



ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION
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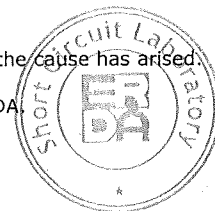
TEST REPORT

SHEET 1 OF 5

NAME & ADDRESS OF CUSTOMER PRIMA AUTOMATION (INDIA) PVT. LTD. Plot No. 793, Rakanpur, Santej, Gandhinager, Kalol, Gujarat India - 382721.	REPORT NO.: RP-1516-042833 DATE: 03.02.2016	
SAMPLE DESCRIPTION PCC CUM MCC ELECTRICAL CONTROL PANEL Rated Voltage : 690 V Rated Current : 2000 A Rated Frequency : 50/60 Hz Rated insulation voltage (Ui) : 1000 V No. of Phases: TPN+E Rated short time withstand current & its duration : - 50 kArms for 1 sec. with an initial peak of 105 kA between phases (Incoming ACB+HBB) - 30 kArms for 1 sec. with an initial peak of 63 kA between nearest phase & Neutral(Incoming ACB+HBB) - 50 kArms for 1 sec. with an initial peak of 105 kA between phases (Incoming ACB+VBB) - 30 kArms for 1 sec. with an initial peak of 63 kA between nearest phase & Neutral(Incoming ACB+VBB) Quantity (Tested): 1 No. Further details as per sheet No. 3 OF 5	SAMPLE IDENTIFICATION ERDA IDENTIFICATION NO.: ERDA-00125253 TYPE DESIGNATION: LTPCC CUM PMCC Panel DRAWING NO.: DSN-ITEM008384 PAGE NO:- 01 of 06, DSN-ITEM008384 PAGE NO:- 02 of 06, DSN-ITEM008384 PAGE NO:- 03 of 06, DSN-ITEM008384 PAGE NO:- 04 of 06, DSN-ITEM008384 PAGE NO:- 05 of 06, DSN-ITEM008384 PAGE NO:- 06 of 06.	
TEST DETAILS Verification of the short circuit withstand strength [Cl. No. 8.2.3.2.3 (b) & (d)] ENCLOSURES: NUMBER OF OSCILLOGRAM : Two NUMBER OF PHOTOGRAPH : One NUMBER OF TEST CIRCUIT DIAGRAM : Two NUMBER OF DRAWINGS : Six TEST WITNESSED BY: Mr. Vaibhav Kothari [Sr. Design Engg., Prima Automation (India) Pvt. Ltd.] Mr. Pulkit Thakkar [Project Manager, Prima Automation (India) Pvt. Ltd.] REMARKS: The sample conforms to the requirements of verification of the short-circuit withstand strength as specified by customer.	TEST SPECIFICATIONS As per customer's requirement, test procedure followed as per IS 8623 (Part 1): 1993 / IEC Pub. 439 - 1 (1985)	
PREPARED BY	CHECKED BY APPROVED BY	

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REPORT NO.: RP-1516-042833

SHEET 2 OF 5

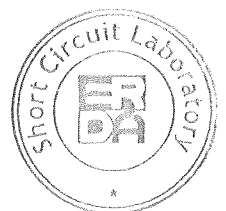
DATE: 03.02.2016

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Technical specification of test object assigned by customer	Sheet No. 3 of 5
Verification of the short-circuit withstand strength	Sheet No. 4 of 5
Test results after Verification of the short-circuit withstand strength	Sheet No. 5 of 5
Oscillogram No.	600/01 to 600/05
Photograph No.	1516-018087-386
Test circuit diagram No.	OLSC/SWG/47 OLSC/SWG/49
Drawing No.	DSN- ITEM008384 PAGE NO:- 01 of 06, DSN- ITEM008384 PAGE NO:- 02 of 06, DSN- ITEM008384 PAGE NO:- 03 of 06, DSN- ITEM008384 PAGE NO:- 04 of 06, DSN- ITEM008384 PAGE NO:- 05 of 06, DSN- ITEM008384 PAGE NO:- 06 of 06.

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SHEET 3 OF 5

TECHNICAL SPECIFICATION OF TEST OBJECT ASSIGNED BY CUSTOMER

1. Name of manufacturer : **PRIMA AUTOMATION (INDIA) PVT. LTD.**
2. Equipment : **PCC CUM MCC ELECTRICAL CONTROL PANEL**
3. Standard reference : As per customer's requirement,
test procedure followed as per
IS 8623 (Part 1):1993/IEC Pub. 439-1 (1985)
4. Rated voltage : 690 V
5. Rated current : 2000 A
6. Rated insulation voltage (Ui) : 1000 V
7. Type designation : **LT PCC CUM MCC PANEL**
8. Rated frequency : 50 Hz / 60 Hz
9. No. of Phases : **TPN+Earth**
10. Rated short time withstand current & its duration:
 - 50 kArms for 1 sec. with an initial peak of 105 kA between phase (HBB+ACB)
 - 30 kArms for 1 sec. with an initial peak of 63 kA between adjacent phase (B) of (HBB+ACB) nearest phase & neutral
 - 50 kArms for 1 sec. with an initial peak of 105 kA between phase (VBB+ACB)
 - 30 kArms for 1 sec. with an initial peak of 63 kA between adjacent phase (B) of (VBB+ACB) nearest phase & neutral

Main Horizontal busbars

- (2 x 125mm x 10mm Aluminum busbars per phase)
- (1 x 125mm x 10mm Aluminum busbars for neutral)

Main Vertical busbars

- (1 x 75mm x 10mm Aluminum busbars per phase)
- (1 x 75mm x 6mm Aluminum busbars for neutral)

Main Horizontal Busbar to ACB Vertical Busbar

- (2 x 100mm x 12.5mm Aluminum busbars per phase)
- (1 x 100mm x 12.5mm Aluminum busbars for neutral)

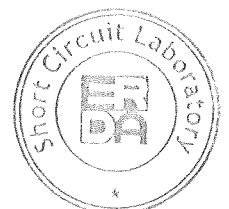
11. Details Of Incoming Air Circuit Breaker:

- Id Number : 000491280911130
- Rated Voltage (Ue) : 690 V
- Rated Insulation Voltage (Ui) : 1000 V
- Type Designation : 3WL1225-3DG32-4GA2
- Rated Impulse Withstand Voltage (Uimp) : 12 kVp
- No Of Poles : Three
- Rated Current (In) : 2500A
- Frequency : 50/60 Hz
- Icu = Ics : 75 kA @ 690 V
- Icw : 75 kArms for 0.5sec.
- Make : Siemens

- 12. Quantity (Tested) : 1 No.

