5		69.7	17899
6		70.0	17900

OBSERVATIONS: The sample is subjected to six lightning impulse currents of 70kA as requested. The sample has **WITHSTOOD** the test as per customer's requirement, since there is no external physical damage observed on the sample after the test.

Ambient conditions during the above tests.

Temperature in Degree Celsius			Atmospheric Pressure in mm of Hg.
Date	Dry Bulb	Wet Bulb	
19-01-2023	25.0	21.0	681.0

CONCLUSION: The sample tested complies with the requirement of customer for the test conducted.

(Jithin Pauly P.)
Test Engineer

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NOTE

- a) 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.
- e) All documents constituting the Test Report/Test Certificate are stitched together with a continuous silk thread/silk ribbon, the two ends of which have been brought over the front sheet of the Test Report/Test Certificate and sealed with a CPRI logo printer paper sticker/embossed.

(Jithin Pauly P.)
Test Engineer

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