

<b>Laboratory</b>	<b>Electronics Test &amp; Development Centre, Dr. VSI Estate, Thiruvanmiyur, Chennai, Tamil Nadu</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Electronics Testing</b>	<b>Issue Date</b>	<b>22.04.2016</b>
<b>Certificate Number</b>	<b>T-0036</b>	<b>Valid Until</b>	<b>21.04.2018</b>
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<b>S. No.</b>	<b>Product / Material of Test</b>	<b>Specific Test Performed</b>	<b>Test Method Specification against which tests are performed</b>	<b>Range of Testing / Limits of Detection</b>
<b>I.</b>	<b>DOMESTIC ELECTRONIC APPLIANCES &amp; ACCESSORIES</b>			
<b>1.</b>	<b>AC Static Watthour Class 1 &amp; 2 Single / Three Phase</b>	Impulse Voltage	IS 13779: 1999 Clause 12.7.6.2	Upto 6.6 kV
		Ac High Voltage Test	IS 13779: 1999 Clause 12.7.6.3	Upto 5 kVac, 50 Hz
		Insulation Resistance Test	IS 13779: 1999 Clause 12.7.6.4	500 k $\Omega$ to 2x10 <sup>16</sup> $\Omega$
		Test On Limits Of Error	IS 13779: 1999 Clause 11.11	40 V to 300 V, 45 Hz to 55 Hz, 2 mA to 120 A) 0.2 upf lag/lead
		Interpretation Of Test Results	IS 13779: 1999 Clause 12.16	Qualitative
		Test Of Meter Constant	IS 13779: 1999 Clause 12.15	1 A to 100 A (I <sub>b</sub> )
		Test Of Starting Condition	IS 13779: 1999 Clause 12.14	2 mA (min)
		Initial Start-Up Of Meter	IS 13779: 1999 Clause 11.4.1	50 V to 240V AC 1 s to 10 s.
		Test For No Load Condition	IS 13779: 1999 Clause 12.13	50 V to 240V AC 1 min to 200 min
		Test Of Ambient Temperature Influence	IS 13779: 1999 Clause 12.12	10 °C to 45 °C
	Test Of Repeatability Of Error	IS 13779: 1999 Clause 12.17	50 mA to 120 A	

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	<b>AC Static Watthour Class 1 &amp; 2 Single / Three Phase</b>	Test Of Influence Quantities Voltage Variation Frequency Variation Waveform 10% Of 3 <sup>rd</sup> Harmonic In Current Circuit Dc & Even Harmonics In Ac Current Circuit Magnetic Influence EMHF Test	IS 13779: 1999 Clause 12.11	40 V to 400 V, 50 mA to 120 A
		Test Of Power Consumption Test	IS 13779: 1999 Clause 12.7.1	0.05 W to 20 W, 0.05 VA to 20 VA
		Test Of Influence Of Supply Voltage	IS 13779: 1999 Clause 12.7.2	40 V to 400 V; 10 ms to 1 s
		Test Of Influence Short-Time Over Currents	IS 13779: 1999 Clause 12.7.3	20 A to 5000 A; 10 ms (±) 5 ms
		Test Of Influence Of Self Heating	IS 13779: 1999 Clause 12.7.4	40 V to 300 V, 45 Hz to 55 Hz, 2 mA to 120 A) 0.2 upf lag/lead
		Test Of Influence Of Heating	IS 13779: 1999 Clause 12.7.5	Ambient to 60 °C
		Test Of Influence Of Immunity To Earth Fault	IS 13779: 1999 Clause 12.8	Visual (Qualitative)
		Radio Interference Measurement	IS 13779: 1999 Clause 12.9.5	150 kHz to 300 MHz
		Fast Transient Burst Test	IS 13779: 1999 Clause 12.9.4	Qualitative 4 kV

