



सत्यमेव जयते

# TEST / CALIBRATION REPORT

TYPE TEST OF  
DIGITAL INSULATION TESTER  
MODEL : DIT99-D



**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&S287	
SUBJECT: TYPE TEST OF DIGITAL INSULATION TESTER		DATE <b>17 FEB 2005</b>	PAGE 1 OF 6

1. SCOPE

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

1.1.1 Service Request finalised on : DT. 6<sup>th</sup> 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.
	DIGITAL INSULATION TESTER	01	MECO INSTRUMENTS PVT. LTD	DIT99-D	359533

1.4 Test specifications : TYPE TESTING AS PER IS 10656

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

1.6 Test Equipment used :

1. HIGH STABILTIY DECADE MEGAOHM BOX	S&C /156
2. HV PROBE	S&C /14(A)
3. DMM	E&S/122
4. VIBRATION MACHINE	ENV/62
5. SHOCK TEST MACHINE	E&S/11
6. TEMP. TEST CHAMBER	ENV/28
7. HUMIDITY CHAMBER	ENV/58
8. OSCILLOSCOPE	E&S/77
9. WI TESTER	E&S/66
10. INSU TESTER	E&S/123



SUBJECT: TYPE TEST OF DIGITAL INSULATION TESTER

DATE

**17 FEB 2005**

PAGE

2

OF

6

**2.0 TEST RESULTS**

Sr.No.	Test/Parameter	Test Condition	Requirement	Observation	Remark										
2.1	Initial measurement	As per cl.9.0	As per cl. 9.1	<table border="1"> <tr> <td>Std. Value(<math>\Omega</math>)</td> <td>Measured value(<math>\Omega</math>)</td> </tr> <tr> <td>50 M</td> <td>50.5M</td> </tr> <tr> <td>100M</td> <td>101.0M</td> </tr> <tr> <td>180M</td> <td>181.9M</td> </tr> <tr> <td>1000V</td> <td>1024 V</td> </tr> </table>	Std. Value( $\Omega$ )	Measured value( $\Omega$ )	50 M	50.5M	100M	101.0M	180M	181.9M	1000V	1024 V	Complied
Std. Value( $\Omega$ )	Measured value( $\Omega$ )														
50 M	50.5M														
100M	101.0M														
180M	181.9M														
1000V	1024 V														
2.2	HIGH VOLTAGE TEST	2 kV AC for 1 min. between all the terminals connected together and the case	As per cl. 9.2(terminal voltage) No break down, arcing or sparking shall occur.	No break down, arcing or sparking is observed.	Complied										
2.3	INSULATION RESISTANCE TEST	At 500 V DC between all the terminals connected together and the case	50Mohm	>50Mohm	Complied										
2.4	TEST FOR LIMITS OF ERROR														
2.4.1	Error due to variation of level.	A change of 5 degrees in the level of the tester in any direction	Deviation of the pointer from its initial position should be less than 0.5 mm	Not applicable	----										
2.4.2	Error due to variation of Ambient Temperature	a) at 47 deg.c b) at 7 deg.c	Deviation Shall not exceed $\pm 5\%$	<table border="1"> <tr> <td>Std. Value(<math>\Omega</math>)</td> <td>Measured value(<math>\Omega</math>)</td> </tr> <tr> <td>100.0M</td> <td>a)100.8M</td> </tr> <tr> <td>100.0M</td> <td>b)101.1M</td> </tr> </table>	Std. Value( $\Omega$ )	Measured value( $\Omega$ )	100.0M	a)100.8M	100.0M	b)101.1M	Complied				
Std. Value( $\Omega$ )	Measured value( $\Omega$ )														
100.0M	a)100.8M														
100.0M	b)101.1M														
2.4.3	Error due to variation of Excessive Humidity	At 27 deg.c, 90% RH for 24 Hours	Deviation Shall not exceed $\pm 5\%$	<table border="1"> <tr> <td>Std. Value(<math>\Omega</math>)</td> <td>Measured value(<math>\Omega</math>)</td> </tr> <tr> <td>100.0M</td> <td>101.0M</td> </tr> </table>	Std. Value( $\Omega$ )	Measured value( $\Omega$ )	100.0M	101.0M	Complied						
Std. Value( $\Omega$ )	Measured value( $\Omega$ )														
100.0M	101.0M														
2.4.4	Ripple at Meas. Terminal	As per cl 11.6.4	Less than 10% of Terminal voltage		Complied										



