

TESTING AND MEASURING EQUIPMENT/ALLOWED SUBCONTRACTING

IEC 61058-1:2016, Edition 4.0

Switches for appliances–Part 1: General requirements

“R”	Required
“S”	May be subcontracted, see OD 2012
“SPTL”	Specialized Facility, see IECEE 02-2
“W”	Witness testing in the categories “MED” and “MEAS”
“3PPS”	Three Phase Power Supply required

Clause	Measurement/testing	Testing / measuring equipment / material needed	LISUN Model	Subcontracting
8	Marking and documentation	Distilled water and petroleum spirit		R
8.3.5	Resistive load and tungsten filament lamp load (figure 8 & figure 9)		DFX-WD20A	
9.1	Protection against electric shock	Probe B according to IEC 61032 jointed test finger Probe 11 according to IEC 61032 straight unjointed test finger Test pin Probe 13 according to IEC 61032 Probe C according to Figure 3 IEC 61032	SMT-02T10 SMT-1211C SMT-1213C SMT-1203C	R
9.2	Accessible metal part	Non-inductive resistor of 20k Current ≤ 0,7 mA (peak value) for AC up to 1 kHz or 2 mA for DC		R
10.4	Provision for earthing	PE conductor tester, rated current not less than 25 A	WB2678A	R
11.7	Solder terminals	Solder bath 260°C Soldering iron 350°C		R
11.8	Terminal displacement test	Pull forces – 135N		R

Clause	Measurement/testing	Testing / measuring equipment / material needed	LISUN Model	Subcontracting
14.1+14.2+14.3	Protection against ingress of solid foreign objects, ingress of water and humid conditions	According to IEC 60529	JL-12 JL-34 JL-56 JL-8 JL-9K1L	R
		Sphere 50mm diameter Jointed test finger Test rod 2,5mm diameter Test wire 1,0mm diameter Sphere 12,5mm diameter	SMT-529T	R
		Dust chamber Drip box Drip box 15° Oscillating tube/spray ±60° or spray nozzle/spray ±60° Oscillating tube/spray ±180° Water jet hose nozzle – nozzle 12,5mm diameter Immersion tank	SC-015	S
14.3	Protection against humid conditions	Humidity cabinet, relative humidity above 91 % temperature of the air 20-30°C	GDJS-010A	R
15.2	Insulation resistance	Insulation tester with DC 500 V, insulation resistance –7MΩ	WB2681A	R
15.3	Insulation test voltage	High-voltage transformer AC 50/60 Hz, –5000V not trip when the output current is less than 100mA	WB2671B	R
16	Heating	Heating or refrigerating cabinet without forced convection Room temperature The load circuit may be either a.c. or d.c. The temperature rise is measured with fine wire thermocouples	GW-225	R

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17	Endurance	Environmental chambers – heat, freeze, voltmeter, ammeter, power analyzer meter, oscilloscope, inductive loads, resistive loads, pilot duty loads, motor loads. Activation source and cycling mechanism as required. Reference IEC 61058-1-1 for mechanical switch testing Reference IEC 61058-1-2 for electronic switch testing	CZKS-3	R
18.2	Mechanical strength	Spring-operated impact-test apparatus of IEC 60068-2-75, 0,5 Nm ± 0,04 Nm, 1,0 Nm ± 0,05 Nm Environmental chambers – heat, freeze Test plate of Figure 11		R
18.3/18.4	Mechanical strength	Pull force – 50N/100N Push force – 30N		R
19.2.4	Screwed connections	Torque screwdrivers		R
19.2.5	Screwed glands	Suitable torque spanner		R
20	Clearances, creepage distances, solid insulation and coatings of rigid printed board assemblies	Suitable measurements, e.g. slide-gauge, impulse withstand test apparatus Printed board assemblies Rapid change of temperature Proof tracking test apparatus according to IEC 60112	CK-1	R
21	Fire hazard	Heating cabinet Ball pressure test apparatus according to IEC 60695-10-2 Glow-wire test apparatus according to IEC 60695-2-11	GW-225 ZBP-T ZRS-3H	R
22	Resistance to rusting	Heating cabinet, 10% solution ammonium chloride in water, cleaning agent	YWX/Q-010	R
23	Abnormal operation and fault conditions for switches	Reference IEC 61058-1-1 for mechanical switch testing Reference IEC 61058-1-2 for electronic switch testing		R

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25	EMC requirements	Signal generator, Compact generator, ESD generator Voltage dips and voltage interruptions apparatus Anechoic chamber Radiated EM field test apparatus	CSS61000-11 SG61000-5 EFT61000-4 ESD61000-2 AC-3M PFM61000-8A LS8930 LSP-EMC500VA EMI-9KA	S