Laboratory	**Electronics and Quality Development Centre, B 177/178, G.I.D.C. Electronics Estate, Sector-25, Gandhinagar, Gujarat** **Location 1: B 177/178, G.I.D.C. Electronics Estate, Sector-25, Gandhinagar, Gujarat** **Location 2: B/23/2, G.I.D.C. Electronics Estate, Sector-25, Gandhinagar, Gujarat**	
Accreditation Standard	**ISO/IEC 17025**	
Certificate Number	**TC-6695**	**Page 1 of 65**
Validity	**06.01.2018 to 05.01.2020**	**Last Amended on 29.05.2019**

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

ELECTRICAL TESTING (as per ISO/IEC 17025: 2005)

AT LOCATION 1				
I.	**MEASURING INSTRUMENTS - ELECTRICAL AND ELECTRONIC (STATIC) ENERGY METERS**			
1.	**Electrical and Electronic (Static) Energy Meters**	Impulse Voltage	Cl. No. 12.7.6.2 of IS 13779 Cl. No. 12.7.6.2 of IS 14697 IEC 61000-4-5 Cl. No. 5.4.6.2 of CBIP Publication No.: 304 Cl. No. 5.4.6.2 of CBIP Publication No.: 325 Cl. No.7.3.2 of IEC 62052-11 IEC 62053-21 IEC 62053-22 IEC 62053-23 IEC 61000-4-12 Cl. No. 5.4.6.2 of IS 15884 A.2.19 of NMI M 6-1	0.5 kV to 12 kV

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		ac High Voltage or Dielectric Strength	Cl.No.12.7.6.3 of IS 13779 Cl.No.12.7.6.3 of IS 14697 IEC 60060-1 Cl. No. 5.4.6.2 of CBIP Publication No.: 304 Cl. No. 5.4.6.2 of CBIP Publication No.: 325 Cl.No.7.3.3 of IEC62052-11 Cl.No. 7.4 of IEC 62053-21 Cl. No. 7.4 of IEC 62053-22 Cl. No. 7.4 of IEC 62053-23 Cl. No. 5.4.6.3 of IS 15884 A.2.20 of NMI M 6-1	1 kV to 4 kV
		Insulation Resistance/ Insulation	Cl. No. 12.7.6.4 of IS 13779 Cl. No. 12.7.6.4 of IS 14697 Cl. No. 5.4.6.4 of CBIP Publication No.:304 Cl. No. 5.4.6.4 of CBIP Publication No.: 325 Cl. No. 5.4.6.4 of IS 15884 IS 12346	1 MΩ to 1 TΩ 500V DC

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Limits of Errors/ Accuracy Requirement	Cl. No. 11.1 of IS 13779 Cl. No. 11.1 of IS 14697 Cl. No. 4.6.3 of CBIP Publication No.: 304 Cl. No. 4.6.2 of CBIP Publication No.: 325 IEC 62052-11 Cl. No. 8.1 of IEC 62053-21 Cl. No. 8.1 of IEC 62053-22 Cl. No. 8.1 of IEC 62053-23 Cl. No. 4.6.1 of IS 15884 Cl. No.4.8 of NMI M 6-1 Vl. No. 5 of IS 12346 Cl. 4.8 of NMI M 6-1	40 V to 320 V 1 mA to 120 A 45Hz to 65Hz P.F: +1 to -1 Single Phase: (0.12 W to 38.4 kW) Three Phase: (0.36 W to 115.2 kW)
		Interpretation Of Test Results and Adjustments	Cl. No. 12.16 of IS 13779 Cl. No. 12.15 of IS 14697 Cl. No. 5.6.7 of CBIP Publication No.: 304 Cl. No. 5.6.7 of CBIP Publication No.: 325 IEC 62052-11 Cl. No. 8.6 of IEC 62053-21 Cl. No. 8.6 of IEC 62053-22 Cl. No. 8.6 of IEC 62053-23 Cl. No. 5.6.6 of IS 15884	Qualitative