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	<b>AC Static Watthour Class 1 &amp; 2 Single / Three Phase</b>	Test Of Immunity To Electrostatic Discharges	IS 13779: 1999 Clause 12.9.2	Qualitative 8 kV Contact, 15 kV Air
		Test Of Immunity To Electromagnetic HF Field	IS 13779: 1999 (IEC61000-4-3:1995) Clause 12.9.3	Qualitative 10 V/m, 1 GHz
		Dry Heat Test	IS 13779: 1999 Clause 12.6.1	(-)40 °C to 300 °C
		Cold Test	IS 13779: 1999 Clause 12.6.2	(-)40 °C to 300 °C
		Damp Heat Cyclic Test	IS 13779: 1999 Clause 12.6.3	Ambient to 95 °C; RH: 15%-98%
		Vibration Test	IS 13779: 1999 Clause 12.3.2	5 Hz to 3000 Hz; 70 g (max)
		Spring Hammer Test	IS 13779: 1999 Clause 12.3.3	2.2 J
		Protection Against Penetration Of Dust & Water	IS 13779: 1999 Clause 12.5	IP51
		Test Of Resistance To Heat & Fire	IS 13779: 1999 Clause 12.4	100 °C to 960 °C
	General & Constructional Requirements	IS 13779: 1999 Clause 6.0-6.11 & 7.0 – 7.2	Visual (Qualitative)	

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2.	<b>Ac Static Transformer Operated Watthour &amp; VAR-Hour Meters Clause. 0.2s &amp; 0.5s Single / Three Phase</b>	Impulse Voltage	IS 14697: 1999 Clause 12.7.6.2	Upto 6.6 kV
Ac High Voltage Test		IS 14697: 1999 Clause 12.7.6.3	Upto 5 kV ac, 50 Hz	
Insulation Resistance Test		IS 14697: 1999 Clause 12.7.6.4	500 k $\Omega$ to 2x10 <sup>16</sup> $\Omega$	
Test On Limits Of Error		IS 14697: 1999 Clause 11.1	40 V to 300 V, 45 Hz to 55 Hz, 2 mA to 120 A) 0.2 upf lag/lead	
Interpretation Of Test Results		IS 14697: 1999 Clause 12.15	Qualitative	
Test Of Meter Constant		IS 14697: 1999 Clause 12.14	1 A to 100 A (Ib)	
Test Of Starting Condition		IS 14697: 1999 Clause 12.13	1 mA (min)	
Initial Start-Up Of Meter		IS 14697: 1999 Clause 11.4.1	Qualitative 50 V to 240 V AC, 1 s to 10 s	
Test For No Load Condition		IS 14697: 1999 Clause 12.12	Qualitative 50 V to 240VAC, 1 min to 200 min	
Test Of Ambient Temperature Influence	IS 14697: 1999 Clause 12.11	10 °C to 45 °C		
Test Of Repeatability Of Error	IS 14697: 1999 Clause 12.16	50 mA to 120 A		

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	<b>Ac Static Transformer Operated Watthour &amp; VAR-Hour Meters Clause. 0.2s &amp; 0.5s Single / Three Phase</b>	Test Of Influence Quantities Voltage Variation Frequency Variation Waveform 10% Of 3 <sup>rd</sup> Harmonic In Current Circuit Dc & Even Harmonics In Ac Current Circuit Magnetic Influence EMHF Test	IS 14697: 1999 Clause 12.10	40 V to 400 V, 50 mA to 120 A
		Test Of Power Consumption Test	IS 14697: 1999 Clause 12.7.1	0.05 W to 20 W 0.05 VA to 20 VA
		Test Of Influence Of Supply Voltage	IS 14697: 1999 Clause 12.7.2	Qualitative 40 V to 400 V, 10 ms to 1s
		Test Of Influence Short-Time Over Currents	IS 14697: 1999 Clause 12.7.3	Qualitative 20 A to 500 A, 10 ms (±) 5 ms
		Test Of Influence Of Self Heating	IS 14697: 1999 Clause 12.7.4	40 V to 300 V, 45 Hz to 55 Hz, 2 mA to 120 A) 0.2 upf lag/lead
		Test Of Influence Of Heating	IS 14697: 1999 Clause 12.7.5	Ambient to 60 °C
		Test Of Influence Of Immunity To Earth Fault	IS 14697: 1999 Clause 12.17	Visual (Qualitative)
		Radio Interference Measurement	IS 14697: 1999 Clause 12.9.5	30 kHz to 300 MHz

