

ERTL (W) / 98EN10088



TEST/CALIBRATION REPORT

EMC / EMI Test Report for MECO Analog Frequency Meter

Testing as per EN 50082-2 (Edition 1995)

**ELECTRONICS REGIONAL TEST LABORATORY (WEST)
DEPARTMENT OF ELECTRONICS, (STQC Dte.)
Government of India.**

Plot F 7/8, M. I. D. C. Area, Opp. Seepz,
Andheri (E), Mumbai - 400 093.

MEMORANDUM

The Test/Calibration Report issued by ERTL (W) is a record of the measurements conducted on the products submitted to it for testing / calibration and the results thereof. Unless otherwise specified in the report, the results are applicable only to those products which have been tested/calibrated and do not apply to other products even though declared to be identical.

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LIABILITY CLAUSE

- 1. ERTL (W) shall not be liable for any change in test / calibration data and performance specification on account of malfunctioning of the standard/ instrument/equipment due to any damage caused to it after the report, in respect of it, has been issued.**
- 2. The report shall not be regarded in any way diminishing the normal contractual responsibilities/obligations between the customer and ERTL (W).**
- 3. The results reported in this report are valid only at the time of and under the stated conditions of the measurements.**

ELECTRONICS REGIONAL TEST LABORATORY (WEST)		REPORT NO.:	
DEPARTMENT OF ELECTRONICS (STQC Dte.)		ERTL(W)/98EMI00088	
SUBJECT : TESTING OF ANALOGUE FREQUENCY METER		DATE: 27 AUG 1998	PAGE 1 OF 6

1. SCOPE

1.1 Service Request No. : ERTL(W)/9801029 dtd. 17/8/98

1.1.1 Service Request finalised on : 17-AUG-98

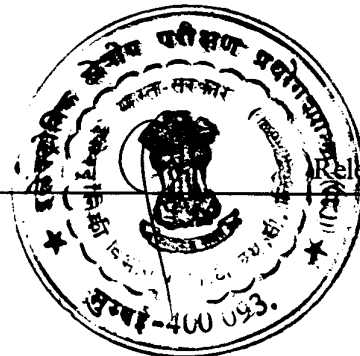
1.2 Requested by (Name and address of organisation) :
MECO INSTRUMENTS P. LTD.?
301, BHARAT INDL. ESTATE?
T.J. ROAD? SEWRI?
MUMBAI - 400 015.

1.3	<u>Item No.</u>	<u>Description</u>	<u>Qty</u>	<u>Manufacturer and Type No.</u>	<u>Serial Nos.</u>
	1.	Analogue Frequency Meter	01	M/s Meco Instruments Pvt. Ltd. Model No. :F 72	Not Marked

1.4 Test specifications : EN 50082-2,1995 ed.

1.5 Lab Ambient : Temperature : 25 °C
Humidity : 57 % RH

1.6 Test Equipment used : 1) EMI/004 : Static Discharge Simulator
2) EMI/033 : EFT Simulator
3) EMI/034 : G-Strip Immunity Chamber
4) EMI/036 : Signal Generator
5) EMI/037 : RF Amplifier



Released By

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2.0 Test Results:

Sr. No	Test Parameter	Test Condition	Requirement	Observations	Remarks
2.1	Electrostatic Discharge	As per EN 50082-2,1995 Amplitude : Air Discharge: 8KV Contact Discharge: 4KV Polarity: Positive and Negative EUT Supply : 360 - 440 V, 50 Hz	Performance criterion 'B'*	The display pointer was found to be fluctuating between 50 Hz and 60 Hz which was self recoverable after removal of the discharge.	Complied

* For performance criteria please refer Annexure 'A'



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Sr. No.	Test Parameter	Test Condition	Requirement	Observations	Remarks
2.2	Radiated Immunity	As per EN 50082-2,1995 Freq. Range : 80 - 1000MHz Amplitude:10V/m Modulation:80% A.M. at 1KHz EUT Supply : 360 - 440 V, 50 Hz	Performance Criterion 'A'*	Fluctuations in the display pointer was observed to be ± 0.5 Hz.	Complied