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Meter Constant	Cl. No. 12.15 of IS 13779 Cl. No. 12.14 of IS 14697 Cl. No. 5.6.6 of CBIP Publication No.: 304 Cl. No. 5.6.6 of CBIP Publication No.: 325 IEC 62052-11 Cl. No. 8.4 of IEC 62053-21 Cl. No. 8.4 of IEC 62053-22 Cl. No. 8.4 of IEC 62053-23 Cl. No. 5.6.5 of IS 15884 Cl. No.4.6 of NMI M 6-1	40 V to 320 V 1 mA to 120 A 45 Hz to 65 Hz P.F +1 to -1 Single Phase: (0.12 W to 38.4 kW) Three Phase: (0.36 W to 115.2 kW)
		Starting Conditions, Initial start up of meters	Cl. No. 12.14 of IS 13779 Cl. No. 12.13 of IS 14697 Cl. No. 5.6.5 of CBIP Publication No.: 304 Cl. No. 5.6.5 of CBIP Publication No.: 325 IEC 62052-11 Cl. No. 8.3 of IEC 62053-21 Cl. No. 8.3 of IEC 62053-22 Cl. No. 8.3 of IEC 62053-23 Cl. No. 5.6.4 of IS 15884 Cl. No. 5.7 of NMI M 6-1	40 V to 320 V 1 mA to 120 A 45 Hz to 65 Hz P.F +1 to -1 Single Phase: (0.12 W to 38.4 kW) Three Phase: (0.36 W to 115.2 kW)

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		No Load Condition/ Running with no load	Cl. No. 12.13 of IS 13779 Cl. No. 12.12 of IS 14697 Cl. No. 5.6.4 of CBIP Publication No.: 304 Cl. No. 5.6.4 of CBIP Publication No.: 325 IEC 62052-11 Cl. No. 8.3 of IEC 62053-21 Cl. No. 8.3 of IEC 62053-22 Cl. No. 8.3 of IEC 62053-23 Cl. No. 5.6.3 of IS 15884 Cl. No. 5.7 of NMI M 6-1	40 V to 320 V 1 mA to 120 A 45 Hz to 65 Hz P.F +1 to -1 Single Phase: (0.12 W to 38.4 kW) Three Phase: (0.36 W to 115.2 kW)
		Ambient Temperature Influence	Cl. No. 12.12 of IS 13779 Cl. No. 12.11 of IS 14697 Cl. No. 5.6.3 of CBIP Publication No.: 304 Cl. No. 5.6.3 of CBIP Publication No.: 325 IEC 62052-11 Cl. No. 8.2 of IEC 62053-21 Cl. No. 8.2 of IEC 62053-22 Cl. No. 8.2 of IEC 62053-23 Cl. No. 4.6.3 of IS 15884 Cl. No. 5.3 of NMI M 6-1	40 V to 320 V 1 mA to 120 A 45 Hz to 65 Hz P.F +1 to -1 Single Phase: (0.12 W to 38.4 kW) Three Phase: (0.36 W to 115.2 kW)

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Repeatability of Error	Cl. No. 12.17 of IS 13779 Cl. No. 12.16 of IS 14697 Cl. No. 5.6.9 of CBIP Publication No.: 304 Cl. No. 5.6.9 of CBIP Publication No.: 325 Cl. No. 5.6.7 of IS 15884	40 V to 320 V 1 mA to 120 A 45 Hz to 65 Hz P.F +1 to -1 Single Phase: (0.12 W to 38.4 kW) Three Phase: (0.36 W to 115.2 kW)
		• Influence Quantities • Voltage Variation, • Frequency variation, • Reverse phase sequence, • Voltage unbalance	Cl. No. 12.11 of IS 13779 Cl. No. 12.10 of IS 14697 Cl. No. 5.6.2 of CBIP Publication No.: 304 Cl. No. 5.6.2 of CBIP Publication No.: 325 IEC 62052-11 Cl. No. 8.2 of IEC 62053-21 Cl. No. 8.2 of IEC 62053-22 Cl. No. 8.2 of IEC 62053-23 Cl. No. 4.6.2 of IS 15884 Cl. No. 5 of NMI M 6-1	40 V to 320 V 1 mA to 120 A 45 Hz to 65 Hz P.F +1 to -1 Single Phase: (0.12 W to 38.4 kW) Three Phase: (0.36 W to 115.2 kW)

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		• Harmonic component in current and voltage circuit, • Sub harmonics in AC current circuit, • Odd harmonics in AC current circuit, • Wave form: 10% of 3rd harmonic in current circuit	Cl. No. 12.11 of IS 13779 Cl. No. 12.10 of IS 14697 Cl. No. 5.6.2 of CBIP Publication No.: 304 Cl. No. 5.6.2 of CBIP Publication No.: 325 IEC 62052-11 Cl. No. 8.2 of IEC 62053-21 Cl. No. 8.2 of IEC 62053-22 Cl. No. 8.2 of IEC 62053-23 Cl. No. 4.6.2 of IS 15884 Cl. No. 5 of NMI M 6-1	40 V to 320 V 1 mA to 120 A 45 Hz to 65 Hz P.F +1 to -1 Single Phase: (0.12 W to 38.4 kW) Three Phase: (0.36 W to 115.2 kW)