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	<b>Ac Static Transformer Operated Watthour &amp; VAR-Hour Meters Clause. 0.2s &amp; 0.5s Single / Three Phase</b>	Fast Transient Burst Test	IS 14697: 1999 Clause 12.9.4	Qualitative 4 kV
		Test Of Immunity To Electrostatic Discharges	IS 14697: 1999 Clause 12.9.2	Qualitative 8 kV Contact, 15 kV Air
		Test Of Immunity To Electromagnetic HF Field	IS 14697: 1999 (IEC61000-4-3:1995) Clause 12.9.3	Qualitative 10 V/m, 1 GHz
		Dry Heat Test	IS 14697: 1999 Clause 12.6.1	(-40 °C to 300 °C
		Cold Test	IS 14697: 1999 Clause 12.6.2	(-40 °C to 300 °C
		Damp Heat Cyclic Test	IS 14697: 1999 Clause 12.6.3	Ambient to 95 °C; RH: 15 % to 98 %
		Vibration Test	IS 14697: 1999 Clause 12.3.2	5 Hz to 3000 Hz; 70g (max)
		Spring Hammer Test	IS 14697: 1999 Clause 12.3.3	2.2 J
		Protection Against Penetration Of Dust & Water	IS 14697: 1999 Clause 12.5	Qualitative IP51
		Test Of Resistance To Heat & Fire	IS 14697: 1999 Clause 12.4	100 °C to 960 °C
	General & Constructional Requirements	IS 14697: 1999 Clause 6.0-6.11 & 7.0 – 7.2	Visual (Qualitative)	

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3.	<b>Electricity Metering Equipment (Ac) -Static Meters For Active Energy Clause 1 &amp; 2 Single / Three Phase</b>	Impulse Voltage	IEC 62053-21: 2003 (RD IEC 62052-11: 2003) Clause 7.3.2	Upto 6.6 kV
		Ac High Voltage Test	Clause 7.3.3	Upto 5 kV ac, 50 Hz
		Test Of Meter Constant	IEC 62053-21: 2003 (RD IEC 62052-11: 2003) Clause 8.4	1 A to 100 A (Ib)
		Test Of Starting Condition	IEC 62053-21: 2003 (RD IEC 62052-11: 2003) Clause 8.3.3	1 mA (min)
		Test For No Load Condition	IEC 62053-21: 2003 (RD IEC 62052-11: 2003) Clause 8.3.2	Qualitative 50 V to 240 V AC 1 min to 200 min.
		Test Of Ambient Temperature Influence	IEC 62053-21: 2003 (RD IEC 62052-11: 2003) Clause 8.2	0 °C to 70 °C
		Test Of Influence Quantities	IEC 62053-21: 2003 (RD IEC 62052-11: 2003) Clause 8.2	40 V to 400 V, 50 mA to 120 A
		Test Of Power Consumption Test	IEC 62053-21: 2003 (RD IEC 62052-11: 2003) Clause 7.1	0.05 W to 20 W 0.05 VA to 20 VA
	Test Of Influence Of Supply Voltage	IEC 62053-21: 2003 (RD IEC 62052-11: 2003) Clause 7.1.2	Qualitative 40 V to 400 V; 10 ms to 1 s	

