

Laboratory **SGS India Private Limited, Electrical & Electronics Testing Laboratory - Consumer and Retail, # 38/1 & 38/2, NH-7, Beratena Agrahara, Bommanahalli, Hosur Road, Bangalore, Karnataka**

Accreditation Standard **ISO/IEC 17025: 2005**

Certificate Number **TC-5096 (In lieu of T-3893 & T-3206)**

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Validity **05.05.2016 to 21.04.2018**

Last Amended on 30.06.2017

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
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ELECTRICAL TESTING

I. DOMESTIC ELECTRICAL APPLIANCES				
1.	Household Appliances	Marking	IEC 60335-1: 2010+A1: 2013 EN 60335-1: 2002 +A1+ A11: 2004+A12: 2006+A13: 2008+A14: 2010+A15: 2011, IS 302: Part 1:2008+A1:2009+A2:2013 Clause 7 IEC 60335-2-7: 2008+A1: 2011 BS EN 60335-2-7: 2010 +A11: 2013 IS 302-2-7: 2010 Clause 7 IEC 60335-2-14: 2006+A1: 2008 +A2: 2012 BS EN 60335-2-14: 2006+A1: 2008 IS 302-2-14: 2009 Clause 7 IEC 60335-2-24: 2010+A1: 2012 BS EN 60335-2-24: 2010 IS 302-2-24: 1994 Clause 7 IEC 60335-2-25:2010 +A1:2014 BS EN 60335-2-25: 2012 IS 302-2-25:2014 Clause 7	Qualitative 0.1 sec to 999 sec Visual Inspection

Neeraj Verma
Convenor

N. Venkateswaran
Program Director

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		Protection against access to live parts	IEC 60335-1: 2010+A1: 2013 EN 60335-1: 2002 +A1+A11: 2004+A12: 2006+A13: 2008+A14: 2010+A15: 2011 IS 302: Part 1:2008+A1:2009+A2:2013 Clause 8 IEC 60335-2-7: 2008+A1: 2011 BS EN 60335-2-7: 2010 +A11: 2013 IS 302-2-7: 2010 Clause 8 IEC 60335-2-14: 2006+A1: 2008 +A2: 2012 BS EN 60335-2-14: 2006+A1: 2008 IS 302-2-14: 2009 Clause 8 IEC 60335-2-24: 2010+A1: 2012 BS EN 60335-2-24: 2010 IS 302-2-24: 1994 Clause 8 IEC 60335-2-25:2010 +A1:2014 BS EN 60335-2-25: 2012 IS 302-2-25:2014 Clause 8	Test probe B of IEC 61032 Up to 30N Test probe 13 of IEC 61032 0.1 to 400V(p-p) 40V– 50V AC (±0.8 V) Nominal 42.54V AC Visual inspection
		Power Input and Current	IEC 60335-1: 2010+A1: 2013 EN 60335-1: 2002 +A1+A11: 2004+A12: 2006+A13:	Current: 1 mA to 20 A (AC & DC Current)

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			2008+A14: 2010+A15: 2011 IS 302: Part 1:2008+A1:2009+A2:2013 Clause 10 IEC 60335-2-7: 2008+A1: 2011 BS EN 60335-2-7: 2010 +A11: 2013 IS 302-2-7: 2010 Clause 10 IEC 60335-2-14: 2006+A1: 2008 +A2: 2012 BS EN 60335-2-14: 2006+A1: 2008 IS 302-2-14: 2009 Clause 10 IEC 60335-2-24: 2010+A1: 2012 BS EN 60335-2-24: 2010 IS 302-2-24: 1994 Clause 10 IEC 60335-2-25:2010 +A1:2014 BS EN 60335-2-25: 2012 IS 302-2-25:2014 Clause 10	Voltage: 0.15 V to 600 V (AC & DC Voltage) Power: 0.2 mW to 3000 W (AC & DC Power) Frequency: 1-999.9Hz 200g to 100 Kg
		Heating Test & Heating under normal operating conditions	IEC 60335-1: 2010+A1: 2013 EN 60335-1: 2002 +A1+ A11: 2004+A12: 2006+A13: 2008+A14: 2010+A15: 2011 IS 302: Part 1:2008+A1:2009+A2:2013	AC & DC Current: 1 mA to 20 A AC & DC Voltage: 0.15 V to 600 V AC & DC Power: 0.2 mW to 3000 W Frequency: 1-999.9Hz

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			Clause 11 IEC 60335-2-7: 2008+A1: 2011 BS EN 60335-2-7: 2010 +A11: 2013 IS 302-2-7: 2010 Clause 11 IEC 60335-2-14: 2006+A1: 2008 +A2: 2012 BS EN 60335-2-14: 2006+A1: 2008 IS 302-2-14: 2009 Clause 11 IEC 60335-2-24: 2010+A1: 2012 BS EN 60335-2-24: 2010 IS 302-2-24: 1994 Clause 11 IEC 60335-2-25:2010 +A1:2014 BS EN 60335-2-25: 2012 IS 302-2-25:2014 Clause 11	0 - 300°C Ambient to 245°C 200g to 100 Kg 0.1s to 9999s Ambient to 100°C
		Leakage current test	IEC 60335-1: 2010+A1: 2013 EN 60335-1: 2002 +A1+ A11: 2004+A12: 2006+A13: 2008+A14: 2010+A15: 2011 IS 302: Part 1:2008+A1:2009+A2:2013 Clause 13.2 IEC 60335-2-7: 2008+A1: 2011 BS EN 60335-2-7: 2010	0.001mA to 50mA 200g to 100 Kg

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			+A11: 2013 IS 302-2-7: 2010 Clause 13.2 IEC 60335-2-14: 2006+A1: 2008 +A2: 2012 BS EN 60335-2-14: 2006+A1: 2008 IS 302-2-14: 2009 Clause 13.2 IEC 60335-2-24: 2010+A1: 2012 BS EN 60335-2-24: 2010 IS 302-2-24: 1994 Clause 13.2 IEC 60335-2-25:2010 +A1:2014 BS EN 60335-2-25: 2012 IS 302-2-25:2014 Clause 13.2	
		Dielectric Strength Test at operating temperature	IEC 60335-1: 2010+A1: 2013 EN 60335-1: 2002 +A1+ A11: 2004+A12: 2006+A13: 2008+A14: 2010+A15: 2011 IS 302: Part 1:2008+A1:2009+A2:2013 Clause 13.3 IEC 60335-2-7: 2008+A1: 2011 BS EN 60335-2-7: 2010 +A11: 2013 IS 302-2-7: 2010 Clause 13.3 IEC 60335-2-14: 2006+A1:	0.00 kV to 6.00 kV (AC Volatge) 200 mA of AC leakage current 0.1 sec to 999 sec Visual Inspection

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			2008 +A2: 2012 BS EN 60335-2-14: 2006+A1: 2008 IS 302-2-14: 2009 Clause 13.3 IEC 60335-2-24: 2010+A1: 2012 BS EN 60335-2-24: 2010 IS 302-2-24: 1994 Clause 13.3 IEC 60335-2-25:2010 +A1:2014 BS EN 60335-2-25: 2012 IS 302-2-25:2014 Clause 13.3	
		Moisture resistance	IEC 60335-1: 2010+A1: 2013 EN 60335-1: 2002 +A1+ A11: 2004+A12: 2006+A13: 2008+A14: 2010+A15: 2011 IS 302: Part 1:2008+A1:2009+A2:2013 Clause 15 IEC 60335-2-7: 2008+A1: 2011 BS EN 60335-2-7: 2010 +A11: 2013 IS 302-2-7: 2010 Clause 15 IEC 60335-2-14: 2006+A1: 2008 +A2: 2012 BS EN 60335-2-14: 2006+A1: 2008 IS 302-2-14: 2009	-70 °C to +180 °C 10 % Rh to 98 % Rh