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SHEET 4 OF 5

DATE: 03.02.2016

VERIFICATION OF THE SHORT-CIRCUIT WITHSTAND STRENGTH

[Sub Cl. No. 8.2.3.2.3 (b)]

Condition of the equipment under test: New

The verification of the short-circuit withstand strength test was performed on the sample connected to source as per test circuit diagram No.: OLSC/SWG/47 & 49. The sample was connected to earth through fine wire fuse.

- For Incoming ACB + HBB Three phase test: Source Point X1 & Star point X2 as per Drg. No. ITEM008384 Page No:- 02 of 06.
- For Incoming ACB + VBB Three phase test: Source Point X1 & Star point X2 as per Drg. No. ITEM008384 Page No:- 02 of 06.
- For Incoming ACB + HBB Single phase test: Source Point X1 & Star point X3 as per Drg. No. ITEM008384 Page No:- 02 of 06.
- For Incoming ACB + VBB Single phase test: Source Point X1 & Star point X3 as per Drg. No. ITEM008384 Page No:- 02 of 06.

NOTE: All the releases of ACB were disable before the test.

Condition of the equipment under test: New

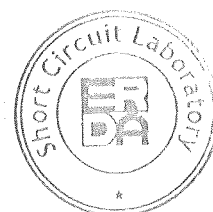
Supply Frequency: 50 Hz

Oscillo-gram No.	Short circuit current (kA)			Duration (sec.)	Observation During test	Remarks
	Peak	Rms	Average			
600/01	- - 108.781	50.474 50.806 50.951	50.744	1.004	No abnormality	3- Phases test (Incoming ACB + HBB) (Short time and peak withstand current test)
600/02	106.647 - -	51.624 50.658 50.507	50.930	1.019	No abnormality	3- Phases test (Incoming ACB + VBB) (Short time and peak withstand current test)
600/03	63.205	30.389	-	1.014	No abnormality	1- Phase test (Incoming ACB + VBB) (B-phase & neutral) (Short time and peak withstand current test)
600/04	63.271	-	-	0.103	No abnormality	1- Phase test (Incoming ACB+ HBB) (B-phase & neutral) (Dynamic peak test)
600/05	-	30.093	-	1.007	No abnormality	1- Phase test (Incoming ACB+ HBB) (B-phase & neutral) (Short time withstand current test)

- Observations after test:** -
- No abnormality was observed.
 - Busbar connections were not loosened.
 - No deformation in busbars.
 - Busbar supports were intact.
 - Fine wire fuse in earth circuit found intact.

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REPORT NO.: RP-1516-042833
DATE: 03.02.2016

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**TEST RESULTS AFTER VERIFICATION OF THE SHORT- CIRCUIT
WITHSTAND STRENGTH**

a) INSULATION RESISTANCE TEST

Sr. No.	Test	Test Voltage (V DC)	I.R. Value (MΩ)	
			Required	Measured
1.	Between all live parts and the interconnected exposed conductive parts of the assembly.	500	> 0.5	> 0.5
2.	Between each pole and all the other poles connected for this test to the interconnected exposed conductive parts of the assembly.	500	> 0.5	> 0.5

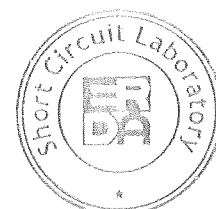
b) VERIFICATION OF DIELECTRIC PROPERTIES

Sr. No.	Test	Applied Voltage (kV)	Duration (Sec.)	Remarks
1.	Between all live parts and the interconnected exposed conductive parts of the assembly.	3.5	60	Withstood
2.	Between each pole and all the other poles connected for this test to the interconnected exposed conductive parts of the assembly.	3.5	60	Withstood
3.	Between all live parts and the exposed conductive parts of the assembly with ACB in closed position.	1	60	Withstood
4.	Between each pole and all other poles connected to the exposed conductive parts of the assembly with ACB in closed position.	1	60	Withstood

