

Laboratory **Techvision Testing Lab Private Limited, B-6, Commercial Complex, Nimri Colony, Ashok Vihar, Phase-IV, Delhi**

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

Certificate Number **TC-5682**

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Validity **18.05.2017 to 17.05.2019**

Last Amended on 04.07.2018

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.	INFORMATION TECHNOLOGY EQUIPMENTS			
1.	Information technology equipment	Power Interface	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No. 1.6.2	0.01 A to 20A 1 V to 600 V 1 W to 1000W
		Marking and instructions	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No. 1.7	Qualitative
		Durability	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No. 1.7.11	Qualitative
		Access to energized parts	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No. 2.1.1.1	Qualitative
		Access to ELV wiring	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No. 2.1.1.3	0.01 mm to 150 mm 0.1 kV to 5 kV
		Energy hazard	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No. 2.1.1.5	60 V 60 A 300 W 1 V to 500 V
		Discharge of capacitors in equipment	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No. 2.1.1.7	10 V to 600 V 15 pF to 25 pF
		SELV circuits	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No. 2.2	10 Vdc to 1000 Vdc 10 Vac to 750 Vac
		TNV circuits limits	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No. 2.3.1	1 Vdc to 1000 Vdc 1 Vac to 750 Vac 60 V 60 A 300 W

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		Connection of TNV circuits to other circuits	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No. 2.3.4	1 Vdc to 1000 Vdc 1 Vac to 750 Vac 60 V 60 A 300 W
		Limited current circuits limits values & limited power sources	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No. 2.4.2 Cl. No. 2.5	10 V to 999.9 V 0.1 A to 20 A
		Size of protective earthing & bonding conductor –	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No. 2.6.3.2 Cl. No. 2.6.3.3	1 mm to 300 mm 0.01 mm to 25 mm 0.1 V to 99.9 V 0.1 A to 40 A
		Resistance of earthing conductors and their terminals	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No. 2.6.3.4	1 mm to 300 mm 0.1 A to 40 A
		Protection requirement for safety interlocks	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No. 2.8.2	Qualitative
		Humidity conditioning	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No. 2.9.2	0.1 °C to 50 °C 1 % to 98 % RH
		Determination of working voltage	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No. 2.10.2	0.01 A to 10 A 1 Vac to 1000 Vac 1 Vdc to 300 Vdc
		Clearances	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No. 2.10.3	1 mm to 300 mm
		Creepage distance	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No. 2.10.4	1 mm to 300 mm
		Thermal cycling	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No.2.10.9	0.1 °C to 250 °C

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		Abrasion resistance	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No.2.10.8.4	40° 0.4 kV to 10 kV
		Wiring connections & supply	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No. 3.0	1 kg to 10 kg 0.01 mm to 150 mm 0.01 mm to 25 mm
		Stability	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No. 4.1	10° Inclined Plane 1 N to 250 N 1 N to 800 N
		Mechanical Strength	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No.4.2	Qualitative
		Steady force	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No. 4.2.2, 4.2.3, 4.2.4	1 N to 10 N 1 N to 30 N 1 N to 250 N
		Impact	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No. 4.2.5	Qualitative 50 mm 500g
		Drop	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No.4.2.6	Qualitative
		Stress relief	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No.4.2.7	0.1 °C to 250 °C
		Mechanical strength for Wall or ceiling mounted equipment	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No. 4.2.10	1 N to 50 N
		Design & construction Handles & manual controls	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No. 4.3.2	1 N to 50 N
		Protection against hazardous moving parts	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No. 4.4	Qualitative 30 N