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	<b>Electricity Metering Equipment (Ac) -Static Meters For Active Energy Clause. 1 &amp; 2 Single / Three Phase</b>	Test Of Influence Short-Time Over Currents	IEC 62053-21: 2003 (RD IEC 62052-11: 2003) Clause 7.2	Qualitative 20 A to 5000A; 10 ms ( $\pm$ ) 5 ms
		Test Of Influence Of Self Heating	IEC 62053-21: 2003 (RD IEC 62052-11: 2003) Clause 7.3	40 V to 300 V, 45 Hz to 55 Hz, 2 mA to 120 A) 0.2 upf lag/lead
		Test Of Influence Of Heating	IEC 62053-21: 2003 (RD IEC 62052-11: 2003) Clause 7.2	Ambient to 60 °C
		Test Of Influence Of Immunity To Earth Fault	IEC 62053-21: 2003 (RD IEC 62052-11: 2003) Clause 7.4	Visual (Qualitative)
		Radio Interference Measurement	IEC 62053-21: 2003 (RD IEC 62052-11: 2003) Clause 7.5.8	30 kHz to 300 MHz
		Fast Transient Burst Test	Clause 7.5.4	Qualitative 4 kV
		Surge Test	IEC 62053-21: 2003 (RD IEC 62052-11: 2003) Clause 7.5.6	Qualitative 6 kV
		Test Of Immunity To Electrostatic Discharges	IEC 62053-21: 2003 (RD IEC 62052-11: 2003) Clause 7.5.2	Qualitative 8 kV Contact, 15 kV Air
		Test Of Immunity To Electromagnetic HF Field	IEC 62053-21: 2003 (RD IEC 62052-11: 2003) (IEC61000-4-3:1995) Clause 7.5.3	Qualitative 10 V/m, 1 GHz



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	<b>Electricity Metering Equipment (Ac) -Static Meters For Active Energy Clause. 1 &amp; 2 Single / Three Phase</b>	Dry Heat Test	IEC 62053-21: 2003 (RD IEC 62052-11: 2003) Clause 6.3.1	(-)40 °C to 300 °C
		Cold Test	IEC 62053-21: 2003 (RD IEC 62052-11: 2003) Clause 6.3.2	(-)40 °C to 300 °C
		Damp Heat Cyclic Test	IEC 62053-21: 2003 (RD IEC 62052-11: 2003) Clause 6.3.3	Ambient to 95°C; RH: 15 % to 98 %
		Vibration Test	IEC 62053-21: 2003 (RD IEC 62052-11: 2003) Clause 5.2.2.3	5 Hz to 3000 Hz ; 70 g (max)
		Spring Hammer Test	IEC 62053-21: 2003 (RD IEC 62052-11: 2003) Clause 5.2.2.1	2.2 J
		Protection Against Penetration Of Dust & Water	IEC 62053-21: 2003 (RD IEC 62052-11: 2003) Clause 5.9	IP51
		Test of Resistance To Heat & Fire	IEC 62053-21: 2003 (RD IEC 62052-11: 2003) Clause 5.8	100 °C to 950 °C

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4.	<b>Electricity Metering Equipment (Ac) -Static Meters for Active Energy Clause 0.2 s &amp; 0.5 s Single / Three Phase</b>	Impulse Voltage	IEC 62053-22: 2003 (RD IEC 62052-11: 2003) Clause 7.3.2	Upto 6.6 kV
		Ac High Voltage Test	IEC 62053-22: 2003 (RD IEC 62052-11: 2003) Clause 7.3.3	Upto 5 kV ac, 50 Hz
		Test On Limits of Error	IEC 62053-22: 2003 (RD IEC 62052-11: 2003) Clause 8.1	40 V to 300 V, 45 Hz to 55 Hz, 2 mA to 120 A) 0.2 upf lag/lead
		Interpretation of Test Results	IEC 62053-22: 2003 (RD IEC 62052-11: 2003) Clause 8.6	NA
		Test of Meter Constant	IEC 62053-22: 2003 (RD IEC 62052-11: 2003) Clause 8.4	1 A to 100 A (Ib)
		Test of Starting Condition	IEC 62053-22: 2003 (RD IEC 62052-11: 2003) Clause 8.3.3	1 mA (min)
		Test for No Load Condition	IEC 62053-22: 2003 (RD IEC 62052-11: 2003) Clause 8.3.2	Qualitative 50 V to 240 VAC 1 min to 200 min.
		Test Of Ambient Temperature Influence	IEC 62053-22: 2003 (RD IEC 62052-11: 2003) Clause. 8.2	0 to 70 °C
	Test Of Influence Quantities	IEC 62053-22: 2003 (RD IEC 62052-11: 2003) Clause 8.2	40 V to 400 V, 50 mA to 120 A	

