



सत्यमेव जयते

TEST / CALIBRATION REPORT

TYPE TEST FOR
4 DIGIT FREQUENCY PANEL METER



ELECTRONICS REGIONAL TEST LABORATORY (WEST)
MINISTRY OF COMMUNICATIONS & INFORMATION TECHNOLOGY, (STQC Dte.)

Government of India

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ELECTRONICS REGIONAL TEST LABORATORY (WEST) DEPARTMENT OF INFORMATION TECHNOLOGY		REPORT NO. ERTL (W)/2004E&S278	
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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	Description	Qty	Manufacturer	Type No.	Serial Nos.
	4 DIGIT PANELMETER (FREQUENCY)	01	MECO INSTRUMENTS PVT. LTD	FDM3BS	040840

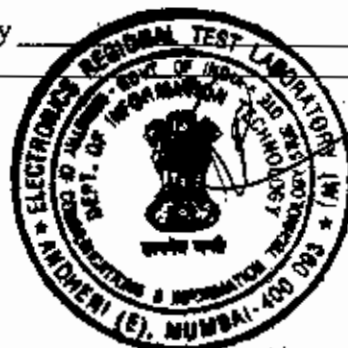
1.4 Test specifications : TYPE TESTING AS PER IS 13875

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

Released by _____



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2.0 TEST RESULTS

Sr.No.	Test/Parameter	Test Condition	Requirement	Observation		Remark
				Set value(Hz)	Measured value(Hz)	
2.1	Intrinsic Error Test	As per Cl. No. 4.2	Error shall be within $\pm 0.05\text{Hz}$	40	39.99	Complied
				60	59.99	
				80	79.99	
				90	90.00	
				99	99.00	
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	50	50.00	Complied
				90	90.00	
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	50	50.00	Complied
				90	90.00	
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.	50	50.00	Complied
				90	90.00	



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 (Hz)	BK BX	
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	50	50.00	Complied
					a)50.00 b)50.00	
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	90	90.00	Complied
					a)50.00 b)50.00	
				90	90.00	
					a)90.00 b)90.00	



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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± 0.05Hz	Set Value (Hz) a) 50 b) 90 Measured value(Hz) a) 49.99 b) 90.00	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± 0.05Hz	Set Value (Hz) c) 50 d) 90 Measured value(Hz) c) 50.01 d) 90.00	Complied

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3.0 General Remarks : Nil

REPORT APPROVED BY

REPORT BY


HEAD (E&S)