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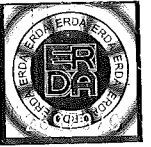
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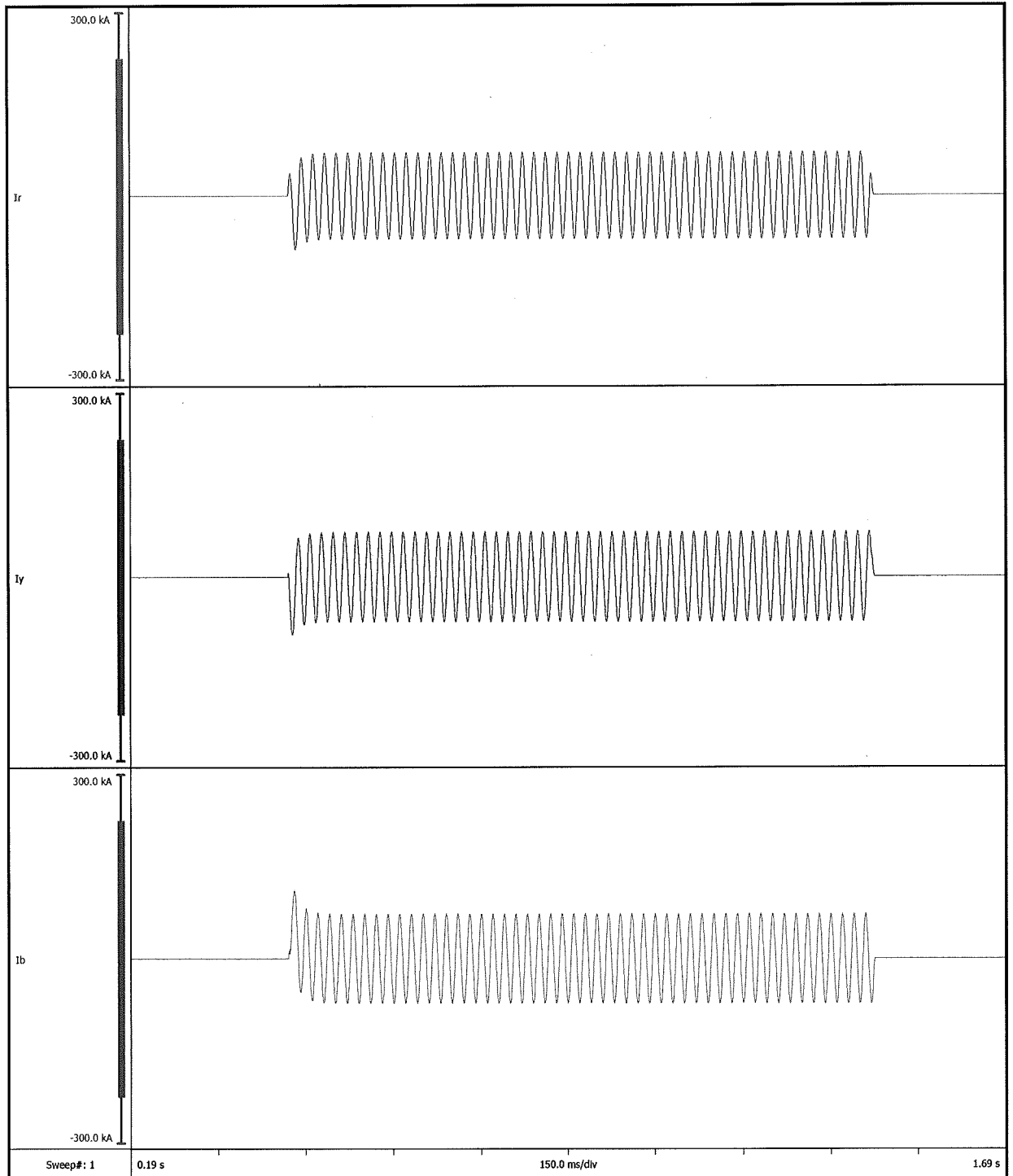
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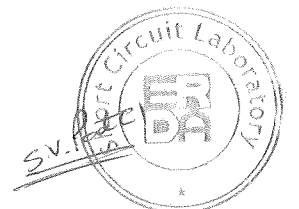
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OSCILLOGRAM NO. : 600/01

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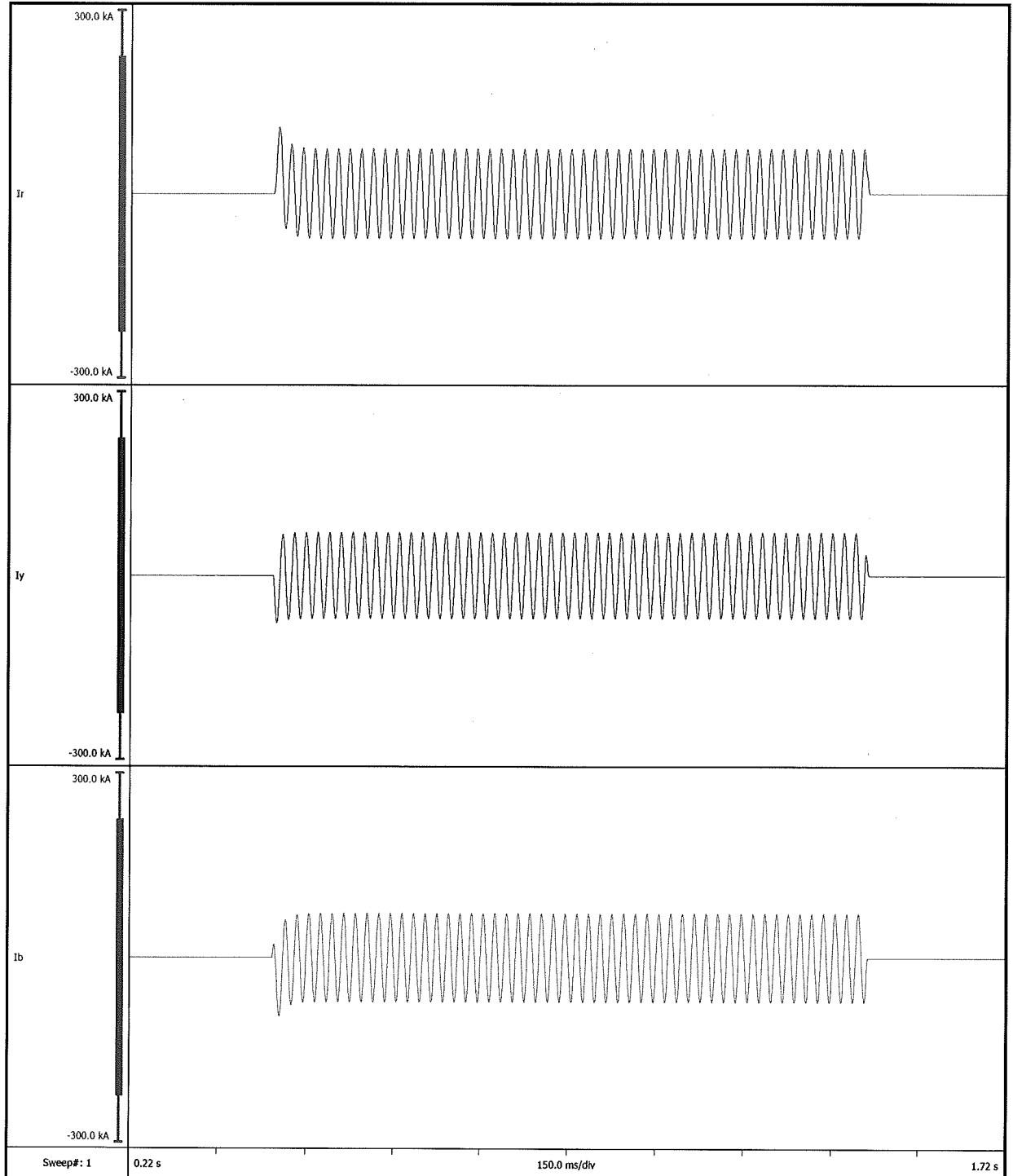
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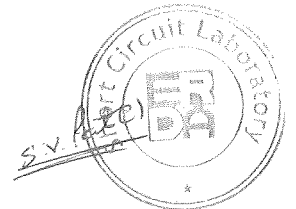
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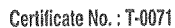
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OSCILLOGRAM NO. : 600/02