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		• Continuous magnetic induction of external Origin (DC field), • Magnetic induction of external origin (0.5mT)(AC field), • Stray d.c magnetic induction of external origin (67 mT), • Stray a.c magnetic induction of external origin (0.5mT), • Abnormal a.c. magnetic induction of external origin (10 mT), • Abnormal a.c. magnetic induction of external origin (200 mT), • Continuous abnormal d.c. magnetic induction of external Origin (200/270mT), Magnetic field strength (0.0025 mT – 0.05mT) abnormal D.C.	Cl. No. 12.11 of IS 13779 Cl. No. 12.10 of IS 14697 IS 15884 IEC 62052-11 IEC: 62053-21 IEC: 62053-22 IEC: 62053-23 IS 12346 CBIP Publication No.: 304 CBIP Pub No.: 325	40 V to 320 V 1 mA to 120 A 45 Hz to 65 Hz P.F +1 to -1 Single Phase: (0.12 W to 38.4 kW) Three Phase: (0.36 W to 115.2 kW) 0.5 mT & 10 mT, 140AT & 2,800 AT 200 mT, 20,000AT 67mT & 270 mT, 1000 AT & 17500AT 500mT, 50000AT 0.5 mT, 400AT, 0.2 T, 0.5 T

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Heating/ Influence of Heating	Cl. No. 12.7.5 of IS 13779 Cl. No. 12.7.5 of IS 14697 Cl. No. 5.4.5 of CBIP Publication No.: 304 Cl. No. 5.4.5 of CBIP Publication No.: 325 Cl. No. 7.2 of IEC 62052-11 IEC 62053-21 IEC 62053-22 IEC 62053-23 Cl. No. 5.4.5 of IS 15884	40 V to 320 V 1 mA to 120 A 45 Hz to 65 Hz P.F +1 to -1 Single Phase: (0.12 W to 38.4 kW) Three Phase: (0.36 W to 115.2 kW)
		Immunity to Earth fault / Abnormal voltage condition	Cl. No. 12.8 of IS 13779 Cl. No. 12.17 of IS 14697 Cl. No. 4.4.7 of CBIP Publication No.: 304 Cl. No. 4.4.7 of CBIP Publication No.: 325 Cl. No. 7.4 of IEC 62052-11 IEC 62053-21 IEC 62053-22 IEC 62053-23 Cl. No. 4.4.2.6 of IS 15884	40 V to 320 V 1 mA to 120 A 45 Hz to 65 Hz P.F +1 to -1 Single Phase: (0.12 W to 38.4 kW) Three Phase: (0.36 W to 115.2 kW)

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Dry Heat	Cl. No. 12.6.1 of IS 13779 Cl. No. 12.6.1 of IS 14697 IS 9000 (part 3) IEC 60068-2-2 Cl. No. 5.2.2 of CBIP 111 Cl. No. 5.3.1 of CBIP Publication No.: 304 Cl. No. 5.3.1 of CBIP Publication No.: 325 Cl.No.6.3.1 of IEC62052-11 Cl.No.6.3.1 of IEC62053-21 Cl.No.6.3.1 of IEC62053-22 Cl.No.6.3.1 of IEC62053-23 Cl. No. 5.3.1 of IS 15884 A.2.1 of NMI M 6-1	(-)65°C to 150°C Max. Chamber Size: 1.5 m x1.5 m x1.5 m

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Cold	Cl. No. 12.6.2 of IS 13779 Cl. No. 12.6.2 of IS 14697 IS 9000 (part 2) IEC 60068-2-1 Cl. No. 5.2.3 of CBIP 111 Cl. No. 5.3.2 of CBIP Publication No.: 304 Cl. No. 5.3.2 of CBIP Publication No.: 325 Cl.No.6.3.2 of IEC62052-11 Cl.No.6.3.2 of IEC62053-21 Cl.No.6.3.2 of IEC62053-22 Cl.No.6.3.2 of IEC62053-23 Cl.No.5.3.2 of IS 15884 A.2.2 of NMI M 6-1	Max. Chamber Size: 1.5x1.5x1.5 m3 Temperature: Ambient to -65°C Ambient to -70°C