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			Clause 15 IEC 60335-2-24: 2010+A1: 2012 BS EN 60335-2-24: 2010 IS 302-2-24: 1994 Clause 15 IEC 60335-2-25:2010 +A1:2014 BS EN 60335-2-25: 2012 IS 302-2-25:2014 Clause 15	
		Leakage current test	IEC 60335-1: 2010+A1: 2013 EN 60335-1: 2002 +A1+ A11: 2004+A12: 2006+A13: 2008+A14: 2010+A15: 2011 IS 302: Part 1:2008+A1:2009+A2:2013 Clause 16.2 IEC 60335-2-7: 2008+A1: 2011 BS EN 60335-2-7: 2010 +A11: 2013 IS 302-2-7: 2010 Clause 16.2 IEC 60335-2-14: 2006+A1: 2008 +A2: 2012 BS EN 60335-2-14: 2006+A1: 2008 IS 302-2-14: 2009 Clause 16.2 IEC 60335-2-24: 2010+A1: 2012 BS EN 60335-2-24: 2010	0.005 to 50 mA R: 600ohms to 60Mohms 200g to 100 Kg 0.1 sec to 999 sec

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			IS 302-2-24: 1994 Clause 16.2 IEC 60335-2-25:2010 +A1:2014 BS EN 60335-2-25: 2012 IS 302-2-25:2014 Clause 16.2	
		Dielectric strength test	IEC 60335-1: 2010+A1: 2013 EN 60335-1: 2002 +A1+ A11: 2004+A12: 2006+A13: 2008+A14: 2010+A15: 2011 IS 302: Part 1:2008+A1:2009+A2:2013 Clause 16.3 IEC 60335-2-7: 2008+A1: 2011 BS EN 60335-2-7: 2010 +A11: 2013 IS 302-2-7: 2010 Clause 16.3 IEC 60335-2-14: 2006+A1: 2008 +A2: 2012 BS EN 60335-2-14: 2006+A1: 2008 IS 302-2-14: 2009 Clause 16.3 IEC 60335-2-24: 2010+A1: 2012 BS EN 60335-2-24: 2010 IS 302-2-24: 1994 Clause 16.3 IEC 60335-2-25:2010 +A1:2014	0.00 kV to 6.00 kV (AC Volatge) 200 mA of AC leakage current 0.1 sec to 999 sec Visual Inspection

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			BS EN 60335-2-25: 2012 IS 302-2-25:2014 Clause 16.3	
		Overload protection of transformer & associated circuits	IEC 60335-1: 2010+A1: 2013 EN 60335-1: 2002 +A1+ A11: 2004+A12: 2006+A13: 2008+A14: 2010+A15: 2011 IS 302: Part 1:2008+A1:2009+A2:2013 Clause 17 IEC 60335-2-7: 2008+A1: 2011 BS EN 60335-2-7: 2010 +A11: 2013 IS 302-2-7: 2010 Clause 17 IEC 60335-2-14: 2006+A1: 2008 +A2: 2012 BS EN 60335-2-14: 2006+A1: 2008 IS 302-2-14: 2009 Clause 17 IEC 60335-2-24: 2010+A1: 2012 BS EN 60335-2-24: 2010 IS 302-2-24: 1994 Clause 17 IEC 60335-2-25:2010 +A1:2014 BS EN 60335-2-25: 2012 IS 302-2-25:2014 Clause 17	AC Current: 5mA to 20A AC Power: 15W to 12000W AC & DC Voltage:15V to 600V Current: 1 mA to 20 A (AC & DC Current) Voltage: 0.15 V to 600 V (AC & DC Voltage) Power: 0.2 mW to 3000 W (AC & DC Power) 1-999.9Hz 200g to 100 Kg

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Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Abnormal operation	IEC 60335-1: 2010+A1: 2013 EN 60335-1: 2002 +A1+ A11: 2004+A12: 2006+A13: 2008+A14: 2010+A15: 2011 IS 302: Part 1:2008+A1:2009+A2:2013 Clause 19 IEC 60335-2-7: 2008+A1: 2011 BS EN 60335-2-7: 2010 +A11: 2013 IS 302-2-7: 2010 Clause 19 IEC 60335-2-14: 2006+A1: 2008 +A2: 2012 BS EN 60335-2-14: 2006+A1: 2008 IS 302-2-14: 2009 Clause 19 IEC 60335-2-24: 2010+A1: 2012 BS EN 60335-2-24: 2010 IS 302-2-24: 1994 Clause 19 IEC 60335-2-25:2010 +A1:2014 BS EN 60335-2-25: 2012 IS 302-2-25:2014 Clause 19	AC Current: 5mA to 20A AC Power: 15W to 12000W AC & DC Voltage:15V to 600V 0 to 300 ° 200g to 100 Kg VAC& DC: 0 to1000 V IAC&DC : 0 to 10 A Resistance : 0 to 50 MΩ Capacitance : 0 to 9.999 μF Frequency : 0 to 200 kHz 0.1 sec to 999 sec Visual Inspection
		Stability Test	IEC 60335-1: 2010+A1: 2013 EN 60335-1: 2002 +A1+ A11: 2004+A12: 2006+A13:	0.1 to 360° Test probe B of IEC 61032 Up to 30N 1 to 500N

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			2008+A14: 2010+A15: 2011 IS 302: Part 1:2008+A1:2009+A2:2013 Clause 20.1 IEC 60335-2-7: 2008+A1: 2011 BS EN 60335-2-7: 2010 +A11: 2013 IS 302-2-7: 2010 Clause 20.1 IEC 60335-2-14: 2006+A1: 2008 +A2: 2012 BS EN 60335-2-14: 2006+A1: 2008 IS 302-2-14: 2009 Clause 20.1 IEC 60335-2-24: 2010+A1: 2012 BS EN 60335-2-24: 2010 IS 302-2-24: 1994 Clause 20.1 IEC 60335-2-25:2010 +A1:2014 BS EN 60335-2-25: 2012 IS 302-2-25:2014 Clause 20.1	
		Impact Test	IEC 60335-1: 2010+A1: 2013 EN 60335-1: 2002 +A1+ A11: 2004+A12: 2006+A13: 2008+A14: 2010+A15: 2011 IS 302: Part 1:2008+A1:2009+A2:2013	0.2 to 1 joules 50 mm / 500 g Visual Inspection Up to 500 N Qualitative

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			Clause 21.1 IEC 60335-2-7: 2008+A1: 2011 BS EN 60335-2-7: 2010 +A11: 2013, IS 302-2-7: 2010, Clause 21.1 IEC 60335-2-14: 2006+A1: 2008 +A2: 2012 BS EN 60335-2-14: 2006+A1: 2008 IS 302-2-14: 2009 Clause 21.1 IEC 60335-2-24: 2010+A1: 2012 BS EN 60335-2-24: 2010 IS 302-2-24: 1994 Clause 21.1 IEC 60335-2-25:2010 +A1:2014 BS EN 60335-2-25: 2012 IS 302-2-25:2014 Clause 21.1	0.1 to 360° 0.1 sec to 999 sec
		Torque test (socket outlets)	IEC 60335-1: 2010+A1: 2013 EN 60335-1: 2002 +A1+ A11: 2004+A12: 2006+A13: 2008+A14: 2010+A15: 2011, IS 302: Part 1:2008+A1:2009+A2:2013 Clause 22.3 IEC 60335-2-24: 2010+A1: 2012 BS EN 60335-2-24: 2010 IS 302-2-24: 1994 Clause 22.3	10 to 500 cN.m 0-200mm ±0.02mm 1 to 500 N 0 - 300°C