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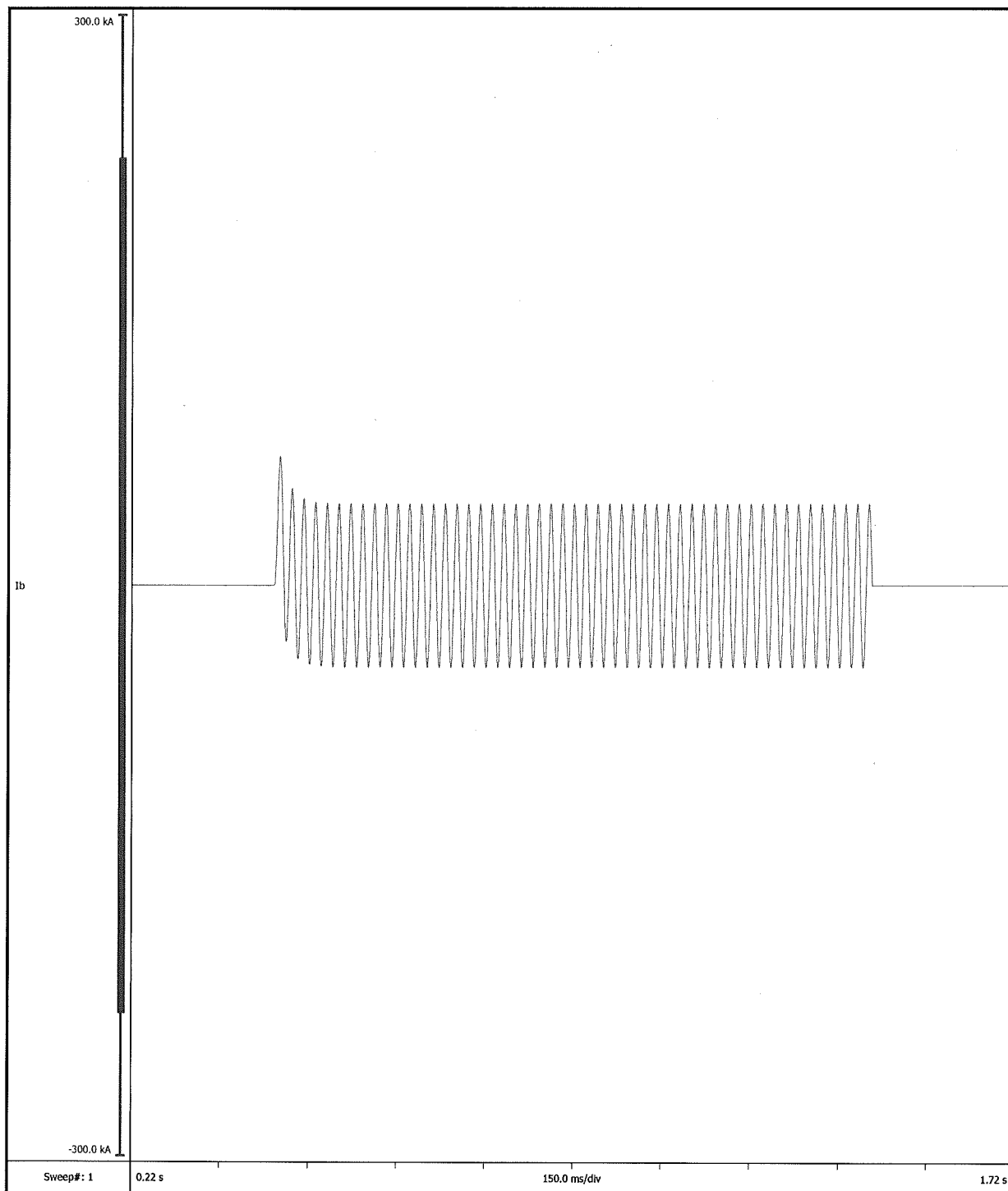


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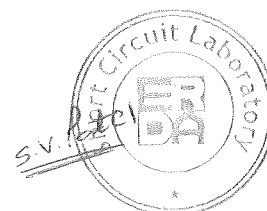
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OSCILLOGRAM NO. : 600/03