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Damp Heat Cyclic	Cl. No. 12.6.3 of IS 13779 Cl. No. 12.6.3 of IS 14697 IS 9000 (part 5) IEC 60068-2-30 Cl.No. 5.2.4 of CBIP 111 Cl. No. 5.3.3 of CBIP Publication No.: 304 Cl. No. 5.3.3 of CBIP Publication No.: 325 Cl.No.6.3.3 of IEC62052-11 Cl.No.6.3.3 of IEC62053-21 Cl.No.6.3.3 of IEC62053-22 Cl.No.6.3.3 of IEC62053-23 Cl.No. 5.3.3 of IS 15884 A.2.4 of NMI M 6-1	25°C to 60°C, 15 % R.H to 95 % R.H. Max. Chamber Size: 1.5 m x1.5 m x1.5 m

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Vibration	Cl.No. 12.3.2 of IS 13779 Cl.No. 12.3.2 of IS 14697 IS 9000 (part 8) IEC 60068-2-6 Cl. No. 5.2.3 of CBIP Publication No.: 304 Cl. No. 5.2.3 of CBIP Publication No.: 325 Cl.No. 5.1.3 of CBIP 111 Cl.No.5.2.2.3 of IEC 62052-11 Cl. No. 5.2.2.3 of IEC 62053-21 Cl. No. 5.2.2.3 of IEC 62053-22 Cl.No. 5.2.2.3 of IEC 62053-23 Cl. No. 5.2.3 of IS 15884 A.2.7 of NMI M 6-1	Upto 400Kgf (sine wave) 20mm (close loop mode) 5 Hz to 3.5 kHz

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Shock	Cl.No. 12.3.1 of IS 13779 Cl.No. 12.3.1 of IS 14697 IS 9000 (part 7) IEC 60068-2-27 Cl. No. 5.2.2 of CBIP Publication No.: 304 Cl. No. 5.2.2 of CBIP Publication No.: 325 Cl. No. 5.1.2 of CBIP 111 Cl. No. 5.2.2.2 of IEC 62052-11 Cl. No. 5.2.2.2 of IEC 62053-21 Cl. No. 5.2.2.2 of IEC 62053-22 Cl. No. 5.2.2.2 of IEC 62053-23 Cl. No. 5.2.2 of IS 15884 A.2.8 of NMI M 6-1	Pulse acceleration: Up to 10 g 11msec 18 msec

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Spring/ Impact Hammer	Cl. No. 12.3.3 of IS 13779 Cl. No. 12.3.3 of IS 14697 IEC 60068-2-75 IEC 817 Cl. No. 5.2.1 of CBIP Publication No.: 304 Cl. No. 5.2.1 of CBIP Publication No.: 325 Cl. No. 5.2.2.1 of IEC 62052-11 Cl. No. 5.2.2.1 of IEC 62053-21 Cl. No. 5.2.2.1 of IEC 62053-22 Cl. No. 5.2.2.1 of IEC 62053-23 Cl. No. 5.2.1 of IS 15884	0.22 Nm 0.2 J ± 0.02 J

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Protection against Penetration of Dust & Water	Cl. No. 12.5 of IS 13779 Cl. No. 12.5 of IS 14697 IS/IEC 60529 IEC 60529 Cl. No. 5.2.5 of CBIP Publication No.: 304 Cl. No. 5.2.5 of CBIP Publication No.: 325 Cl. No. 5.2.1 of CBIP Report 111 Cl. No. 5.9 of IEC 62052-11 Cl. No. 5.9 of IEC 62053-21 Cl. No. 5.9 of IEC 62053-22 Cl. No. 5.9 of IEC 62053-23 Cl. No. 5.2.5 of IS 15884 A.2.6 of NMI M 6-1	Qualitative (IP 1X - IP 5X IP X1- IP X8 Size : 1m x1m x1m for dust chamber Size: 1.5mx1.5mx1.5m for rain chamber
		Resistance to Heat and Fire	Cl. No. 12.4 of IS 13779 Cl. No. 12.4 of IS 14697 Cl. No. 5.2.4 of CBIP Publication No.: 304 Cl. No. 5.2.4 of CBIP Publication No.: 325 IS 11000 (Part 1 & 2) IEC 60695-2-10 IEC 60695-2-11 Cl. No. 5.8 of IEC 62052-11 Cl. No. 5.8 of IEC 62053-21 Cl. No. 5.8 of IEC 62053-22 Cl. No. 5.8 of IEC 62053-23 Cl. No. 5.2.4 of IS 15884	650°C & 960 °C