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		Capacitance discharge Test	IEC 60335-1: 2010+A1: 2013 EN 60335-1: 2002 +A1+ A11: 2004+A12: 2006+A13: 2008+A14: 2010+A15: 2011 IS 302: Part 1:2008+A1:2009+A2:2013 Clause 22.5	0.1 to 400V(p-p) BW : 500 MHz
		Construction Push pull test	IEC 60335-1: 2010+A1: 2013 EN 60335-1: 2002 +A1+ A11: 2004+A12: 2006+A13: 2008+A14: 2010+A15: 2011 IS 302: Part 1:2008+A1:2009+A2:2013 Clause 22.11 IEC 60335-2-7: 2008+A1: 2011 BS EN 60335-2-7: 2010 +A11: 2013 IS 302-2-7: 2010 Clause 22.11 IEC 60335-2-14: 2006+A1: 2008 +A2: 2012 BS EN 60335-2-14: 2006+A1: 2008 IS 302-2-14: 2009 Clause 22.11 IEC 60335-2-24: 2010+A1: 2012 BS EN 60335-2-24: 2010 IS 302-2-24: 1994 Clause 22.11	0.2 to 5.0 Nm 1 to 500 N 0.1 sec to 999 sec

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			IEC 60335-2-25:2010 +A1:2014 BS EN 60335-2-25: 2012 IS 302-2-25:2014 Clause 22.11	
		Dielectric strength test	IEC 60335-1: 2010+A1: 2013 EN 60335-1: 2002 +A1+ A11: 2004+A12: 2006+A13: 2008+A14: 2010+A15: 2011, IS 302: Part 1:2008+A1:2009+A2:2013 Clause 25.2 IEC 60335-2-7: 2008+A1: 2011 BS EN 60335-2-7: 2010 +A11: 2013 IS 302-2-7: 2010 Clause 25.2 IEC 60335-2-14: 2006+A1: 2008 +A2: 2012 BS EN 60335-2-14: 2006+A1: 2008 IS 302-2-14: 2009 Clause 25.2 IEC 60335-2-24: 2010+A1: 2012 BS EN 60335-2-24: 2010 IS 302-2-24: 1994 Clause 25.2 IEC 60335-2-25:2010 +A1:2014 BS EN 60335-2-25: 2012 IS 302-2-25:2014 Clause 25.2	0.00 kV to 6.00 kV (AC Volatge) 200 mA of AC leakage current 0.1 sec to 999 sec Visual Inspection

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		Pull test	IEC 60335-1: 2010+A1: 2013 EN 60335-1: 2002 +A1+ A11: 2004+A12: 2006+A13: 2008+A14: 2010+A15: 2011 IS 302: Part 1:2008+A1:2009+A2:2013 Clause 26.10 IEC 60335-2-7: 2008+A1: 2011 BS EN 60335-2-7: 2010 +A11: 2013 IS 302-2-7: 2010 Clause 26.10 IEC 60335-2-14: 2006+A1: 2008 +A2: 2012 BS EN 60335-2-14: 2006+A1: 2008 IS 302-2-14: 2009 Clause 26.10 IEC 60335-2-24: 2010+A1: 2012 BS EN 60335-2-24: 2010 IS 302-2-24: 1994 Clause 26.10 IEC 60335-2-25:2010 +A1:2014 BS EN 60335-2-25: 2012 IS 302-2-25:2014 Clause 26.10	Up to 500 N Qualitative
		Earthing Test	IEC 60335-1: 2010+A1: 2013 EN 60335-1: 2002 +A1+ A11: 2004+A12: 2006+A13:	3.0 to 30A , 0.0 to 12 V 0 to 1.2 Ω 0 – 999sec

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			2008+A14: 2010+A15: 2011 IS 302: Part 1:2008+A1:2009+A2:2013 Clause 27 IEC 60335-2-7: 2008+A1: 2011 BS EN 60335-2-7: 2010 +A11: 2013 IS 302-2-7: 2010 Clause 27 IEC 60335-2-14: 2006+A1: 2008 +A2: 2012 BS EN 60335-2-14: 2006+A1: 2008 IS 302-2-14: 2009 Clause 27 IEC 60335-2-24: 2010+A1: 2012 BS EN 60335-2-24: 2010 IS 302-2-24: 1994 Clause 27 IEC 60335-2-25:2010 +A1:2014 BS EN 60335-2-25: 2012 IS 302-2-25:2014 Clause 27	3 A to 40 A 0.01 to 1.2 Ω 0.1 sec to 999 sec
		Screws and connections	IEC 60335-1: 2010+A1: 2013 EN 60335-1: 2002 +A1+ A11: 2004+A12: 2006+A13: 2008+A14: 2010+A15: 2011 IS 302: Part 1:2008+A1:2009+A2:2013	20 to 120 cN.m 100 to 500 cN.m 0 to 100 cN.m

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			Clause 28 IEC 60335-2-7: 2008+A1: 2011 BS EN 60335-2-7: 2010 +A11: 2013 IS 302-2-7: 2010 Clause 28 IEC 60335-2-14: 2006+A1: 2008 +A2: 2012 BS EN 60335-2-14: 2006+A1: 2008 IS 302-2-14: 2009 Clause 28 IEC 60335-2-24: 2010+A1: 2012 BS EN 60335-2-24: 2010 IS 302-2-24: 1994 Clause 28 IEC 60335-2-25:2010 +A1:2014 BS EN 60335-2-25: 2012 IS 302-2-25:2014 Clause 28	
		Working Voltage measurement Test	IEC 60335-1: 2010+A1: 2013 EN 60335-1: 2002 +A1+ A11: 2004+A12: 2006+A13: 2008+A14: 2010+A15: 2011 IS 302: Part 1:2008+A1:2009+A2:2013 Clause 29.1 and 29.3 IEC 60335-2-7: 2008+A1: 2011 BS EN 60335-2-7: 2010	0.1 to 400V(p-p) BW : 500 MHz 0-200mm ±0.02mm

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			+A11: 2013 IS 302-2-7: 2010 Clause 29.1 and 29.3 IEC 60335-2-14: 2006+A1: 2008 +A2: 2012 BS EN 60335-2-14: 2006+A1: 2008 IS 302-2-14: 2009 Clause 29.1 and 29.3 IEC 60335-2-24: 2010+A1: 2012 BS EN 60335-2-24: 2010 IS 302-2-24: 1994 Clause 29.1 and 29.3 IEC 60335-2-25:2010 +A1:2014 BS EN 60335-2-25: 2012 IS 302-2-25:2014 Clause 29.1 and 29.3	
		Clearances, Creepage distances and distances through insulation	IEC 60335-1: 2010+A1: 2013 EN 60335-1: 2002 +A1+ A11: 2004+A12: 2006+A13: 2008+A14: 2010+A15: 2011 IS 302: Part 1:2008+A1:2009+A2:2013 Clause 29.1 and 29.3 IEC 60335-2-7: 2008+A1: 2011 BS EN 60335-2-7: 2010 +A11: 2013 IS 302-2-7: 2010 Clause 29.1 and 29.3 IEC 60335-2-14: 2006+A1:	0-200mm ±0.02mm