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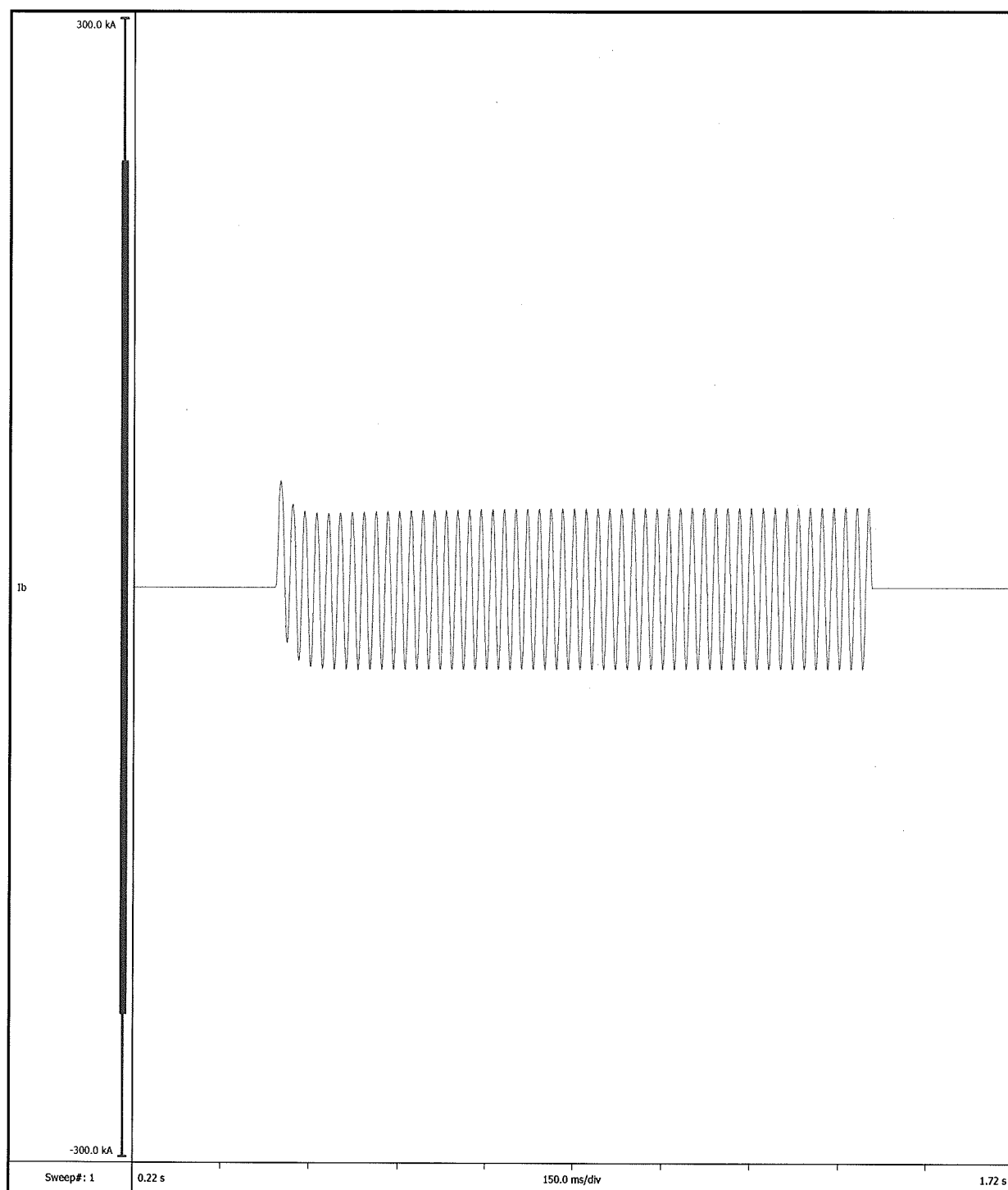


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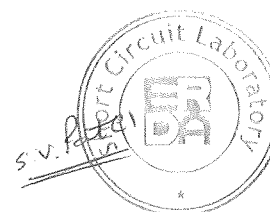