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		General and Constructional Requirements (Meter case , window , terminals , terminal cover, terminal block , protective earth terminal, clearance & creep age distance ,Insulating encase meter, display of measured values, output devices, Determination of temp. of deflection under load)	Cl. No. 6.6 of IS 13779 Cl. No. 6.6 of IS 14697 Cl. No. 4.2 of CBIP Pub. No.: 304 CBIP Pub No.: 325 Cl. No. 5.6 of IEC 62052-11 IEC 62053-21 IEC 62053-22 IEC 62053-23 Cl. No. 4.2.6, 4.2.10 of IS 15884 NMI M 6-1	Qualitative
II.	**ROTATING ELECTRICAL MACHINES**			
1.	**Submersible Pumpsets, 0.37 kW to 45 kW Openwell Submersible Pumpset, 0.37 kW to 45 kW**	Verification of Marking	IS 8034 Cl. No. 16.1 IS 9283 Cl. No. 15.1 IS 14220 Cl. No. 11	Qualitative
		Terminal Marking	IS 9283 Cl. No.13	Qualitative
		Earthing	IS 9283 Cl. No. 5.2 IS 14220 Cl. No. 7.4.4	Qualitative

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Submersible Motor, 0.37 kW to 45 kW	Measurement of Stator Resistance	IS 8034 Cl. No. 7.0 IS 9283 Cl. No. 16.1(c) IS 14220 Cl. No. 7.4.6.2	1 mΩ to 19.99 kΩ
		No Load Test at Rated Voltage	IS 8034 Cl. No. 7.0 IS 9283 Cl. No. 16.1(d) IS 14220 Cl. No. 7.4.6.2	Per Phase Upto 300 V AC Upto 180 A AC Upto 54 kW Up to 18000 rpm
		Reduced Voltage Running up test	IS 8034 Cl. No. 7.0 IS 9283 Cl. No. 16.1(e) IS 14220 Cl. No. 7.4.6.2	Per Phase Upto 300 V AC Upto 180 A AC Upto 54 kW Up to 18000 rpm
		Full load test	IS 9283 Cl. No. 16.1(g) IS 11346 Cl. No. 3.2.4.3	Per Phase Upto 300 V AC Upto 180 A AC Upto 54 kW Up to 18000 rpm Up to 20 kgfm Speed : Max. 3000rpm
		Temperature Rise Test at Rated Voltage	IS 8034: 2002, Cl. No. 7.1.1.1 IS 9283:2013, Cl. No. 16.1(j),19 IS 14220:1994,Cl.No.7.4.6.3.1	Per Phase : AC V: 0-300V AC A: 0 –180 A, kW: 0 –54 kW Range:0 to100 °C

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Temperature Rise Test at Reduced Voltage	IS 8034: 2002, Cl. No. 7.1.1.2 IS 9283:2013, Cl. No. 16.1(k), 19 IS 14220:1994, Cl.No.7.4.6.3.2	Per Phase : AC V: 0-300V, AC A: 0 –180 A, kW: 0 –54 kW Range:0 to 100 °C
		Locked Rotor Test	IS 8034: 2002, Cl. No. 7.0 IS 9283:2013, Cl. No. 16.1(f) IS 14220:1994,Cl.No.7.4.6.6	Per Phase :AC V: 0-300V AC A: 0 –180 A, kW: 0 –54 kW Torque :up to 30 kgfm
		High Voltage	IS 8034 Cl. No. 7.0 IS 9283 Cl. No. 16.1(b),20 IS 14220 Cl.No.7.4.6.5	Qualitative (Upto 5kV)
		Insulation Resistance	IS 8034 Cl. No. 7.0 IS 9283 Cl. No. 16.1(a),21 IS 14220 Cl.No. 7.4.6.5	Upto 10 GΩ Up to 1000V DC
		Performance Characteristic	IS 9283 Cl. No. 16.1(h),11,17,22 IS 11346 Cl. No. 3.2.4.3	Per Phase Upto 300 V AC Upto 180 A AC Upto 54 kW Upto 30 kgfm Max. 3000 rpm
		Pump Performance 1) Measurement of Flow 2) Head Measurement 3) Measurements of Electrical Power	IS 8034 Cl. No. 14.1,14.1.3,14.1.4, 14.1.2.1,15 IS 11346 Cl. No. 3.1,5.2 IS 14220 Cl. No. 9.1,10	1m to 600m 0.1lps to 66 lps Per Phase Upto 300V AC Upto180 A AC Upto 54 kW