Released

SUBJECT: TYPE TEST OF DIGITAL INSULATION TESTER

DATE

**17 FEB 2005**

PAGE

3

OF

6

**2.0 TEST RESULTS (CONTINUED)**

Sr.No.	Test/Parameter	Test Condition	Requirement	Observation		Remark	
				Std. value( $\Omega$ )	Measured value( $\Omega$ )		
2.5	Dust test	Temp. 40 $\pm$ 2 and RH 80% Duration: 4 hrs.	Conditioning	Conditioned		---	
2.5.1	Post measurement	As per cl.9.0	Resistance: $\pm$ 5%	50 M	50.4M	Complied	
				100M	100.5M		
				180M	180.4M		
2.6	Vibration Test	As per cl 11.8, Accordance with IS 9000 (Part 8) Freq. 10 to 150 Hz Amplitude: 0.15mm Duration:6 hrs	Conditioning	Terminal voltage: $\pm$ 25%	1000V	1030 V	Complied
				Conditioned			
2.6.1	Post measurement	As per cl.9.0	Resistance: $\pm$ 5%	50 M	50.3M	Complied	
				100M	101.0M		
				180M	181.6M		
2.7	Bump Test	As per cl 11.9, Accordance with IS 9000 (Part 7/sec 2)) No. of bumps:4000 Acc.: 100 m/s <sup>2</sup> Pulse duration:6 ms	Conditioning	Terminal voltage: $\pm$ 25%	1000V	1028 V	Complied
				Conditioned			



SUBJECT: TYPE TEST OF DIGITAL INSULATION TESTER

DATE  
**17 FEB 2005**

PAGE  
4

OF  
6

**2.0 TEST RESULTS (CONTINUED)**

Sr.No.	Test/Parameter	Test Condition	Requirement	Observation		Remark
				Std. value( $\Omega$ )	Measured value( $\Omega$ )	
2.7.1	Post measurement	As per cl.9.0	Resistance: $\pm 5\%$	50 M	50.2M	Complied
				100M	100.9M	
				180M	181.5M	
2.8	Dry heat Test	As per cl 11.10, Accordance with IS 9000 (Part 3/sec 2) Duration: 16 Hrs.	Terminal voltage: $\pm 25\%$	1000V	1032 V	---
				Conditioned		
2.8.1	Post measurement	As per cl.9.0	Resistance: $\pm 5\%$	50 M	50.2M	Complied
				100M	100.5M	
				180M	181.5M	
2.9	Cold Test	As per cl 11.11 Accordance with IS 9000 (Part 2/sec 2) Temp.: -10 deg.c Duration: 16 Hrs.	Terminal voltage: $\pm 25\%$	1000V	1056 V	---
				Conditioned		



Page 4 of 6 by

SUBJECT: TYPE TEST OF DIGITAL INSULATION TESTER

DATE

17 FEB 2005

PAGE

5

OF

6

2.0 TEST RESULTS (CONTINUED)

Sr.No.	Test/Parameter	Test Condition	Requirement	Observation		Remark
				Std. value( $\Omega$ )	Measured value( $\Omega$ )	
2.9.1	Post measurement	As per cl.9.0	Resistance: $\pm 5\%$	50 M	50.3M	Complied
				100M	100.8M	
				180M	181.6M	
2.10	Damp Heat (cyclic)	As per cl 11.12 of IS 10656 IS 9000(Part 5/sec 2) Number of cycle: 2	Terminal voltage: $\pm 25\%$	1000V	1062 V	
2.10.1	Post measurement	As per cl.9.0	Resistance: $\pm 5\%$	50 M	50.3M	Complied
				100M	100.7M	
				180M	181.6M	
			Terminal voltage: $\pm 25\%$	1000V	1055 V	



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SUBJECT: TYPE TEST OF DIGITAL INSULATION TESTER	DATE <b>17 FEB 2005</b>	PAGE 6	OF 6

3.0 General Remarks : Nil

REPORT APPROVED BY

REPORT RELEASED BY

*P. M. S.*  
HEAD (E&S)