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	<b>Electricity Metering Equipment (Ac) -Static Meters for Active Energy Clause 0.2 s &amp; 0.5 s Single / Three Phase</b>	Test Of Power Consumption Test	IEC 62053-22: 2003 (RD IEC 62052-11: 2003) Clause 7.1	0.05 W to 20 W 0.05 VA to 20 VA
		Test Of Influence Of Supply Voltage	IEC 62053-22: 2003 (RD IEC 62052-11: 2003) Clause 7.1.2	Qualitative 40 V to 400 V; 10 ms to 1 s
		Test Of Influence Short-Time Over Currents	IEC 62053-22: 2003 (RD IEC 62052-11: 2003) Clause 7.2	Qualitative 20 A to 5000 A; 10 ms ( $\pm$ ) 5 ms
		Test Of Influence Of Self Heating	IEC 62053-22: 2003 (RD IEC 62052-11: 2003) Clause 7.3	40 V to 300 V, 45 Hz to 55 Hz, 2 mA to 120 A) 0.2 upf lag/lead
		Test Of Influence Of Heating	IEC 62053-22: 2003 (RD IEC 62052-11: 2003) Clause 7.2	Ambient to 60 °C
		Test Of Influence Of Immunity To Earth Fault	IEC 62053-22: 2003 (RD IEC 62052-11: 2003) Clause 7.4	Visual (Qualitative)
		Radio Interference Measurement	IEC 62053-22: 2003 (RD IEC 62052-11: 2003) Clause 7.5.8	30 kHz to 300 MHz
		Fast Transient Burst Test	IEC 62053-22: 2003 (RD IEC 62052-11: 2003) Clause 7.5.4	Qualitative 4 kV
	Surge Test	IEC 62053-22: 2003 (RD IEC 62052-11: 2003) Clause 7.5.6	Qualitative 6 kV	

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	<b>Electricity Metering Equipment (Ac) -Static Meters for Active Energy Clause 0.2 s &amp; 0.5 s Single / Three Phase</b>	Test Of Immunity To Electrostatic Discharges	IEC 62053-22: 2003 (RD IEC 62052-11: 2003) Clause 7.5.2	Qualitative 8 kV Contact, 15 kV Air
		Test Of Immunity To Electromagnetic HF Field (IEC61000-4-3:1995)	IEC 62053-22: 2003 (RD IEC 62052-11: 2003) Clause 7.5.3	Qualitative 10 V/m, 1 GHz
		Dry Heat Test	IEC 62053-22: 2003 (RD IEC 62052-11: 2003) Clause 6.3.1	(-)40 °C to 300 °C
		Cold Test	IEC 62053-22: 2003 (RD IEC 62052-11: 2003) Clause 6.3.2	(-)40 °C to 300 °C
		Damp Heat Cyclic Test	IEC 62053-22: 2003 (RD IEC 62052-11: 2003) Clause 6.3.3	Ambient to 95 °C; RH: 15 % to 98 %
		Vibration Test	IEC 62053-22: 2003 (RD IEC 62052-11: 2003) Clause 5.2.2.3	5 Hz to 3000 Hz; 70 g (max)
		Spring Hammer Test	IEC 62053-22: 2003 (RD IEC 62052-11: 2003) Clause 5.2.2.1	2.2 J
		Protection Against Penetration Of Dust & Water	IEC 62053-22: 2003 (RD IEC 62052-11: 2003) Clause 5.9	IP51
	Test Of Resistance To Heat & Fire	IEC 62053-22: 2003 (RD IEC 62052-11: 2003) Clause 5.8	100 °C to 950 °C	