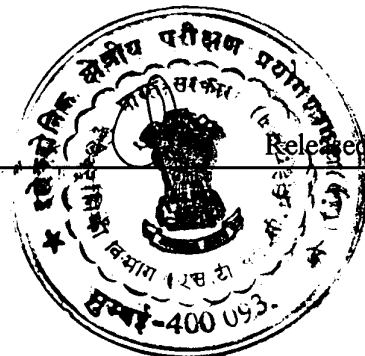
* For performance criteria please refer Annexure 'A'



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Sr. No	Test Parameter	Test Condition	Requirement	Observations	Remarks
2.3	Electrical Fast Transients	As per EN 50082-2, 1995 Amplitude : Common Mode : 2KV Polarity: Positive and Negative Pulse repetition Frequency:5KHz EUT Supply : 360 - 440 V, 50 Hz	Performance criterion 'B'*	The display pointer was found to be fluctuating by $\pm 0.5\text{Hz}$ which was self recoverable after removal of EFT.	Complied

* For performance criteria please refer Annexure 'A'



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3.0 General Remarks: Nil

REPORT APPROVED BY

Ganta Ram
HEAD (EMI/EMC)



OIC (CSC)

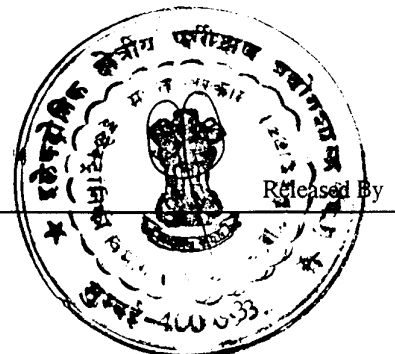
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Annexure 'A'

Performance Criteria as per European Norms.

Performance Criteria 'A': The EUT shall continue to operate as intended. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the EUT is used as intended. In some cases the performance level may be replaced by a permissible loss of performance. If the minimum performance level or the permissible loss is not specified by the manufacture then either of these may be derived from the product description and documentation and what the user may reasonably expect from the EUT if used as intended.

Performance Criteria 'B': The EUT shall continue to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the EUT is used as intended. In some cases the performance level may be replaced by a permissible loss of performance. During the test , degradation of performance is however allowed. No change of actual operating state or stored data is allowed. If the minimum performance level or the permissible loss is not specified by the manufacture then either of these may be derived from the product description and documentation and what the user may reasonably expect from the EUT if used as intended.



OUR ACCREDITATION STATUS

- ERTL (West) set up under the STQC Directorate, Dept. of Electronic, Govt. of India has been accredited under number of national / international systems.
- ERTL test reports have a wide acceptance in Govt. Departments, Private and Public Sector units in India.
- Besides, ERTL also have following accreditations.

SYSTEM	AREA	STATUS
IECQ, Geneva (International Electrotechnical Commission System for Component Qualification Approval)	Component Testing * Resistors (Fixed) * Capacitors (Fixed)	Accredited as ITL (Independent Test Laboratory)
NABL (C), India [National Accreditation Board for Test & Calibration Laboratories (Calibration System)]	Calibration * Electronic Measurements * Electrical Measurements	Accredited as Echelon II level Calibration Laboratory
NABL (T), India [National Accreditation Board for Test & Calibration Laboratories (Testing System)]	Components & Equipments	Recommended for Accreditation
UL, U.S.A. - (Underwriters Laboratory)	Safety Testing of * Information Technology Products * Audio Video Products. * Picture Tubes * H. V. Products	Facilities Approved
UL, I.I.S.	Follow-up Services Inspection in Electrical Product (s)	International Inspection Centre - 512
IECEE - CB Scheme	* Information Technology Products * Mains Operated Electronic Consumer Products * Safety critical components such as Switches Cables Fuses Capacitors	Approved as a CB test Laboratory