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		Temperature	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No.4.5.2	Ambient to 200 °C
		Resistance to abnormal heat	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No. 4.5.5	0.1 °C to 250 °C
		Evaluation measures for larger opening	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No. 4.6.4.2	Qualitative 1 mm 13 mm
		Resistance to fire	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No. 4.7	1 °C to 1200 °C 0.1 s to 60 s
		Touch current & protective conductor current	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No. 5.1	1 mA to 10 mA
		Electric strength	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No. 5.2	0.4 kV to 10 kV
		Protection from hazardous voltages	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No. 6.1.1	0.01 mA to 10 mA
		Separation of the telecommunication network from earthing	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No. 6.1.2	0.4 kV to 10 kV
		Impulse	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No. 6.2.2.1	0.4 kV to 10 kV
		Steady state	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No. 6.2.2.2	0.4 kV to 10 kV
		Compliance criteria	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No. 6.2.2.3	0.4 kV to 10 kV

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		Voltage Surge	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No. 7.4.2	0.98 kV to 10 kV
		Impulse	IS 13252 (Part 1): 2010 IEC 60950-1: 2013 Cl. No.7.4.3	0.99 kV to 10 kV
II.	POWER SUPPLIES & STABILIZERS			
1.	Uninterruptible Power Systems (UPS)	Power interface	IS 16242 (Part 1): 2014 IEC 62040-1: 2017 Cl. No. 4.6	10 Aac to 90 Aac 50 Vdc to 950 Vdc
		Marking & Instructions, Power rating	IS 16242 (Part 1): 2014 IEC 62040-1: 2017 Cl. No. 4.7	Qualitative
		Protection against electric shock and energy hazards	IS 16242 (Part 1): 2014 IEC 62040-1: 2017 Cl. No. 5.1	Qualitative 4.5 V to 60 V
		Protective earthing & Bonding	IS 16242 (Part 1): 2014 IEC 62040-1: 2017 Cl. No. 5.3	0.01 mm to 150 mm 0.1 V to 99.9 V 0.1 A to 50 A
		AC & DC power isolation	IS 16242 (Part 1): 2014 IEC 62040-1: 2017 Cl. No. 5.4	Qualitative
		Over current and earth fault protection	IS 16242 (Part 1): 2014 IEC 62040-1: 2017 Cl. No. 5.5	Up to 200 °C
		Protection of Personnel Safety interlocks limited to scope of IS 13252	IS 16242 (Part 1): 2014 IEC 62040-1: 2017 Cl. No. 5.6	Qualitative

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		Clearance, Creepage distance distance through insulation limited to scope of IS 13252	IS 16242 (Part 1): 2014 IEC 62040-1: 2017 Cl. No. 5.7	1 Vdc to 1000 Vdc 1 Vac to 750 Vac 0.01 mm to 150 mm
		Wiring, Connection and Supply	IS 16242 (Part 1): 2014 IEC 62040-1: 2017 Cl. No. 6	1 kg to 10 kg 0.01 mm to 150 mm 0.01 mm to 25 mm
		Connection to power	IS 16242 (Part 1): 2014 IEC 62040-1: 2017 Cl. No.6.2	30 N to 100 N
		Wiring terminals for external power conductors	IS 16242 (Part 1): 2014 IEC 62040-1: 2017 Cl. No. 6.3	Qualitative
		Stability	IS 16242 (Part 1): 2014 IEC 62040-1: 2017 Cl. No. 7.2	10° Inclined Plane 1 N to 250 N 1 N to 800 N
		Mechanical Strength	IS 16242 (Part 1): 2014 IEC 62040-1: 2017 Cl. No. 7.3	1 N to 250 N
		Resistance to Fire	IS 16242 (Part 1): 2014 IEC 62040-1: 2017 Cl. No. 7.5	1 °C to 1200 °C 0.1 s to 60 s
		Battery Location	IS 16242 (Part 1): 2014 IEC 62040-1: 2017 Cl. No. 7.6	Qualitative
		Temperature Rise	IS 16242 (Part 1): 2014 IEC 62040-1: 2017 Cl. No. 7.7	Ambient to 200 °C
		Electric strength	IS 16242 (Part 1): 2014 IEC 62040-1: 2017 Cl. No.8.2	0.1 kV to10 kV 50 mA to 250 mA
		Abnormal operating and fault condition	IS 16242 (Part 1): 2014 IEC 62040-1: 2017 Cl. No. 8.3	Qualitative

