



सत्यमेव जयते

TEST / CALIBRATION REPORT

TYPE TEST FOR
3½ DIGIT DC VOLTAGE PANEL METER



ELECTRONICS REGIONAL TEST LABORATORY (WEST)

MINISTRY OF COMMUNICATIONS & INFORMATION TECHNOLOGY, (STQC Dte.)

Government of India

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9 FEB 2005

1. SCOPE

1.1 Service Request No : ERTL (W)/20042011 Dated: 6th Oct 04

1.1.1 Service Request finalised on : DT. 6th Oct 2004

1.2 Requested by
(Name and address of organisation)

MECO INSTRUMENTS PVT. LTD.
301, BHARAT INDUSTRIAL ESTATE,
T.J. ROAD, SEWREE,
MUMBIA 400 015

1.3	<u>Description</u>	<u>Qty</u>	<u>Manufacturer</u>	<u>Type No.</u>	<u>Serial Nos.</u>
	3 ½ DIGIT PANELMETER (DC VOLTAGE)	01	MECO INSTRUMENTS PVT. LTD	SMP 35S	04111988

1.4 Test specifications : TYPE TESTING AS PER IS 13875

1.5 Lab Ambient

Temperature: (25 ± 2) ° C
RH : (55 ± 5) %

1.6 Test Equipment used :

- 1. UNIVERSAL CALIBRATOR S&C/138
- 2. TEMP-HUMIDITY CHAMBER ENV/42
- 3. VIBRATION MACHINE ENV/62
- 4. SHOCK TEST MACHINE ENV/11
- 5. ENERGY TEST BENCH E&S/128

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2.0 TEST RESULTS

Sr.No.	Test/Parameter	Test Condition	Requirement	Observation		Remark
				Set value (mV)	Measured value (mV)	
2.1	Intrinsic Error Test	As per Cl. No. 4.2	Error shall be within $\pm 0.1\%$ of reading +2 Digits	20 50 100 150 190	20.0 50.0 100.1 150.2 190.3	Complied
2.2	Influence error Test	As per Cl. No. 4.3				
2.2.1	Error due to Change in Ambient Temperature	Temperature varied from a) 0 deg. C. to b) 50 deg. C. while other conditions at reference value	Deviation shall be 100% of error for a change of ± 10 deg.c	20 190	a)20.0 b)20.0 a)190.4 b)190.3	Complied
2.2.2	Error due to Change in Relative Humidity	Relative Humidity varied from a) 25%. to b) 80%RH while other conditions at reference value	Deviation shall be 100% of error	20 190	a)20.0 b)20.0 a)190.0 b)190.4	Complied
2.2.3	Error due to Change in Position	The UUT is tilted till it get topple while other conditions at reference value	Deviation shall be 50% of error.	20 190.4	20.0 190.5	Complied



BR= Reference Value BX=Influential value

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2.0 TEST RESULTS (CONTINUED)

Sr.No.	Test/Parameter	Test Condition	Requirement	Observation		Remark
				Set Value (mV)	BR	
2.2.4	Error due to Change in supply voltage	Supply voltage= $\pm 10\%$ of 230 V AC a) 207 V b) 253 V	Deviation shall be 50% of error	20	20.0	a)20.0 b)20.0
				190	190.3	a)190.3 b)190.3
2.2.5	Error due to Change in supply frequency	Supply frequency = $\pm 10\%$ of 50 Hz a) 45 Hz b) 55 Hz	Deviation shall be 100% of error	20	20.0	a)20.0 b)20.0
				190	190.3	a)190.4 b)190.3



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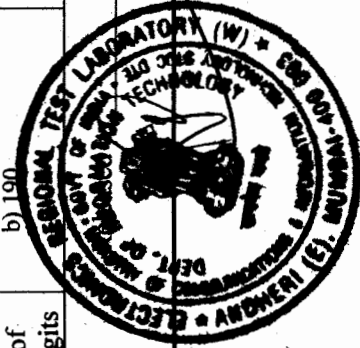
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Sr.No.	Test/Parameter	Test Condition	Requirement	Observation	Remark
3	Mechanical Load	As per cl. No. 4.9			
3.1	Shock test	As per IS 9000 (part 7/sec.1) Pulse shape=Half sine wave Pulse duration=11 ms Peak acceleration= 147m/S ² No of shocks=18	No visual damage shall occur.	Conditioned	Complied
3.1.1	Intrinsic Error Test	Accuracy test at 10% and 90 % of range.	Error shall be within $\pm 0.1\%$ of reading +2 Digits	Set Value (mV) a) 20 b) 190 Measured value(mV) a) 20.0 b) 190.3	Complied
3.2	Vibration test	As per IS 9000 (part 8) Amplitude=+ 0.15 mm Frequency=10-55-10 Hz Rate=1 oct/min No of scan cycles 2 in each direction	No visual damage shall occur.	Conditioned	Complied
3.2.1	Intrinsic Error Test	Accuracy test at 10% and 90 % of range.	Error shall be within $\pm 0.1\%$ of reading +2 Digits	Set Value (mV) a) 20 b) 190 Measured value(mV) a) 20.0 b) 190.3	Complied

BR= Reference Value Bx=Influential value



ELECTRONICS REGIONAL TEST LABORATORY (WEST)
DEPARTMENT OF INFORMATION TECHNOLOGY

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3.0 General Remarks : Nil.

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REPORT RELEASED BY

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