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			2008 +A2: 2012 BS EN 60335-2-14: 2006+A1: 2008 IS 302-2-14: 2009 Clause 29.1 and 29.3 IEC 60335-2-24: 2010+A1: 2012 BS EN 60335-2-24: 2010 IS 302-2-24: 1994 Clause 29.1 and 29.3 IEC 60335-2-25:2010 +A1:2014 BS EN 60335-2-25: 2012 IS 302-2-25:2014 Clause 29.1 and 29.3	
		Accessibility test	IEC 60335-1: 2010+A1: 2013 EN 60335-1: 2002 +A1+ A11: 2004+A12: 2006+A13: 2008+A14: 2010+A15: 2011 IS 302: Part 1:2008+A1:2009+A2:2013 Clause 29.1 and 29.3 IEC 60335-2-7: 2008+A1: 2011 BS EN 60335-2-7: 2010 +A11: 2013 IS 302-2-7: 2010 Clause 29.1 and 29.3 IEC 60335-2-14: 2006+A1: 2008 +A2: 2012 BS EN 60335-2-14: 2006+A1: 2008 IS 302-2-14: 2009	Test probe B of IEC 61032 Up to 30N Jointed and un jointed test finger

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			Clause 29.1 and 29.3 IEC 60335-2-24: 2010+A1: 2012 BS EN 60335-2-24: 2010 IS 302-2-24: 1994 Clause 29 and 29.3 IEC 60335-2-25:2010 +A1:2014 BS EN 60335-2-25: 2012 IS 302-2-25:2014 Clause 29 and 29.3	
		Resistance to Heat Ball pressure test	IEC 60335-1: 2010+A1: 2013 EN 60335-1: 2002 +A1+ A11: 2004+A12: 2006+A13: 2008+A14: 2010+A15: 2011 IS 302: Part 1:2008+A1:2009+A2:2013 Clause 30 IEC 60335-2-7: 2008+A1: 2011 BS EN 60335-2-7: 2010 +A11: 2013 IS 302-2-7: 2010 Clause 30 IEC 60335-2-14: 2006+A1: 2008 +A2: 2012 BS EN 60335-2-14: 2006+A1: 2008 IS 302-2-14: 2009 Clause 30 IEC 60335-2-24: 2010+A1: 2012 BS EN 60335-2-24: 2010	Ambient to 300°C 5 mm diameter of ball in Loading Device 20 N force from loading device 10 sec to 120 min 0 to 300 °C 0 -50mm

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			IS 302-2-24: 1994 Clause 30 IEC 60335-2-25:2010 +A1:2014 BS EN 60335-2-25: 2012 IS 302-2-25:2014 Clause 30	
		Resistance to Heat Glow wire test	IEC 60335-1: 2010+A1: 2013 EN 60335-1: 2002 +A1+ A11: 2004+A12: 2006+A13: 2008+A14: 2010+A15: 2011 IS 302: Part 1:2008+A1:2009+A2:2013 Clause 30 IEC 60335-2-7: 2008+A1: 2011 BS EN 60335-2-7: 2010 +A11: 2013 IS 302-2-7: 2010 Clause 30 IEC 60335-2-14: 2006+A1: 2008 +A2: 2012 BS EN 60335-2-14: 2006+A1: 2008 IS 302-2-14: 2009 Clause 30 IEC 60335-2-24: 2010+A1: 2012 BS EN 60335-2-24: 2010 IS 302-2-24: 1994 Clause 30 IEC 60335-2-25:2010 +A1:2014	0 to 960° 10 sec to 120 min 0 to 200 mm ±0.02mm LC:0.01 mm

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			BS EN 60335-2-25: 2012 IS 302-2-25:2014 Clause 30	
		Resistance to Heat Needle flame tester	IEC 60335-1: 2010+A1: 2013 EN 60335-1: 2002 +A1+ A11: 2004+A12: 2006+A13: 2008+A14: 2010+A15: 2011 IS 302: Part 1:2008+A1:2009+A2:2013 Clause 30 IEC 60335-2-7: 2008+A1: 2011 BS EN 60335-2-7: 2010 +A11: 2013 IS 302-2-7: 2010 Clause 30 IEC 60335-2-14: 2006+A1: 2008 +A2: 2012 BS EN 60335-2-14: 2006+A1: 2008 IS 302-2-14: 2009 Clause 30 IEC 60335-2-24: 2010+A1: 2012 BS EN 60335-2-24: 2010 IS 302-2-24: 1994 Clause 30 IEC 60335-2-25:2010 +A1:2014 BS EN 60335-2-25: 2012 IS 302-2-25:2014 Clause 30	Needle flame tester 0-700°C 0.1 sec to 999 sec 0.1 to 360°

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Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
II. SAFETY TEST FACILITY				
1.	Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 1: General requirements	Power Input and Current	IEC 61010-1: 2010 Clause 5.1.3 BS EN 61010-1:2010 Clause 5.1.3	Current: 1 mA to 20 A (AC & DC Current) Voltage: 0.15 V to 600 V (AC & DC Voltage) Power: 0.2 mW to 3000 W (AC & DC Power) 1-999.9Hz
		Durability of Markings	IEC 61010-1: 2010 Clause 5.3 BS EN 61010-1:2010 Clause 5.3	1 to 120Sec 70% Isopropyl alcohol 10 to 30 N
		Determination of accessible part	IEC 61010-1: 2010 Clause 6.2 BS EN 61010-1:2010 Clause 6.2	Rigid test finger, Jointed test finger Test pin : 100mm X 4mm Test Pin : Dia-3mm
		Permissible limits for accessible parts in normal condition	IEC 61010-1: 2010 Clause 6.3.1 BS EN 61010-1:2010 Clause 6.3.1	0.1 to 100 Vpeak 0.1 to 100 VDC 0.001 to 50 mA
		Impedance of protective bonding of plug- connected equipment	IEC 61010-1: 2010 Clause 6.5.2.1, 6.5.2.2, 6.5.2.3 and 6.5.2.4 BS EN 61010-1:2010 Clause 6.5.2.1, 6.5.2.2, 6.5.2.3 and 6.5.2.4	3 A to 40 A 0.1V to 6V 0.3 to 999sec 3A to 30A 0.001 to 1.2Ω 0.3 to 999sec
		Insulation requirements	IEC 61010-1: 2010 Clause 6.7.1.1, 6.7.1.2 and 6.7.1.3 BS EN 61010-1:2010 Clause 6.7.1.1, 6.7.1.2 and 6.7.1.3	0.01V to 400Vpk 0.01 mm to 200 mm

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		Humidity preconditioning	IEC 61010-1: 2010 Clause. 6.8.2 BS EN 61010-1:2010 Clause 6.8.2	40°C ± 2°C 93% RH ± 3%RH
		Dielectric strength test	IEC 61010-1: 2010 Clause 6.8.3.1& 6.8.3.2 BS EN 61010-1:2010 Clause 6.8.3.1& 6.8.3.2	AC Voltage: 0.01 kV to 5.5 kV DC Voltage: 0.01 kV to 6.2 kV AC leakage current: 0.001 to 110 mA DC leakage current: 0.001 to 10 mA Time: 0.1s to 999 s Visual Inspection
		Plugs and connectors	IEC 61010-1: 2010 Clause 6.10.3 BS EN 61010-1:2010 Clause 6.10.3	0.1 to 400 Vpeak 4 ns to 5s
		Stability	IEC 61010-1: 2010 Clause 7.4 BS EN 61010-1:2010 Clause 7.4	0.1° to 10°
		Static test	IEC 61010-1: 2010 Clause 8.2.1 BS EN 61010-1:2010 Clause 8.2.1	0.1N to 30N
		Impact test	IEC 61010-1: 2010 Clause 8.2.2 BS EN 61010-1:2010 Clause 8.2.2	1.3 m (Height) 50 mm/500 g Qualitative
		Drop test	IEC 61010-1: 2010 Clause 8.3 BS EN 61010-1:2010 Clause 8.3	Qualitative