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<b>S. No.</b>	<b>Product / Material of Test</b>	<b>Specific Test Performed</b>	<b>Test Method Specification against which tests are performed</b>	<b>Range of Testing / Limits of Detection</b>
<b>II.</b>	<b>AUDIO EQUIPMENT</b>			
<b>1.</b>	<b>Hearing Aids</b>	Maximum Saturation Sound Pressure Level	IS 10775: 1984 (Table. 1) Sl.No.1	Upto 140 dB
		H.F Average OSPL 90	IS 10775: 1984 (Table. 1) Sl.No.2	Upto 140 dB
		Full On Acoustics Gain	IS 10775: 1984 (Table. 1) Sl.No.3	Upto 140 dB
		HF Average Full On Gain	IS 10775: 1984 (Table. 1) Sl.No.4	
		Basic Frequency Response Comprehensive Frequency Response	IS 10775: 1984 (Table. 1) Sl.No.5	Upto 9900 Hz
		Frequency Range	IS 10775: 1984 (Table. 1) Sl.No.6	Upto 9900 Hz
		Effect Of Gain Control Position	IS 10775: 1984 (Table. 1) Sl.No.7	Upto 140 dB
		Effect Of Tone Control Position	IS 10775: 1984 (Table. 1) Sl.No.8	Upto 140 dB
		Effect On The Full On Acoustic Gain	IS 10775: 1984 (Table. 1) Sl.No.9	Upto 140 dB
		Total Harmonic Distortion	IS 10775: 1984 (Table. 1) Sl.No.10	0.5 kHz to 1.5 kHz
		Inter Modulation / Distortion	IS 10775: 1984 (Table. 1) Sl.No.11	Upto 9900 Hz

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<b>S. No.</b>	<b>Product / Material of Test</b>	<b>Specific Test Performed</b>	<b>Test Method Specification against which tests are performed</b>	<b>Range of Testing / Limits of Detection</b>
	<b>Hearing Aids</b>	Effect Of Variation On Battery Voltage	IS 10775: 1984 (Table. 1) Sl.No.12	1 V & 1.5 V DC @ 500 Hz, 1000 Hz , 1600 Hz
		Internal Noise	IS 10775: 1984 (Table. 1) Sl.No.13	90 dB
		Battery Current	IS 10775: 1984 (Table. 1) Sl.No.14	15 mA (max)
		Induction Coil Sensitivity	IS 10775: 1984 (Table. 1) Sl.No.15	120 dB
		Dry Heat	IS 10775: 1984 (Table. 1) Sl.No.17.(I).A	40 °C
		Damp Heat (Cycling)	IS 10775: 1984 (Table. 1) Sl.No.17.(I).B	40 °C, 95 % RH
		Drop Test	IS 10775: 1984 (Table. 1) Sl.No.17.(II)	6 drops
<b>III. POWER SUPPLIES &amp; STABILIZERS</b>				
<b>1.</b>	<b>Automatic Line Voltage Corrector</b>	Construction	IS 8448: 1989 Clause 6.1- 6.7	Visual (Qualitative)
		Terminal Marking	IS 8448: 1989 Clause 10	Visual (Qualitative)
		Marking	IS 8448: 1989 Clause 11	Visual (Qualitative)

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<b>S. No.</b>	<b>Product / Material of Test</b>	<b>Specific Test Performed</b>	<b>Test Method Specification against which tests are performed</b>	<b>Range of Testing / Limits of Detection</b>
	<b>Automatic Line Voltage Corrector</b>	Output Voltage	IS 8448: 1989 Clause 12.3	Upto 600 V DC & AC
		Insulation Resistance	IS 8448: 1989 Clause 12.4	500 k $\Omega$ to 2 x 10 <sup>16</sup> $\Omega$
		Temperature Rise Test	IS 8448: 1989 Clause 12.7	Upto 200°C, 10 A
		High Voltage Test	IS 8448: 1989 Clause 12.5	1 kV to 5 kV AC 1 kV to 7.5 kV DC
		No Load Current	IS 8448: 1989 Clause 12.6	Upto 10 A AC
		Protection Against Electric Shock	IS 8448: 1989 Clause 7.1	Qualitative 40 V to 75 V
		Leakage Current	IS 8448: 1989 Clause 7.2	210 $\mu$ A (min)
		Stability	IS 8448: 1989 Clause 7.3	Qualitative Upto 600 V
		Provision For Earthing	IS 8448: 1989 Clause 7.5	0.01 $\Omega$ to 10 $\Omega$
		Screws And Connection	IS 8448: 1989 Clause 7.6	Upto 1.5 Nm
		Creepage Distance And Clearance	IS 8448: 1989 Clause 7.7	Upto 300 mm
		Damp Heat	IS 8448: 1989 Clause 12.9	40 °C,95 % RH

