



सत्यमेव जयते

# TEST / CALIBRATION REPORT

## EMC / EMI Test Report for MECO Digital Multimeter

Testing as per BS EN 61326 (Edition 1998)



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

**Government of India**

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## **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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2. The report shall not be regarded in any way diminishing the normal contractual responsibilities / obligations between the customer and **ERTL (W)**.
3. The result 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.		
MINISTRY OF I.T. AND COMMUNICATIONS (STQC DTE)	ERTL(W)/2002 EMI 150		
SUBJECT: EMC TESTING OF DIGITAL MULTIMETER 9A 02	DATE	PAGE	OF
	13 MAR 2003	1	4

1. SCOPE

1.1 Service Request No :ERTL(W)/2002 0994

1.1.1 Service Request finalised on : 23 MAY 2002

1.2 Requested by (Name and address of organisation) :MECO INSTRUMENTS PVT. LTD,  
301, BHARAT INDUSTRIAL ESTATE,  
T.T. ROAD, SEWREE  
MUMBAI 400 015

1.3	<u>Item No.</u>	<u>Description</u>	<u>Qty</u>	<u>Manufacturer and Type No.</u>	<u>Serial No.</u>
	1.	DIGITAL MULTIMETER 9A 02	01	MECO INSTRUMENTS 9A 02	-----

1.4 Test specifications BS EN 61326 (Edition 1998)

1.5 Lab Ambient Temperature : (25 +2) deg.C  
Humidity : (55 +5) % RH

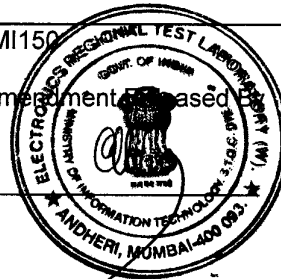
1.6 Test Equipment used :  
1. EMI/003 : ESD Simulator (Schaffner, NSG 432)  
2. EMI/034 : RS Chamber ( Keytek, G-Strip)  
3. EMI/036 : RF Signal Generator (HP, 8648 A)

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## 2.0 Test Results

Sr. No	Test /Parameter	Test Condition	Requirement	Observation	Remarks
2.1	Electrostatic Discharge	AS per BSEN 61326,1998 Table A.1 EUT in normal operating condition as per Annexure 'A' <b>Test Setup:</b> As per IEC 61000-4-2 <b>Mode of simulation:</b> Air Discharge <b>Test Voltage:</b> Air Discharge : 8kV <b>No. of Discharges :</b> 10 <b>Polarity :</b> ±ve <b>Air Discharge points:</b> Front panel Display And switches	The EUT shall continue to perform satisfactorily after the test as per Annexure 'A'.  <b>Performance Criterion : ' B'</b> (During testing, temporary degradation, or loss of function or performance which is self recoverable)	The EUT was found to perform satisfactorily during and after the test and all parameters were within limits as per Annexure 'A'.	Complies with Criterion 'A' (During testing Normal performance within specification limits)
2.2	Radiated Susceptibility	AS per BSEN 61326,1998, Table A.1 EUT in normal operating condition as per Annexure 'A'  <b>Test Setup:</b> As per IEC 61000-4-3 <b>Frequency Range :</b> 80 MHz to 1000MHz <b>Modulation :</b> 80 % AM @ 1 kHz <b>Field Strength :</b> 10 V/m. <b>Simulation :</b> Using Gstrip™ RF Immunity Test Chamber	The EUT shall continue to perform satisfactorily during and after the test as per Annexure 'A'.  <b>Performance Criterion : 'A'</b> (During testing Normal performance within specification limits)	The EUT was found to perform satisfactorily during and after the test and all parameters were within limits as per Annexure 'A'.	Complies with Criterion 'A'

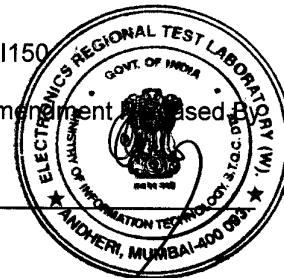
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EUT : Equipmnet Under Test

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3.0 General Remarks : Nil

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**REPORT APPROVED BY**

**REPORT RELEASED BY**

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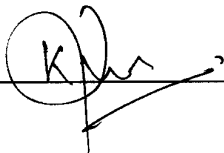
**HEAD (EMI/PCT)**

**OIC (CSC)**

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ANNEXURE 'A'

Functional Check

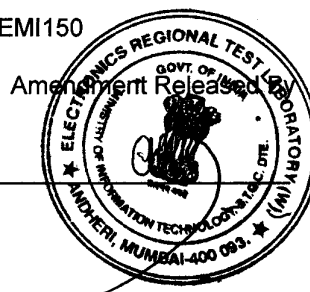
Allowable variation in reading shall be within:

1. DC Voltage :  $\pm$  ( 0.5 % of the reading + 4 digits) on 340mV/3.4 V
2.  $\pm$  ( 0.7 % of the reading + 4 digits) on 34V/340 V
3.  $\pm$  ( 1.0 % of the reading + 4 digits) on 1000V
4. AC Voltage :  $\pm$  ( 1.0 % of the reading + 8 digits) on all ranges except
5.  $\pm$  ( 1.5 % of the reading + 8 digits) on 750 V
6. DC Current :  $\pm$  ( 1.5 % of the reading + 4 digits)
7. AC Current:  $\pm$  ( 2.2 % of the reading + 4 digits)
8. Resistance :  $\pm$  ( 0.7 % of the reading + 4 digits) on all ranges except
9.  $\pm$  ( 1.2 % of the reading + 4 digits) on 3.4 MOHMS
10.  $\pm$  ( 2.5 % of the reading + 4 digits) on 34 MOHMS
11. Frequency :  $\pm$  ( 1.0 % of the reading + 7 digits)

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## OUR ACCREDITATION STATUS

ERTL (W) set up under the STQC Directorate, Ministry of Communications & Information Technology, Govt. of India has been accredited under number of national / international systems as follows :

SYSTEM	AREA	STATUS
<p><b>IECQ</b> (International Electro-technical Commission on Quality Assessment System for Electronic Components)</p>	<p><b>Component Testing</b></p> <ul style="list-style-type: none"> <li>● Resistors (Fixed)</li> <li>● Capacitors (Fixed)</li> </ul>	<p>Accredited as ITL (Independent Test Laboratory)</p>
<p><b>NABL (C), India</b> National Accredital Board for Test &amp; Calibration laboratories (Calibration System)</p>	<p><b>Calibration</b></p> <ul style="list-style-type: none"> <li>● Electro-technical discipline</li> <li>● Thermal discipline</li> <li>● Mechanical discipline</li> </ul>	<p>Accredited Calibration Laboratory</p>
<p><b>NABL(T), India</b> National Accredital Board for Test &amp; Calibration laboratories (Testing System)</p>	<p>Electronic &amp; Electrical Testing</p>	<p>Accredited Test Laboratory</p>
<p><b>IECEE-CE-Scheme</b></p>	<ul style="list-style-type: none"> <li>● Mains Operated Electronic Consumer Products</li> </ul>	<p>Approved as a CB test Laboratory</p>
<p><b>Other recognition</b></p>		<p>Recognised by CSPO of State Govt., DOT, Naval Docyard, LCSO etc.</p>