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		Protection against the spread of fire	IEC 61010-1: 2010 Clause 9.3.2 BS EN 61010-1:2010 Clause 9.3.2	100°C to 750°C
		Limited energy circuit	IEC 61010-1: 2010 Clause 9.4 BS EN 61010-1:2010 Clause 9.4	0.1Vdc to 120Vdc 0.1Adc to 60Adc
		Heating test	IEC 61010-1: 2010 Clause 10.1 BS EN 61010-1:2010 Clause 10.1	AC & DC Current: 1 mA to 20 A AC & DC Voltage: 0.15 V to 600 V AC & DC Power: 0.2 mW to 3000 W Frequency: 1-999.9Hz Temperature recorder: Ambient to 225°C
		Non- metallic enclosures (Stress relief)	IEC 61010-1: 2010 Clause. 10.5.2 BS EN 61010-1:2010 Clause 10.5.2	25°C to 300°C
		Insulating material (Ball pressure)	IEC 61010-1: 2010 Clause 10.5.3 BS EN 61010-1:2010 Clause 10.5.3	25°C to 300°C Ball dia: 5mm 0.1mm to 50mm
		Cleaning	IEC 61010-1: 2010 Clause 11.2 BS EN 61010-1:2010 Clause 11.2	AC Voltage: 0.01 kV to 5.5 kV DC Voltage: 0.01 kV to 6.2 kV AC leakage current: 0.001 to 110 mA DC leakage current: 0.001 to 10 mA Time: 0.1s to 999 s

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Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Spillage	IEC 61010-1: 2010 Clause 11.3 BS EN 61010-1:2010 Clause 11.3	AC Voltage: 0.01 kV to 5.5 kV DC Voltage: 0.01 kV to 6.2 kV AC leakage current: 0.001 to 110 mA DC leakage current: 0.001 to 10 mA Time: 0.1s to 999 s Visual Inspection
		Overflow	IEC 61010-1: 2010 Clause 11.4 BS EN 61010-1:2010 Clause 11.4	AC Voltage: 0.01 kV to 5.5 kV DC Voltage: 0.01 kV to 6.2 kV AC leakage current: 0.001 to 110 mA DC leakage current: 0.001 to 10 mA Time: 0.1s to 999 s Visual Inspection
		Single fault condition	IEC 61010-1: 2010 Clause 4.4 BS EN 61010-1:2010 Clause 4.4	AC & DC Current: 1 mA to 20 A AC & DC Voltage: 0.15 V to 600 V AC & DC Power: 0.2 mW to 3000 W Frequency: 1-999.9Hz Temperature recorder: Ambient to 225°C

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Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
III. ENVIRONMENTAL TEST FACILITY				
1.	Environmental Testing	Cold test	IEC 60068-2-1:2007 BS EN 60068-2-1:2007 IS 9000 : Part 2 : Sec 1 to 4	0 to -70°C
		Dry heat test	IEC 60068-2-2:2007 BS EN 60068-2-2:2007 IS 9000 : Part 3 : Sec 1 to 5	0 to +180°C
		Damp heat, cyclic	IEC 60068-2-30:2005 BS EN 60068-2-30:2005 IS 9000 : Part 5 : Sec 1 to 2	25°C to 60°C 10% RH to 98% RH
		Composite temperature/humidity cyclic test	IEC 60068-2-38:2009 BS EN 60068-2-38:2009 IS 9000 : Part 6	-10°C to 70°C 10% RH to 98% RH
		Damp heat, steady state	IEC 60068-2-78:2012 BS EN 60068-2-78:2013 IS 9000 : Part 4	25°C to 95°C 10% RH to 98% RH

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Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
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ELECTRONICS TESTING

I.	EMC Test Facility			
1.	All Electrical/ Electronic Equipments	Electrostatic Discharge Immunity Test	IEC 61000-4-2: 2008 EN 61000-4-2: 2009	Test Level: Contact ± 2 kV to ± 8 kV & Air : ± 2 kV to ± 15 kV
	Information Technology Equipment		CISPR 24: 2010+A1:2015, EN 55024 2010+A1:2015 CISPR 24: 2010 EN 55024: 2010	
	Household appliances, electric tools and similar apparatus		CISPR 14-2: 2015 Cl.No.5.1 EN 55014-2:2015 Cl.No.5.1, CISPR 14-2: 1997+A1:2001 +A2:2008 Cl.No.5.1 EN 55014-2:1997+A2: 2008 Cl.No.5.1	
	Residential, commercial and light-industrial Equipment		IEC 61000-6-1: 2005 EN 61000-6-1: 2007	
	Industrial Equipment		IEC 61000-6-2: 2005 EN 61000-6-2 : 2005	
	Electrical lighting and similar equipment		IEC 61547: 2009 Cl.No.5.2 EN 61547: 2009 Cl.No.5.2	
	Sound And Television Broadcast Receivers and Associated Equipment		CISPR 20: 2006+A1:2013 EN 55020:2007+A12:2016	

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	Medical electrical equipment		IEC 60601-1-2 :2014 Cl.No.8.9 EN 60601-1-2 :2007 Cl.No.6.2	
	Uninterruptible power systems (UPS)		EN 62040-2 :2006 Cl.No.7.3	
	Electrical Equipment for Measurement, Control and Laboratory Use		EN 61326-1:2013 Cl.No.6.2 IEC 61326-1:2012 Cl.No.6.2	
2.	Any Electrical / Electronic Product	Electrical Fast Transient (EFT) / Burst Immunity Test (Power Line & Signal Line)	IEC 61000-4-4: 2012 EN 61000-4-4: 2012	Test Level: Power Line ± 0.5 kV to ± 4 kV (Single Phase:16A) Signal Line: ± 0.25 kV to ± 2 kV
	Information Technology Equipment		CISPR 24: 2010+A1:2015 EN 55024: 2010+A1:2015 CISPR 24: 2010 EN 55024: 2010	
	Household appliances, electric tools and similar apparatus		CISPR 14-2: 2015 Cl.No.5.2, EN 55014-2:2015 Cl.No.5.2, CISPR 14-2: 1997+A1:2001 +A2:2008 Cl.No.5.2 EN 55014-2:1997+A2: 2008 Cl.No.5.2	
	Residential, commercial and light-industrial Equipment		IEC 61000-6-1: 2005 EN 61000-6-1: 2007	

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	Industrial Equipment		IEC 61000-6-2: 2005 EN61000-6-2 : 2005	
	Electrical lighting and similar equipment		IEC 61547:2009, Cl. No. 5.5, EN 61547: 2009 Cl.No.5.5	
	Sound and Television Broadcast Receivers and Associated Equipment		CISPR 20: 2006+A1:2013 EN 55020:2007+A12:2016	
	Uninterruptible power systems (UPS)		EN 62040-2 :2006 Cl.No.7.3	
	Electrical Equipment for Measurement, Control and Laboratory Use		EN 61326-1:2013 Cl.No.6.2 IEC 61326-1:2012 Cl.No.6.2	
3.	Any Electrical / Electronic Product	Surge Immunity Test	IEC 61000-4-5: 2005 EN 61000-4-5: 2006	Combination Surge Wave (open-circuit voltage 1.2/50µs and short-circuit current 8/20µs): Test Level: ± 0.5 kV to ± 6 kV (Single Phase:16A)
	Information Technology Equipment		CISPR 24: 2010+A1:2015 EN 55024: 2010+A1:2015 CISPR 24: 2010 EN 55024: 2010	
	Household appliances, electric tools and similar apparatus		CISPR 14-2: 2015 Cl.No.5.6, EN 55014-2:2015 Cl.No.5.6, CISPR 14-2: 1997+A1:2001 +A2:2008 Cl.No.5.6 EN 55014-2:1997+A2: 2008 Cl.No.5.6	