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ELECTRICAL TESTING

I.	LAMP, LUMINARIES & ACCESSORIES			
1.	Fixed general Purpose Luminaries	Marking & durability	IS 10322 (Part 5/Sec 1): 2012 (RA 2017) IEC/EN 60598: 2014 Cl. No. 4.3	Qualitative
		Construction		Qualitative
		Wire ways		Qualitative
		Lamp Holders	IS 10322 (Part 5/Sec 1): 2012 (RA 2017) IEC/EN 60598: 2014 Cl. No. 4.4	1 Nm to 10 Nm
		Terminal block	IS 10322 (Part 5/Sec 1): 2012 (RA 2017) IEC/EN 60598: 2014 Cl. No. 4.6	1 mm to 300 mm
		Terminal and supply connection	IS 10322 (Part 5/Sec 1): 2012 (RA 2017) IEC/EN 60598: 2014 Cl. No. 4.7	Qualitative
		Double and Reinforced Insulation	IS 10322 (Part 5/Sec 1): 2012 (RA 2017) IEC/EN 60598: 2014 Cl. No. 4.10	Qualitative
		Electrical connections and current carrying parts	IS 10322 (Part 5/Sec 1): 2012 (RA 2017) IEC/EN 60598: 2014 Cl. No. 4.11	Qualitative
Screw and connections - Mechanical	IS 10322 (Part 5/Sec 1): 2012 (RA 2017) IEC/EN 60598: 2014 Cl. No. 4.12	0.1 Nm to 50 Nm		

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		Mechanical strength	IS 10322 (Part 5/Sec 1): 2012 (RA 2017) IEC/EN 60598: 2014 Cl. No. 4.13	Qualitative
		Flammable material	IS 10322 (Part 5/Sec 1): 2012 (RA 2017) IEC/EN 60598: 2014 Cl. No. 4.15	1 mm to 300 mm
		Drain holes	IS 10322 (Part 5/Sec 1): 2012 (RA 2017) IEC/EN 60598: 2014 Cl. No. 4.17	Qualitative
		Creepage distances & clearances	IS 10322 (Part 5/Sec 1): 2012 (RA 2017) IEC/EN 60598: 2014 Section 11	1 mm to 300 mm
		Provision for earthing	IS 10322 (Part 5/Sec 1): 2012 (RA 2017) IEC/EN 60598: 2014 Section 7	0.1 V to 99.9 V 0.1 A to 50 A
		Terminals	IS 10322 (Part 5/Sec 1): 2012 (RA 2017) IEC/EN 60598: 2014 Section 14-15	Qualitative
		External & Internal Wiring	IS 10322 (Part 5/Sec 1): 2012 (RA 2017) IEC/EN 60598: 2014 Section 5	0.01 mm to 300 mm 0.1 kgf.cm to 60 kgf.cm
		Protection against electric shock	IS 10322 (Part 5/Sec 1): 2012 (RA 2017) IEC/EN 60598: 2014 Section 8	Qualitative Up to 80 V

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		Endurance and thermal	IS 10322 (Part 5/Sec 1): 2012 (RA 2017) IEC/EN 60598: 2014 Section 12	0.1 Vac to 300 Vac 0.1 °C to 250 °C
		Test for ingress of dust, solid objects and moisture	IS 10322 (Part 5/Sec 1): 2012 (RA 2017) IEC/EN 60598: 2014	Qualitative
		Dust Proof Luminaires	IS 10322 (Part 5/Sec 1): 2012 (RA 2017) IEC/EN 60598: 2014 Cl. No. 9.2.1	Qualitative
		Dust Tight Luminaires	IS 10322 (Part 5/Sec 1): 2012 (RA 2017) IEC/EN 60598: 2014 Cl. No. 9.2.2	Qualitative
		Rain Proof Luminaires	IS 10322 (Part 5/Sec 1): 2012 (RA 2017) IEC/EN 60598: 2014 Cl. No. 9.2.4	Qualitative 1 rev/min 120°
		Splash Proof Luminaires	IS 10322 (Part 5/Sec 1): 2012 (RA 2017) IEC/EN 60598: 2014 Cl. No. 9.2.5	Qualitative
		Jet Proof Luminaires	IS 10322 (Part 5/Sec 1): 2012 (RA 2017) IEC/EN 60598: 2014 Cl. No. 9.2.6	Qualitative 12.5 l/min
		Powerful Water Jet Proof Luminaires	IS 10322 (Part 5/Sec 1): 2012 (RA 2017) IEC/EN 60598: 2014 Cl. No. 9.2.7	Qualitative 100 l/min