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Hydrostatic	IS 8034 Cl. No. 9.1 IS 14220 Cl. No. 7.5	Qualitative (Upto 60 bar)
		Direction of Rotation	IS 8034 Cl. No. 10 IS 14220	Qualitative
		Leakage Current	IS 8034 Cl. No. 7.0 IS 9283 Cl. No. 16.1(n),23 IS 14220 Cl. No. 7.4.6.2	0.1 mA to 200 mA
		Momentary Overload	IS 8034 Cl. No. 7.0 IS 9283 Cl. No. 16.1(m),18.1 IS 14220 Cl. No. 7.4.6.2	Qualitative (Per Phase Upto 300 V AC Upto 180 A AC Upto 54 kW Upto 30 kgfm Max. 3000 rpm)
		Dimensions and Tolerances	IS 9283 Cl. No. 7.1,7.1.1 and Cl. No. 7.2,7.2.1,7.2.2 Fig. 8 to 10	Up to 300 mm and up to 200 µm
		Balancing of Rotor/Impeller	IS 8034 Cl. No. 6.4.2 IS 9283 Cl. No. 5.6 IS 14220 Cl. No. 7.3 & 7.4.5	Up to 70 kg
		Surface Finish of Shaft or shaft protection Sleeve/ Finish of Bearings	IS 8034 Cl. No. 6.4.1 IS 9283 Cl. No. 5.5 IS 14220 Cl. No. 7.1 c)	Up to 360 µm Ra

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Constructional Features Constructional Features Construction	IS 8034 Cl. No. 6.0,6.1,6.2,6.3 IS 14220 Cl. No. 6.0,6.1,6.2, IS 9283 Cl. No. 5.(5.1 to 5.1.4, 5.2 to 5.2.5, 5.3, 5.4 to 5.4.2)	Qualitative
		Design Features	IS 14220 7.1,7.2	Qualitative
		Preferred Voltage and Frequency	IS 9283 Cl. No. 6.0 (Cl. No.6.1,6.2,6.3,6.4)	Qualitative
		Submersible Cable	IS 8034 Cl. No. 8.0 IS 9283 Cl. No. 5.1.2	Up to 5000 mm
		Typical Installation	IS 8034 Cl. No. 11.0 IS 8034 Cl. No. 11.2 IS 8034 Cl. No. 11.3	Upto 300 mm Upto 5000 mm
		Guarantee	IS 8034 Cl. No. 15. IS 14220 Cl. No. 10	Head 1m to 600m Discharge 0.1lps to 66 lps Per Phase : AC V: 0-300V, AC A: 0 –180 A, kW: 0 –54 kW Qualitative
III.	**ENVIRONMENT TEST FACILITY**			
1.	**Electrical and Electronics items**	Dry Heat	IS 9000 Part 3 - Sec 1to 5 IEC 60068-2-2 IS 14697 (Amend. 4);	Ambient to 150 °C

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			IS 13779 (Amend. 5); CBIP Report No.: 88 (Rev.96, Amd.2005) CBIP Pub. No: 304 IEC62052-11+A1 MIL-STD-202 H, meth. 108A MIL-STD-810 G, meth. 501	
		Cold	IS 9000 Part 2 Sec 1 to 4 IEC 60068-2-1 CBIP Report No.: 88 (Rev.96, Amd. 2005) IS 14697 (Amend. 4); IS 13779 (Amend. 5); IEC 62052-11+A1 IEC: 62053-21+A1 IEC: 62053-22+A1 IEC: 62053-23+A1 EN50470-1 EN50470-3 IEC 62055-31 CBIP publication no.304 MIL-STD-810G, meth. 502	(-)65 °C to Ambient
		Damp Heat Steady State	IS 9000 Part IV IEC 60068-2-67 IEC 60068-2-78 ISO 16750-4 MIL-STD-202H, meth. 103B	25°C to 60 °C 15 % R.H to 95% R.H.