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OSCILLOGRAM NO. : 600/04

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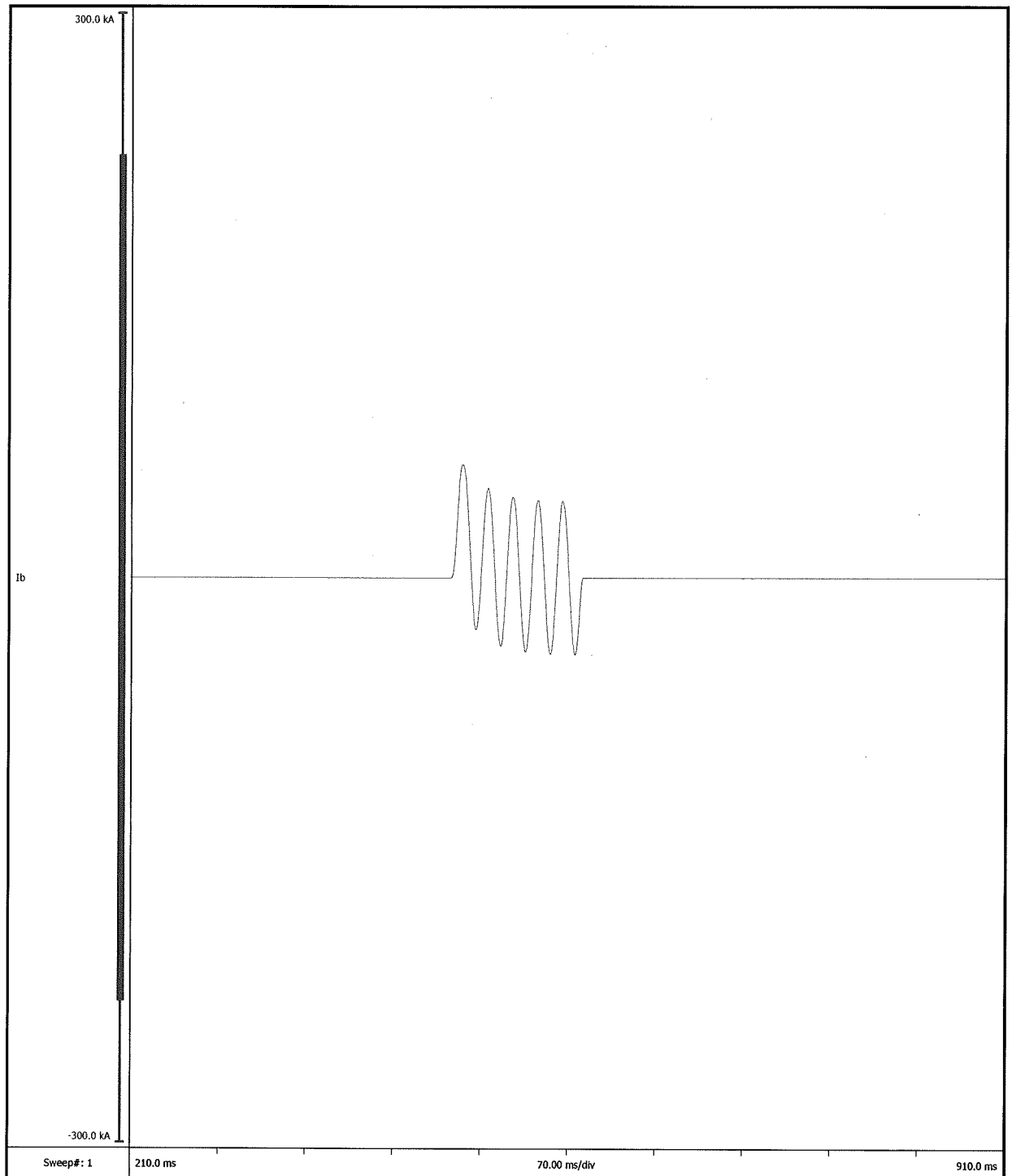


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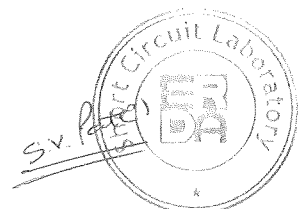


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OSCILLOGRAM NO. : 600/05

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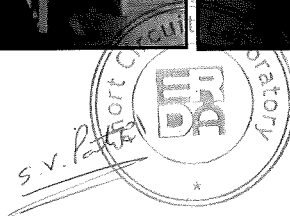
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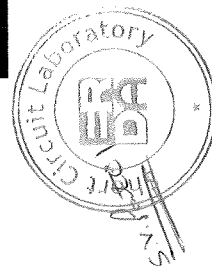
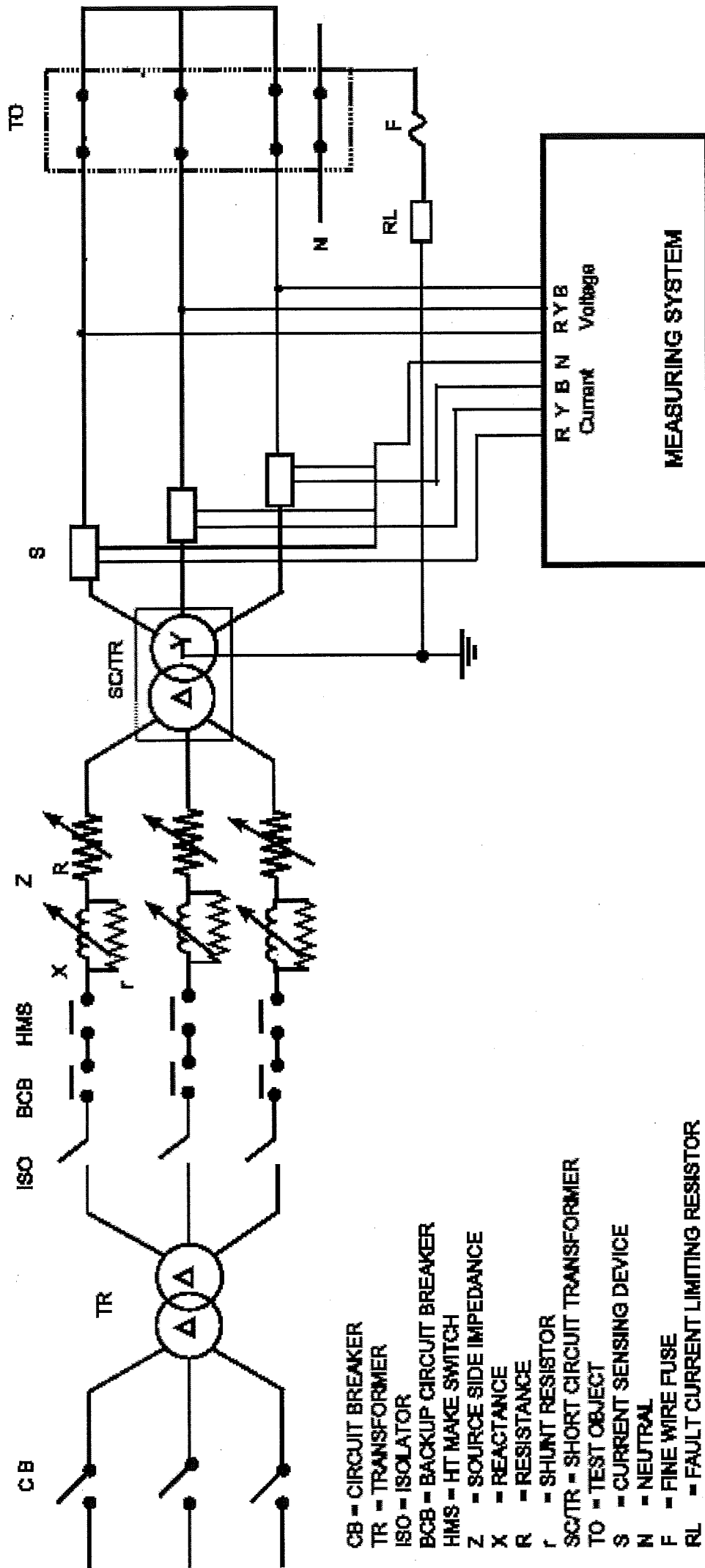