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		Humidity	IS 10322 (Part 5/Sec 1): 2012 (RA 2017) IEC/EN 60598: 2014 Cl. No. 9.3	0.1 °C to 50 °C 1 % to 98 % RH
		Insulation resistance and electric strength	IS 10322 (Part 5/Sec 1): 2012 (RA 2017) IEC/EN 60598: 2014 Section 10	1 Vdc to 1000 Vdc 0.01 MΩ to 500 MΩ 0.4 kV to 10 kV 50 mA to 250 mA 0.1 mA to 20 mA
		Resistance to heat, fire and tracking	IS 10322 (Part 5/Sec 1): 2012 (RA 2017) 2012 IEC/EN 60598: 2017 Section 13	20N 5mm 1 °C to 960 °C 0.1 °C to 1200 °C 1 Vac to 600 Vac 0.1 Vac to 600 Vac 0.1°C to 250 °C
II.	SAFETY TESTING FACILITY			
1.	Safety of Electric Toys (Except wheeled ride-on toys)	Verification of Marking and instruction	IS 15644: 2006 (RA 2011) IEC 62115: 2017 Cl. No. 7	Qualitative
		Power input	IS 15644: 2006 (RA 2011) IEC 62115: 2017 Cl. No. 8	1 W to 6000 W
		Heating and abnormal operation	IS 15644: 2006 (RA 2011) IEC 62115: 2017 Cl. No. 9	0.1 °C to 200 °C 0.1 Vdc to 30 Vdc 0.01 Adc to 5 Adc
		Electric strength at operating temperature	IS 15644: 2006 (RA 2011) IEC 62115: 2017 Cl. No. 10	0.1 kVac to 10 kVac 1 mA to 250 mA

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		Moisture resistance	IS 15644: 2006 (RA 2011) IEC 62115: 2017 Cl. No. 11	0.1 kVac to 10 kVac 1 mA to 250 mA Ambient to 60 °C 30 % to 95 % RH
		Electric strength at room temperature	IS 15644: 2006 (RA 2011) IEC 62115: 2017 Cl. No. 12	0.1 kVac to 10 kVac 1 mA to 250 mA
		Mechanical strength	IS 15644: 2006 (RA 2011) IEC 62115: 2017 Cl. No. 13	0.1 J to 1.0 J
		Construction	IS 15644: 2006 (RA 2011) IEC 62115: 2017 Cl. No. 14	0.1 N to 500 N 1Kg Up to 300 mm
		Protection of cord and wires	IS 15644: 2006 (RA 2011) IEC 62115: 2017 Cl. No. 15	Qualitative
		Component (Visual test for certified components only)	IS 15644: 2006 (RA 2011) IEC 62115: 2017 Cl. No. 16	Qualitative
		Screw and connections	IS 15644: 2006 (RA 2011) IEC 62115: 2017 Cl. No. 17	1 mm to 300 mm 0.1 Nm to 25 Nm
		Clearance and Creepage distances	IS 15644: 2006 (RA 2011) IEC 62115: 2017 Cl. No. 18	0.01 mm to 300 mm
		Resistance to heat and fire	IS 15644: 2006 (RA 2011) IEC 62115: 2017 Cl. No. 19	Ambient to 250°C 20N 5 mm Ambient to 1200 °C 1.0 s to 60.0 s