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Damp Heat Cyclic	IS 9000 Part V, Sec 1 & 2 IEC 60068-2-30 CBIP-88 IS 14697 (Amend. 4); IS 13779 (Amend. 5); IEC 62052-11+A1 IEC: 62053-21+A1 IEC: 62053-22+A1 IEC: 62053-23+A1 EN50470-1 EN50470-3 IEC 62052-21+A1 IEC 62055-31 CBIP publication no.304	25 °C to 60 °C 15 % R.H to 95 % R.H.
		Composite Temperature & Humidity	IS 9000 Part VI IEC60068-2-38	25 °C to 60 °C 15 % R.H to 95 % R.H.
		Change of Temperature / Temperature Shock / Rapid change of Temperature	IS 9000 Part XIV IEC 60068-2-14 MIL Std 810G MIL STD 202 H	Min. Temperature : (-)65°C Max. Temperature: +150°C
		Salt Spray (Corrosion)/ Salt mist Test	IEC 60068-2-11 IEC 60068-2-52 IS 9000 Part XI MIL Std 810G ASTM B117 IEC 60571	Ambient to 50 °C

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			IS 9844 ISO 6270-2 ASTM B 117-79 MIL STD 810G, met 509.4 MIL STD 202H, met 101E	
		Shock Test	IS 14697, 1999 (Amend. 4); IS 13779, 1999 (Amend. 5); IS 15884: 2010 IEC 62052-11: 2003+A1:2016 IEC 62053-21 & 22 (2003); IEC 62052-21:2004+A1:2016 IEC 60068-2-27 (1987); IS 9000 (Part 7 / Sec 1 to 5) (1979); EN50470-1 & 3:2006; EN 60068-2-27 (1987); CBIP-88 (Feb 2002); CBIP pub no. 304: 2008	Pulse acceleration: Up to 400 m/s^2 up to (40g / 18 m sec)
IV.	**CABLES AND ACCESSORIES**			
1.	**PVC Insulated cables for working voltage Up to & including 1100V, Heavy Duty Cable**	Annealing test (for Copper)	IS 8130 IS10810	0.5 % to 200 %
		Tensile test (for Aluminum)	IS 8130 IS10810 (Part 2)	10 N to 5000 N
		Wrapping test (for Aluminum)	IS 8130 IS10810 (Part 3)	Qualitative

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	PVC Insulated cables for Working voltage up to and including 1100volts	Thickness of insulation & sheath	IS10810 (Part 6)	0.01mm to 200 mm
		Tensile strength & Elongation at break of insulation and sheath	IS 5831 IS 10810 (Part 7)	10 N to 50 kN 0.5 % to 200 %
	Cross Linked Polyethylene Insulated PVC(XLPE) Sheathed Cables for Working voltage including 1100 volts	Insulation Resistance	IS 5831 IS 10810 (Part 43)	1MΩ to 1TΩ 500V DC
		High voltage (water immersion AC test)	IS10810 (Part 45)	1 kV to 4 kV
		A.C. High voltage at room temp	IS:10810(Part 45)	1 kV to 4 kV
		Conductor Resistance	IS 8130 IS 10810 (Part 5)	1mΩ to 11 Ω
2.	**Conductor for overhead Transmission Purposes, Aluminum Stranded Conductors Aluminum Conductor for**	Lay ratio	IS 398 (Part 1) IS 398 (Part 2)	1mm to 300 mm
		Dimension of wires (Diameter of individual aluminum Wire)	IS 398 (Part 1) IS 398 (Part 2)	0.01mm to 200 mm
		Breaking Load	IS 398 (Part 1) IS 398 (Part 2)	10 N to 5 kN
		Elongation	IS 398 (Part 1)	0.5 % to 200 %
		Wrapping	IS 398 (Part-1)	Qualitative

Laboratory	**Electronics and Quality Development Centre, B 177/178, G.I.D.C. Electronics Estate, Sector-25, Gandhinagar, Gujarat** **Location 1: B 177/178, G.I.D.C. Electronics Estate, Sector-25, Gandhinagar, Gujarat** **Location 2: B/23/2, G.I.D.C. Electronics Estate, Sector-25, Gandhinagar, Gujarat**		
Accreditation Standard	**ISO/IEC 17025**		
Certificate Number	**TC-6695**	**Page 26 of 65**	
Validity	**06.01.2018 to 05.01.2020**	**Last Amended on 29.05.2019**	

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	overhead Transmission Purposes, Aluminum Stranded Conductor Galvanized Steel Reinforced **Aluminum Conductor for overhead Transmission Purposes, Aluminum Alloy Stranded Conductors**	Resistance	IS 398 (Part 1)	1mΩ to 11 Ω

ELECTRICAL TESTING (as per ISO/IEC 17025: 2005)