REPORT NO.:RP-1516-042833

DATE: 03.02.2016



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SCHEMATIC CIRCUIT DIAGRAM

REPORT NO.: RL-1516-042833

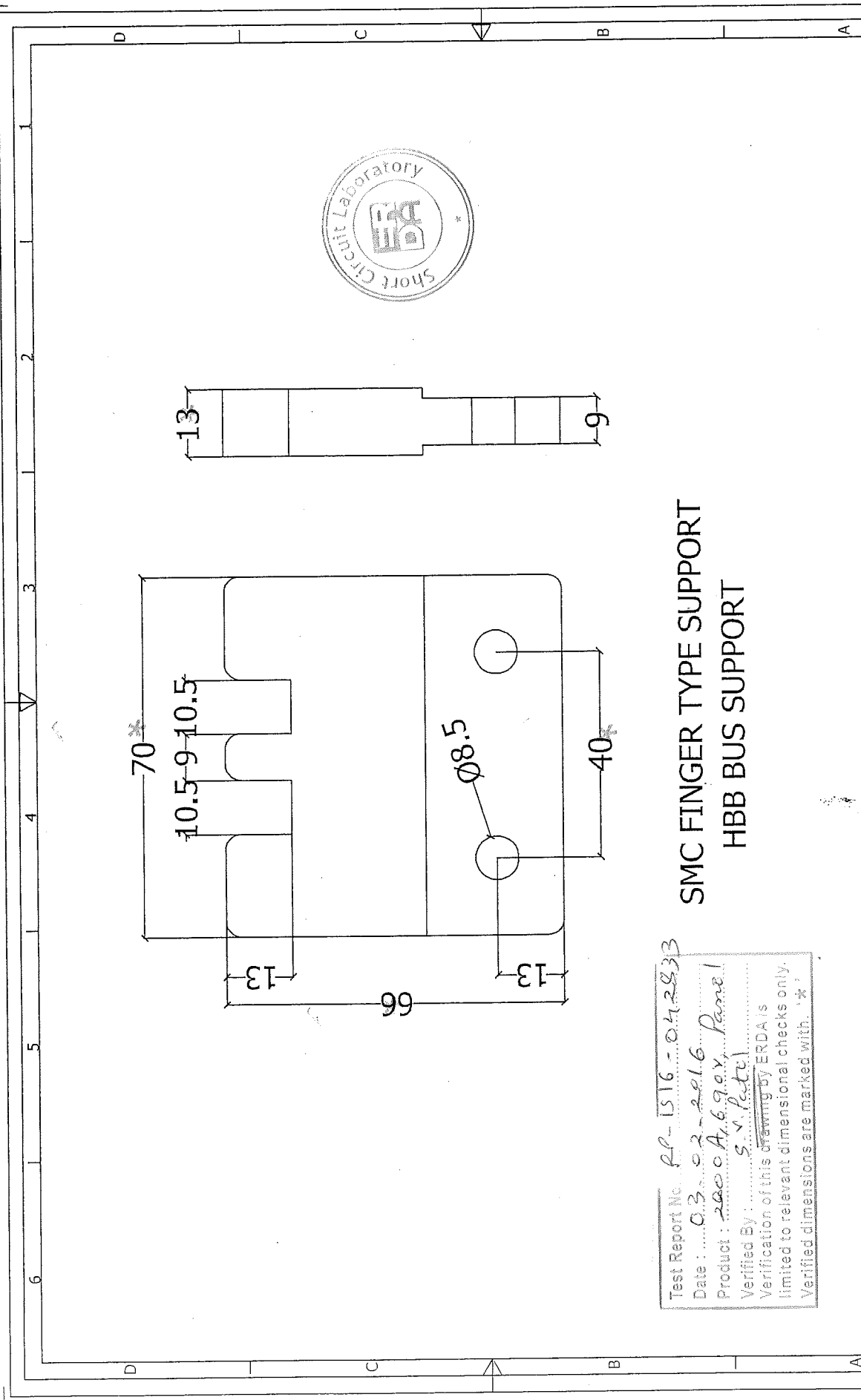
DATE: 03.02.2016

DRN
H. A. S.

CKD BY
M. B. M.

