SHORT CIRCUIT LABORATORY
CENTRAL POWER RESEARCH INSTITUTE
(Member of STL)
P.B.NO.8066, SADASHIVANAGAR POST OFFICE
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T-0010

CPRI

TEST REPORT

Test Report Number	SC11228A **Dated**: 15th June, 2011
Name & Address of the Customer	M/s. Ramyasri Electrical Automation, Plot No. 116, Block - D, IDA, Autonagar, Visakhapatnam - 530 012.
Name & Address of the Manufacturer	M/s. Ramyasri Electrical Automation, Plot No. 116, Block - D, IDA, Autonagar, Visakhapatnam - 530 012.
Particulars of sample tested	Low-voltage switchgear and controlgear assembly - Busways
Condition of the sample on Receipt	New
Type	Indoor/Outdoor
Designation	LT Busduct
Serial Number	113
Number of samples tested	One
Date (s) of test (s)	20th May, 2011
CPRI sample code no(s).	SC11S0818
Particulars of tests conducted	Verification of the short-circuit strength
Test in accordance with Standard / specification	Sub-clause 8.2.3 of IS 8623 (Part 2):1993 / IEC Pub 439-2 (198/) (Reaffirmed 2004)
Sampling plan	Not applicable
Customer's requirement	50 kA rms for 1.0 s & 105 kA peak on phase bus-bars
Deviations if any	None
Name of the witnessing persons	
Customer's representative	Mr. C. Ramakanth & Mr. R. Appa Rao
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	Two
Number of graphs	Nil
Number of photos	Two
Number of test circuit diagrams	Two
Number of drawings	One

(H.S.Lokeshappa)
Test Engineer

(D.Krishnamurthy)
Joint Director

AUTHORISED SIGNATORIES

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

Test sample	Low-voltage switchgear and controlgear assembly – Busways
Type	Indoor/Outdoor
Designation	LT Busduct
Serial number	113
Rated voltage	415 V
Rated insulation voltage	660 V
Rated current	4000A
Rated frequency	50 Hz
Number of phases	Three & neutral
Length of the bus-bars	1345 mm
Number & details of joints	No joint
Rated short-time withstand current & peak withstand current	50 kA rms for 1.0 s & 105 kA peak on phase bus-bars & 30 kA rms for 1.0 s & 63 kA peak on neutral bus-bar

Documents attached to this report

Oscillogram number(s)	SC11228A.S001 & SC11228A.S002
Photo number(s)	SC11228A.PB1 & SC11228A.PA1
Test circuit diagram number(s)	CRTL/SC/STC-04A & CRTL/SC/STC-02A
Drawing number(s)	REA/18/2011-113 SH.NO. 1 OF 1

Test Engineer

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Schedule of tests

VERIFICATION OF THE SHORT-CIRCUIT STRENGTH (sub-clause 8.2.3)

Test conditions

Source	Short-circuit generator
Phase	
Test on phase bus-bars	Three
Test on neutral bus-bar	Single
Frequency	50 Hz
Test sample	
Condition before test	In clean and new condition; one end of the bus-bars connected to source.
Body/Enclosure	2 mm thick CRCA sheet ; isolated from earth and connected to the source neutral through a fine-wire fuse (FWF) of diameter 0.1 mm and length 50 mm in series with a 2.0 ohms resistor.
Test details	
Test circuit drawing number	
Test on phase bus-bars	CRTL/SC/STC-04A
Test on neutral bus-bar	CRTL/SC/STC-02A
Short-circuit applied	On the other end of the bus-bars
Short-circuit point	Grounded

Test results

Test on: Phase bus-bars of the busways

Oscillogram Number	Current (kA) Peak	RMS	Duration (s)	Ambient Temperature °C	Observations
SC11228A.S001	113.23	R – 49.79 Y – 51.89 B – 52.09 Average - 51.26	1.04	27	**During test:** No abnormality **After test:** Fine-wire fuse intact.

Test on: Neutral bus-bar of the busways with nearest phase bus-bar as return conductor

Oscillogram Number	Current (kA) Peak	RMS	Duration (s)	Ambient Temperature °C	Observations
SC11228A.S002	65.89	30.18	1.04	27	**During test:** No abnormality **After test:** Fine wire fuse intact.

VERIFICATION OF DIELECTRIC PROPERTIES

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

Test procedure	Observations
A power frequency voltage of 2.5 kV rms for 1.0 minute was applied between:	
1. all live parts connected together and enclosure	Withstood
2. each pole and all the other poles connected to enclosure	Withstood

Physical Inspection

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

Remarks: The sample tested complies with sub-clause of the standard referred to.

Test Engineer