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	Residential, commercial and light-industrial Equipment		IEC 61000-6-1: 2005 EN 61000-6-1: 2007	
	Industrial Equipment		IEC 61000-6-2: 2005 EN 61000-6-2 : 2005	
	Electrical lighting and similar equipment		IEC 61547: 2009 Cl.No.5.7 EN 61547: 2009 Cl.No.5.7	
	Medical electrical equipment		IEC 60601-1-2 :2014 Cl.No.8.9 EN 60601-1-2 :2007 Cl.No.6.2	
	Uninterruptible power systems (UPS)		EN 62040-2 :2006 Cl.No.7.3	
	Electrical Equipment for Measurement, Control and Laboratory Use		EN 61326-1:2013 Cl.No.6.2 IEC 61326-1:2012 Cl.No.6.2	
4	Any Electrical / Electronic Product	Voltage dips, short interruption & voltage variations Immunity Test	IEC 61000-4-11: 2004 EN 61000-4-11: 2004	Voltage dips and interruption 0% 40% 70% 80% Duration 0.5 to 250 Cycle (single phase 16 A)
	Information Technology Equipment		CISPR 24: 2010+A1:2015 EN 55024: 2010+A1:2015 CISPR 24: 2010 EN 55024: 2010	
	Household appliances, electric tools and similar apparatus		CISPR 14-2: 2015 Cl.No.5.7, EN 55014-2:2015 Cl.No.5.7 CISPR 14-2: 1997+A1:2001 +A2:2008 Cl.No.5.7, EN 55014-2:1997+A2: 2008 Cl.No.5.7	

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	Residential, commercial and light-industrial Equipment		IEC 61000-6-1: 2005 EN 61000-6-1: 2007	
	Industrial Equipment		IEC 61000-6-2: 2005 EN 61000-6-2 : 2005	
	Electrical lighting and similar equipment		IEC 61547: 2009 Cl.No.5.8 EN 61547: 2009 Cl.No.5.8	
	Medical electrical equipment		IEC 60601-1-2 :2014 Cl.No.8.9, EN 60601-1-2 :2007 Cl.No.6.2	
	Electrical Equipment for Measurement, Control and Laboratory Use		EN 61326-1:2013 Cl.No.6.2 IEC 61326-1:2012 Cl.No.6.2	
II.	IT EQUIPMENT			
1.	Information Technology Equipments	Input Current	IEC 60950-1:2005 & A1:2009 & A2:2013 EN 60950-1:2006 & A1:2010 & A2:2013 IS 13252 : Part 1:2010 & A1:2013 & A2:2015 Clause 1.6	Current: 1 mA to 20 A (AC & DC Current) Voltage: 0.15 V to 600 V (AC & DC Voltage) Power: 0.2 mW to 3000 W (AC & DC Power) 1 to 999.9 Hz
		Markings Test	IEC 60950-1:2005 & A1:2009 & A2:2013 EN 60950-1:2006 & A1:2010 & A2:2013 IS 13252 : Part 1:2010 & A1:2013 & A2:2015 Clause 1.7	Qualitative

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Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Protection in operator access area	IEC 60950-1:2005 & A1:2009 & A2:2013 EN 60950-1:2006 & A1:2010 & A2:2013 IS 13252 : Part 1:2010 & A1:2013 & A2:2015 Clause. 2.1.1	Qualitative
		Energy hazards	IEC 60950-1:2005 & A1:2009 & A2:2013 EN 60950-1:2006 & A1:2010 & A2:2013 IS 13252 : Part 1:2010 & A1:2013 & A2:2015 Clause 2.1.1.5	0.1 VDC to 120 VDC 0.1 ADC to 60 ADC
		Discharge of capacitors	IEC 60950-1:2005 & A1:2009 & A2:2013 EN 60950-1:2006 & A1:2010 & A2:2013 IS 13252 : Part 1:2010 & A1:2013 & A2:2015 Clause 2.1.1.7	0.1 to 400 Vpeak 4 ns to 1s
		Energy hazards- DC mains supplies	IEC 60950-1:2005 & A1:2009 & A2:2013 EN 60950-1:2006 & A1:2010 & A2:2013 IS 13252 : Part 1:2010 & A1:2013 & A2:2015 Clause 2.1.1.8	0.1 VDC to 120 VDC 0.1 ADC to 60 ADC
		SELV circuits	IEC 60950-1:2005 & A1:2009 & A2:2013 EN 60950-1:2006 & A1:2010 & A2:2013 IS 13252 : Part 1:2010 & A1:2013 & A2:2015 Clause 2.2	0.1 Vpk to 200 Vpk 0.1 VDC to 120VDC

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		TNV circuits	IEC 60950-1:2005 & A1:2009 & A2:2013 EN 60950-1:2006 & A1:2010 & A2:2013 IS 13252 : Part 1:2010 & A1:2013 & A2:2015 Clause 2.3	0.1 to 400 Vpeak
		Operating voltages generated externally	IEC 60950-1:2005 & A1:2009 & A2:2013 EN 60950-1:2006 & A1:2010 & A2:2013 IS 13252 : Part 1:2010 & A1:2013 & A2:2015 Clause 2.3.5	0.1 VAC to 120 VAC
		Limited Current Circuit Measurements test	IEC 60950-1:2005 & A1:2009 & A2:2013 EN 60950-1:2006 & A1:2010 & A2:2013 IS 13252 : Part 1:2010 & A1:2013 & A2:2015 Clause 2.4.1	0.1 Vpk to 10 Vpk 0.001mA to 50mA
		Limited Power Sources	IEC 60950-1:2005 & A1:2009 & A2:2013 EN 60950-1:2006 & A1:2010 & A2:2013 IS 13252 : Part 1:2010 & A1:2013 & A2:2015 Clause 2.5	0.1 VDC to 120 VDC 0.1 ADC to 60 ADC
		Resistance of earthing conductors and their terminations	IEC 60950-1:2005 & A1:2009 & A2:2013 EN 60950-1:2006 & A1:2010 & A2:2013 IS 13252 : Part 1:2010 & A1:2013 & A2:2015 Clause 2.6.3.4	0.001Ω to 0.1Ω 0.1A to 40A 0.1s to 9999s

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		Humidity conditioning	IEC 60950-1:2005 & A1:2009 & A2:2013 EN 60950-1:2006 & A1:2010 & A2:2013 IS 13252 : Part 1:2010 & A1:2013 & A2:2015 Clause 2.9.2	20°C to 40°C ± 2°C 93% RH ± 3%RH
		Working voltage	IEC 60950-1:2005 & A1:2009 & A2:2013 EN 60950-1:2006 & A1:2010 & A2:2013 IS 13252 : Part 1:2010 & A1:2013 & A2:2015 Clause. 2.10.2	0.01V to 400Vpk
		Creepage, Clearances distances and distances through insulation	IEC 60950-1:2005 & A1:2009 & A2:2013 EN 60950-1:2006 & A1:2010 & A2:2013 IS 13252 : Part 1:2010 & A1:2013 & A2:2015 Cl. 2.10.3, 2.10.4, 2.10.5	0.01 mm to 200 mm
		Transient voltages	IEC 60950-1:2005 & A1:2009 & A2:2013 EN 60950-1:2006 & A1:2010 & A2:2013 IS 13252 : Part 1:2010 & A1:2013 & A2:2015 Clause 2.10.3.9	100 V to 7 kV for 10 x 700 µs, 1.2 µs (Rise time) 50 µs (Time to half value) 100 V to 7kV for 10 x 700 µs 10 µs (Rise time) 700 µs (Time to half value)
		Beads and ceramic insulators test	IEC 60950-1:2005 & A1:2009 & A2:2013 EN 60950-1:2006 & A1:2010 & A2:2013 IS 13252 : Part 1:2010 & A1:2013 & A2:2015 Clause 3.1.5	Qualitative