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<b>S. No.</b>	<b>Product / Material of Test</b>	<b>Specific Test Performed</b>	<b>Test Method Specification against which tests are performed</b>	<b>Range of Testing / Limits of Detection</b>
<b>IV. ENVIRONMENTAL TEST FACILITY</b>				
<b>1.</b>	<b>Environmental Test Facility</b>	Dry heat	IEC 60068-2-2: 2007 IS 9000:1997 Part 3 Sec 1 to 5	Ambient to 300 °C
		Cold	IEC 60068-2-1: 2007 IS 9000:1979 Part 2 Sec 1 to 4	Up to -40 °C
		Humidity (steady state)	IEC 60068-2-67: 2007 IS 9000:2008 Part IV	Ambient to 80 °C RH 20% to 95%
		Humidity (Cyclic)	IEC 60068-2-30: 2007 IS 9000:1981 Part V Sec 1 & 2	
		Sand & Dust	IEC 60068-2-68: 2007 IS 9000 Part XII: 1981	Ambient to 60 °C
		Salt spray	IEC 60068-2-11: 2007 IS 9000: Part11:1983	Up to 55 °C As per ASTM Std
		Vibration (Sinusoidal)	IEC60068-2-6: 2007 IS 9000:1981 Part VIII: 1981	Frequency range: 5 Hz to 3000 Hz Displacement : 51 mm (p-p) Velocity: 1.6m/sec Acceleration: 100g(max)
		Vibration (Random)	IEC 60068-2-55: 2007	Freq: 10Hz to 2000 Hz Acceleration : up to 100 g
		Bump	IEC 60068-2-27:2007 IS 9000: 2006 Part VII Sec 2	Variable up to 100g 1 to 4 bumps/sec
		Drop & Topple	IEC 60068-2-31:2007 IS 9000: 2006 Part VII Sec 3	Up to 100mm



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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	<b>Environmental Test Facility</b>	Free fall	IEC 60068-2-32:1980 IS 9000: 2006 Part VII Sec 4	Up to 1m on 13 mm steel/ thick wooden plate
		Freefall, repeated	IEC 60068-2-32:1980 IS 9000: 2006 Part VII Sec 5	Up to 1m
		Ingress Protection	IEC 60529/ IEC 60947	1X to 6X X1 to X8
<b>V.</b>	<b>EMC TEST FACILITY</b>			
<b>1.</b>	<b>EMI/EMC Testing</b>	Radio Interference Measurement	IS 13779: 1999 IS 6842: 1997/ CISPR-22:2008	Freq:150 kHz to 30 MHz
		<b>Disturbance Voltage</b>		
		Radiated Power	CISPR-14-1:2011	Freq: 30 MHZ to 300 MHZ
		Electrostatic Discharge	IS 13779: 1999/ IEC 61000-4-2: 2008	Air: 0.2kV to 16.5 kV Contact: 0.2kV to 9 kV
		Electric Fast Transient (Burst)	IS 13779: 1999/ IEC 61000-4-4: 2012	250V to 4.4kV; Waveform:5/50ns Burst Period:300ms
		Surge	IEC 61000-4-5:2014	Open circuit voltage: 250V to 6kV Waveform: 1.2/50µs Short circuit current: 125A to 3.3kA Waveform:8/20µs
		Dips & Interrupts (PQF)	IEC 61000-4-11:2004	50VAC to 277 VAC
	Power Frequency Magnetic Field	IEC 61000-4-8:2009	Output voltage: 4V AC max without load; Max field: up to 1000A/m continuous, 300A, 1000A/m short duration	

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