DATE
13/11/2008

DRAWING No.
OLSC/SWG/47

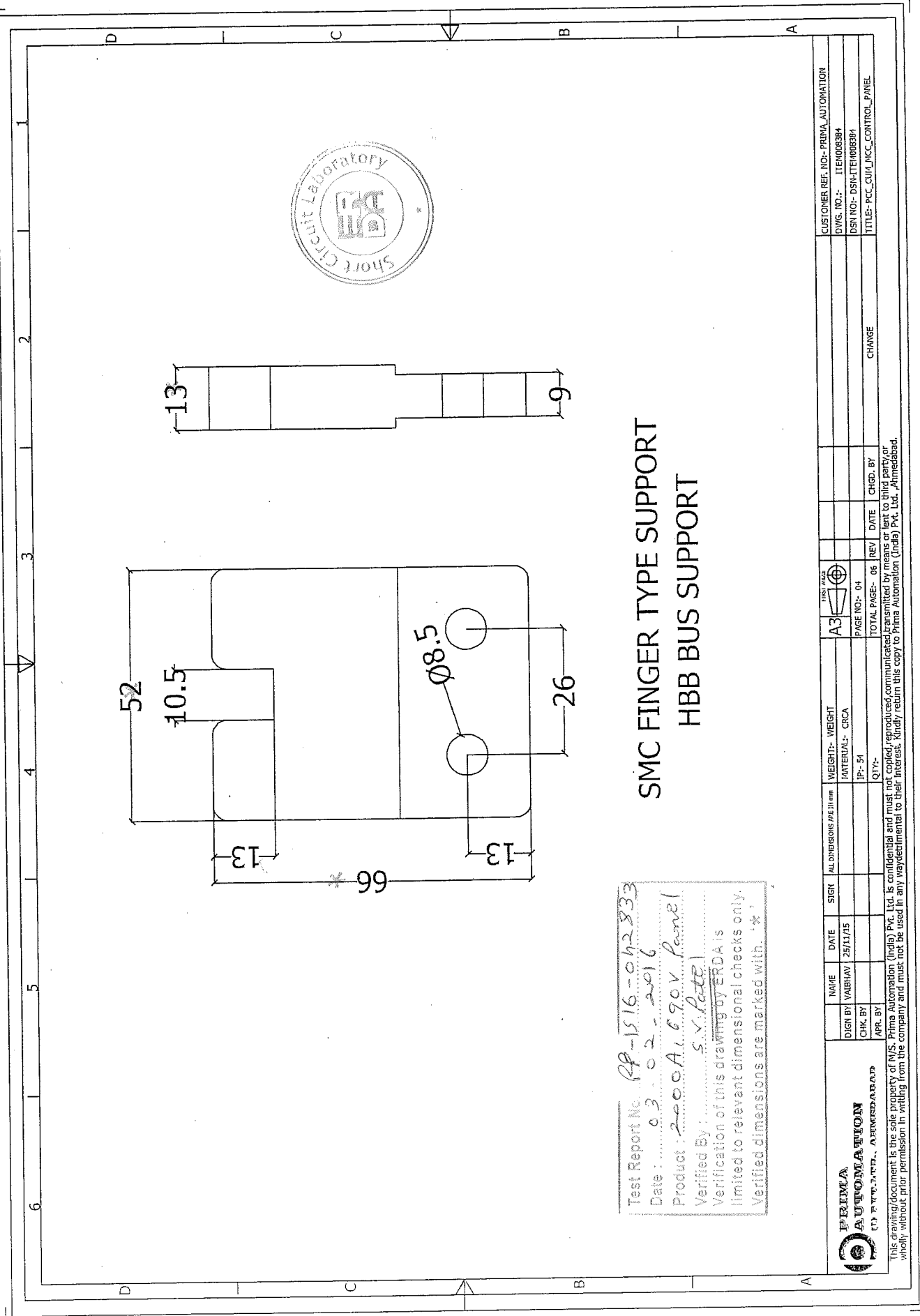


SMC FINGER TYPE SUPPORT HBB BUS SUPPORT

Test Report No. RP-1516-042833
 Date: 03-02-2016
 Product: 2000 A, 6.90 kV, Panel
 Verified By: S. V. Patel
 Verification of this drawing by ERDA's
 limited to relevant dimensional checks only.
 Verified dimensions are marked with: " * "

PRIMA AUTOMATION Pvt. Ltd., Ahmedabad		NAME	DATE	SIGN	ALL DIMENSIONS ARE IN mm	WEIGHT:-	WEIGHT	100% A3	100% A3	DATE	CHGD. BY	CHANGE	CUSTOMER REF. NO:- PRIMA AUTOMATION
DESIGN BY: VAIBHAV		25/11/15				MATERIAL:-	CIRCA						DWG. NO:- ITEM008384
CHK BY:						TP:-	54	PAGE NO:-	03	REV			DSN NO:- DSN-ITEM008384
APR. BY:						QTY:-		TOTAL PAGE:-	06				TITLE:- PCC_CUM_MCC_CONTROL_PANEL

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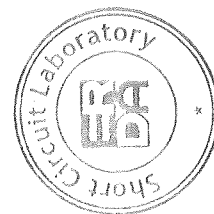


SMC FINGER TYPE SUPPORT HBB BUS SUPPORT

Test Report No. RP-1516-oh2833
 Date: 03-02-2016
 Product: 2000A, 690V, Panel
 Verified By: S.V. Patel
 Verification of this drawing by ERDA is
 limited to relevant dimensional checks only.
 Verified dimensions are marked with '*'.

PRIMA AUTOMATION (P) PVT. LTD., AHMEDABAD		NAME	DATE	SIGN	ALL DIMENSIONS PER IS mm	WEIGHT:-	WEIGHT	FIRST PLACE	PAGE NO.- 04	REV	DATE	CHGD. BY	CHANGE	CUSTOMER REF. NO:- PRIMA AUTOMATION
		DESIGN BY: YABHAN	25/11/15			MATERIAL:- CRCA		A3						DWG. NO:- ITEM00894
		CHK. BY				IP- 54								DSN NO:- DSN-ITEM00894
		APR. BY				QTY:-								TITLE:- PCC, CUB, MCC, CONTROL PANEL

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Test Report No. RL-1516-CH-2833
Date: 03-02-2016
Product: 200A, 890V, Panel
S.V. Patel
Verified By: _____
Verification of this drawing by ERDA is
limited to relevant dimensional checks only.
Verified dimensions are marked with '*'.

Sl. No.	Particulars	QTY	Unit	Rate	Total
1	APR. BY				

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