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Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Termination of conductors	IEC 60950-1:2005 & A1:2009 & A2:2013 EN 60950-1:2006 & A1:2010 & A2:2013 IS 13252 : Part 1:2010 & A1:2013 & A2:2015 Clause 3.1.9	Qualitative
		Cord anchorage and strain relief	IEC 60950-1:2005 & A1:2009 & A2:2013 EN 60950-1:2006 & A1:2010 & A2:2013 IS 13252 : Part 1:2010 & A1:2013 & A2:2015 Clause 3.2.6	30 N, 60 N, 100 N 0.01 mm to 200 mm 0.1s to 9999s
		Stability	IEC 60950-1:2005 & A1:2009 & A2:2013 EN 60950-1:2006 & A1:2010 & A2:2013 IS 13252 : Part 1:2010 & A1:2013 & A2:2015 Clause 4.1	0.1° to 10°
		Steady force test	IEC 60950-1:2005 & A1:2009 & A2:2013 EN 60950-1:2006 & A1:2010 & A2:2013 IS 13252 : Part 1:2010 & A1:2013 & A2:2015 Cl. 4.2.1 4.2.2, 4.2.3, 4.2.4	0.1N to 10N 30N 250N 0.1s to 9999s
		Impact Test	IEC 60950-1:2005 & A1:2009 & A2:2013 EN 60950-1:2006 & A1:2010 & A2:2013 IS 13252 : Part 1:2010 & A1:2013 & A2:2015 Clause 4.2.5	50 mm, 500 mg

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		Drop test	IEC 60950-1:2005 & A1:2009 & A2:2013 EN 60950-1:2006 & A1:2010 & A2:2013 IS 13252 : Part 1:2010 & A1:2013 & A2:2015 Clause 4.2.6	1000 mm
		Stress relief test	IEC 60950-1:2005 & A1:2009 & A2:2013 EN 60950-1:2006 & A1:2010 & A2:2013 IS 13252 : Part 1:2010 & A1:2013 & A2:2015 Clause 4.2.7	25°C to 300°C
		Wall or ceiling mounted equipment	IEC 60950-1:2005 & A1:2009 & A2:2013 EN 60950-1:2006 & A1:2010 & A2:2013 IS 13252 : Part 1:2010 & A1:2013 & A2:2015 Clause 4.2.10	weights
		Protection against hazardous moving parts	IEC 60950-1:2005 & A1:2009 & A2:2013 EN 60950-1:2006 & A1:2010 & A2:2013 IS 13252 : Part 1:2010 & A1:2013 & A2:2015 Clause 4.4	Qualitative

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		Heating Test	IEC 60950-1:2005 & A1:2009 & A2:2013 EN 60950-1:2006 & A1:2010 & A2:2013 IS 13252 : Part 1:2010 & A1:2013 & A2:2015 Clause 4.5.1	AC & DC Current: 1 mA to 20 A AC & DC Voltage: 0.15 V to 600 V AC & DC Power: 0.2 mW to 3000 W Frequency: 1 to 999.9 Hz Temperature recorder: Ambient to 225°C
		Resistance to abnormal heat	IEC 60950-1:2005 & A1:2009 & A2:2013 EN 60950-1:2006 & A1:2010 & A2:2013 IS 13252 : Part 1:2010 & A1:2013 & A2:2015 Clause 4.5.5	25°C to 300°C Ball diameter: 5mm 0.1mm to 50mm
		Evaluation measure of larger opening	IEC 60950-1:2005 & A1:2009 & A2:2013 EN 60950-1:2006 & A1:2010 & A2:2013 IS 13252 : Part 1:2010 & A1:2013 & A2:2015 Clause 4.6.4.2	Qualitative
		Material test (Glow wire Test)	IEC 60950-1:2005 & A1:2009 & A2:2013 EN 60950-1:2006 & A1:2010 & A2:2013 IS 13252 : Part 1:2010 & A1:2013 & A2:2015 Clause 4.7.3	550°C to 960°C 0.1s to 999s

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		Touch current and protective conductor current	IEC 60950-1:2005 & A1:2009 & A2:2013 EN 60950-1:2006 & A1:2010 & A2:2013 IS 13252 : Part 1:2010 & A1:2013 & A2:2015 Clause 5.1	0.001 mA to 50 mA
		Electric strength	IEC 60950-1:2005 & A1:2009 & A2:2013 EN 60950-1:2006 & A1:2010 & A2:2013 IS 13252 : Part 1:2010 & A1:2013 & A2:2015 Clause 5.2	AC Voltage: 0.01 kV to 5.5 kV DC Voltage: 0.01 kV to 6.2 kV AC leakage current: 0.001 to 110 mA DC leakage current: 0.001 to 10 mA Time: 0.1s to 999 s
		Abnormal operating and fault conditions	IEC 60950-1:2005 & A1:2009 & A2:2013 EN 60950-1:2006 & A1:2010 & A2:2013 IS 13252 : Part 1:2010 & A1:2013 & A2:2015 Clause 5.3	AC & DC Current: 1 mA to 20 A AC & DC Voltage: 0.15 V to 600 V AC & DC Power: 0.2 mW to 3000 W Frequency: 1 to 999.9Hz Temperature recorder: Ambient to 225°C
		Steady State test & Requirement of Separation between telecommunication network from Earth	IEC 60950-1:2005 & A1:2009 & A2:2013 EN 60950-1:2006 & A1:2010 & A2:2013 IS 13252 : Part 1:2010 & A1:2013 & A2:2015 Clause 6.2.2	AC Voltage: 0.01 kV to 5.5 kV DC Voltage: 0.01 kV to 6.2 kV AC leakage current: 0.001 to 110 mA DC leakage current: 0.001 to 10 mA Time: 0.1s to 999s

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		Voltage surge test	IEC 60950-1:2005 & A1:2009 & A2:2013 EN 60950-1:2006 & A1:2010 & A2:2013 IS 13252 : Part 1:2010 & A1:2013 & A2:2015 Clause 7.4.2	100 V to 10 kV
		Impulse test	IEC 60950-1:2005 & A1:2009 & A2:2013 EN 60950-1:2006 & A1:2010 & A2:2013 IS 13252 : Part 1:2010 & A1:2013 & A2:2015 Clause 7.4.3 & 6.2.2.1	100V to 7kV for 10 x 700 µs 1.2 µs (Rise time) 50 µs (Time to half value) 100V to 7kV for 10 x 700 µs 10 µs (Rise time) 700 µs (Time to half value)
III.	SAFETY TESTING			
1.	Audio, Video and similar Electronic Apparatus	Markings Test	IEC 60065:2014; EN 60065:2014; (Clause 5.1) IS 616:2010, (Clause 5)	Qualitative
		Identification and supply ratings	IEC 60065:2014; EN 60065:2014; (Clause 5.2) IS 616:2010 (Clause 5.1)	Current: 1 mA to 20 A (AC & DC Current) Voltage: 0.15 V to 600 V (AC & DC Voltage) Power: 0.2 mW to 3000 W (AC & DC Power) Frequency: 1 to 999.9Hz
		Heating under normal operating conditions	IEC 60065:2014; EN 60065:2014; (Clause 7.1) IS 616:2010 (Clause 7.1)	Ambient to 225°C

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		Test on insulating material	IEC 60065:2014; EN 60065:2014; (Clause 8.3) IS 616:2010 (Clause 8.3)	Temperature: (-70 °C to 180°C Humidity: 10 % RH to 98 % RH AC voltage: 0.1V to 6kV AC leakage current: 0.01mA to 200 mA. DC voltage: 0.1V to 6kV DC leakage current: mA to 11 mA. Timer : 0.1s to 120s 50 VDC to 1000 VDC 10 kΩ to 1 GΩ Timer : 0.1s to 60s
		External forces windows covers, internal forces	IEC 60065:2014 EN 60065:2014 Clause 8.12, 8.13, 8.14 IS 616:2010 Clause 8.13, 8.14, 8.15	Force: 0.1 N to 50 N Timer : 0.1s to 10s
		Mandrel Test for non-separable thin sheet material	IEC 60065:2014 EN 60065:2014 Clause 8.21 IS 616:2010 Clause 8.22	Force: 150 N AC voltage: 0.1V to 6kV AC leakage current: 0.1 mA to 200 mA. DC voltage: 0.1V to 6kV DC leakage current: 0.001mA to 11 mA. Timer : 0.1s to 120 s

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		Electric shock hazard under normal operating conditions	IEC 60065:2014 EN 60065:2014 Clause 9 IS 616:2010, Clause 9	Touch current: 0.001mA to 50 mA AC voltage: 0.1 to 400 Vpeak
		Determination of accessible parts	IEC 60065:2014 EN 60065:2014 Clause 9.1.1.3 IS 616:2010 Clause 9.1.1.2	Qualitative
		Openings of the enclosure	IEC 60065:2014 EN 60065:2014 Clause 9.1.3 IS 616:2010 Clause 9.1.3	Qualitative
		Terminals	IEC 60065:2014 EN 60065:2014 Clause 9.1.4 IS 616:2010 Clause.9.1.4	0.1N to 1N Up to 10N
		Pre –set controls	IEC 60065:2014 EN 60065:2014 Clause 9.1.5 IS 616:2010 Clause.9.1.5	Up to 10N
		Withdrawal of mains plug	IEC 60065:2014 EN 60065:2014 Clause 9.1.6 IS 616:2010 Clause.9.1.6	0.1 to 400 Vpeak 4ns to 2s
		Resistance to external forces	IEC 60065:2014 EN 60065:2014 Clause 9.1.7 IS 616:2010 Clause.9.1.7	0.1 to 20 N 50N 250N

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		Surge test	IEC 60065:2014 EN 60065:2014 Clause 10.2 IS 616:2010 Clause 10.1	100V to 10kV Visual Inspection
		Humidity Treatment	IEC 60065:2014 EN 60065:2014 Clause 10.3 IS 616:2010 Clause 10.2	20°C to 40°C ± 2°C 93% RH ± 3%RH
		Dielectric Strength test	IEC 60065:2014 EN 60065:2014 Clause 10.4 IS 616:2010 Clause 10.3	AC voltage: 0.1V to 6kV AC leakage current: 0.1 mA to 200 mA. DC voltage: 0.1V to 6kV DC leakage current: 0.001 mA to 11 mA. Timer : 0.1s to 120s
		Insulation resistance test	IEC 60065:2014 EN 60065:2014 Clause 10.4 IS 616:2010 Clause 10.3	Resistance: more than 50 GΩ Voltage: 50 Vdc to 1000 Vdc Timer : 0.1s to 60s
		Fault conditions Electrical shock hazard	IEC 60065:2014 EN 60065:2014 Clause 11.1 IS 616:2010 Clause 11.1	Touch current: 0.001mA to 50 mA AC voltage: 0.1 to 400 Vpeak

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		Fault conditions Heating test	IEC 60065:2014 EN 60065:2014 Clause 11.2 IS 616:2010 Clause 11.2	AC & DC Current: 1 mA to 20 A AC & DC Voltage: 0.15 V to 600 V AC & DC Power: 0.2 mW to 3000 W Frequency: 1-999.9Hz Temperature recorder: Ambient to 225°C
		Bump test	IEC 60065:2014 EN 60065:2014 Clause 12.1.2 IS 616:2010 Clause 12.1.1	Qualitative (1 mm to 1000 mm)
		Impact Test	IEC 60065:2014 EN 60065:2014 Clause 12.1.4 IS 616:2010 Clause 12.1.3	0.2 Joules to 1 joules 50 mm / 500 g (Visual Inspection)
		Drop test	IEC 60065:2014 EN 60065:2014 Clause 12.1.5 & 14.11.5 IS 616:2010 Clause 12.1.4 & 14.10.5	1000 mm
		Push pull test	IEC 60065:2014 EN 60065:2014 Clause 12.2,12.4,12.6.2,16.5,19.2, 19.3,19.4,19.7 IS 616:2010 Clause 12.2,12.4,12.6.1,16.5,19.2, 19.3,19.6	Qualitative (Up to 500 N)

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		Torque test	IEC 60065:2014 EN 60065:2014 Clause 12.6,16.5,17.1,17.7 IS 616:2010 Clause12.6, 16.5, 17.1,17.7	0.2 Nm to 5 Nm 0.01 mm to 200 mm
		Stress relief test	IEC 60065:2014 EN 60065:2014 Clause 12.1.6 IS 616:2010 Clause 12.1.5	25°C to 300°C (Visual Inspection)
		Remote controls devices (Tumbling Barrel)	IEC 60065:2014 EN 60065:2014 Clause 12.3 IS 616:2010 Clause 12.3	Qualitative
		Antenna coaxial sockets	IEC 60065:2014 EN 60065:2014 Clause 12.5 IS 616:2010 Clause 12.5	0.2 to 1 Joule 0.1N to 50N Qualitative (Visual inspection)
		Apparatus containing Coin / Button cell Batteries	IEC 60065:2014 EN 60065:2014 Clause 12.7.3.2,12.7.3.3,12.7.3.4, 12.7.3.5,12.7.4	25°C to 300°C 0.05Nm to 5Nm 1mm to 1000mm 0.2 Joules to 1 joules 50 mm / 500 g Up to 50N 0.1 s to 10 s
		Clearances, Creepage distances	IEC 60065:2014 EN 60065:2014 Clause 13 IS 616:2010 Clause 13	0.01 mm to 200 mm

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		Working voltage	IEC 60065:2014 EN 60065:2014 Clause 13.2 IS 616:2010, Clause 13.2	0.1 to 400 V _{peak}
		Transient voltages	IEC 60065:2014 EN 60065:2014 Clause 13.3.4 IS 616:2010, Clause 13.3.4	100V to 7kV for 10x700 μs 50 μs (Time to half value) 100V to 7kV for 10x700 μs 700 μs (Time to half value)
		Provisions for protective earthing	IEC 60065:2014 EN 60065:2014 Clause 15.2, IS 616:2010 Clause 15.2	0.001 to 1.2 Ω 0.3s to 999s 1 to 30 A
		Device forming part of the mains plug	IEC 60065:2014 EN 60065:2014 Clause 15.4, IS 616:2010 Clause 15.4.1, 15.4.3	1 mm to 300 mm 1.25 N 1mm to 200 mm
		Strain relief test	IEC 60065:2014 EN 60065:2014 Clause 16.5, IS 616:2010 Clause 16.5	40N 0.25Nm 1 mm to 200 mm
		Electrical connections and mechanical fixings	IEC 60065:2014 EN 60065:2014 Clause 17 IS 616:2010, Clause 17	0.05 Nm to 5 Nm Qualitative (Visual inspection)
		Stability and mechanical hazards	IEC 60065:2014 EN 60065:2014 Clause 19.2, 19.3, 19.4, 19.7 IS 616:2010 Clause 19.1, 19.2, 19.3, 19.6	0.1° to 15°
		Resistance to Fire (Glow wire)	IEC 60065:2014 EN 60065:2014 Clause 20, IS 616:2010 Clause 20	Glow wire tester : 550 °C to 960 °C s to 999 s

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