Ravi Johri
Convenor

Alok Jain
Program Manager

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
AT LOCATION 2				
I.	**ROTATING ELECTRICAL MACHINES**			
1.	**AC three phase induction motor :** **2 Pole (0.37 to 375 kW)** **4 Pole (0.37 to 375 kW)** **6 Pole (75kW to 160kW)** **8 Pole (75kW to 160kW)** **AC Single Phase Induction Motor 0.37 to 2.2 kW**	Marking	IS 996 (Cl. No. 9.5, 12.1.2, 12.2, 12.5.1, 12.7, 13.1, 14.1, 16, 17.3(a)) IS 12615 (Cl. No. 9, 10, 16, 18, 19.1, 19.2, 19.3, 19.4, 19.5, 19.6, 19.7, 19.8, 19.9,19.10, 21) IS 15999/ IEC 60034-2-1 (Cl. No. 3.5.1, 3.5.2, 3.5.3, 6.3.1) IEEE 112 (Cl. No.8.1, 6.3.1.1, 5.5, 6.4, 6.4) C 390-98 (Cl. No. 5.1.1, 5.1.2, 5.1.5, 5.2)	Qualitative
		Terminal Marking		Qualitative
		Earthing		Qualitative
		No Load Test at Rated Voltage		0.1 mΩ to 30kΩ
		Measurement of Stator Resistance		Per Phase : Upto 300 V AC Upto 1500 A AC
		Reduced Voltage Running up		Upto 3600 rpm
		Full load/ Determination of Efficiency		Upto 5000 Nm
		Temperature Rise at Rated Voltage		Upto 200 ºC
		High Voltage		Upto 5kV
		Insulation Resistance		Upto 10 GΩ Upto 1000V DC
		Locked Rotor		Upto 5000 Nm
		Momentary Overload		Upto 3600 rpm
		Dimension		Upto 600 mm
2.	**SPV pumping**	Water Output per day	MNRE's JNNSM Solar	0.1 V to 1000 V

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	system with: • **Surface motor pump set connected to the PV generator directly or via converter (DC to DC or DC to AC)** • **Submersible motor pump set connected to the PV generator**	Measuring Efficiency	Photovoltaic Water Pumping System IEC62253 (Cl.No.4.1,4.2, 5) IEC61683 (Cl.No. 5.1,5.2, 5.3)	0.1 A to 200 A 0.1 W/m^2 to 1600 W/m^2 0.1 kg/cm^2 to 30 kg/cm^2 0.1 m^3h to 300 m^3/h Upto 15000 rpm 15 kW DC
	• **directly or via converter (DC to DC or DC to AC)** • **Power Conditioners**			

Laboratory	**Electronics and Quality Development Centre, B 177/178, G.I.D.C. Electronics Estate, Sector-25, Gandhinagar, Gujarat** **Location 1: B 177/178, G.I.D.C. Electronics Estate, Sector-25, Gandhinagar, Gujarat** **Location 2: B/23/2, G.I.D.C. Electronics Estate, Sector-25, Gandhinagar, Gujarat**	
Accreditation Standard	**ISO/IEC 17025**	
Certificate Number	**TC-6695**	**Page 29 of 65**
Validity	**06.01.2018 to 05.01.2020**	**Last Amended on 29.05.2019**

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

ELECTRICAL TESTING (as per ISO/IEC 17025: 2005)

AT SITE				
I.	**MEASURING INSTRUMENTS - ELECTRICAL AND ELECTRONIC (STATIC) ENERGY METERS**			
1.	**Electrical and Electronic (Static) Energy Meters**	Limits of Errors (Accuracy Requirements)	Cl. No.11.11of IS 13779 Cl. No. 11.1 IS 14697 IS 15884 IEC 62052-11 IEC: 62053-21 IEC: 62053-22 IEC: 62053-23	40 V to 320 V 1 mA to 120 A 45 Hz to 65 Hz P.F +1 to -1 Single Phase: (0.12 W to 38.4 kW) Three Phase: (0.36 W to 115.2 kW)
		Meter Constant	Cl . No.12.15 IS 13779 Cl. No. 12.14 IS 14697 IS 15884 IEC 62052-11 IEC: 62053-21 IEC: 62053-22 IEC: 62053-23 Cl. No. 4.2.2.11 of CBIP Publication No.: 304 CBIP Pub No.: 325	40 V to 320 V 1 mA to 120 A 45 Hz to 65 Hz P.F +1 to -1 Single Phase: (0.12 W to 38.4 kW) Three Phase: (0.36 W to 115.2 kW)

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Test of Starting Condition	Cl no 12.14 IS 13779 Cl. 12.13 IS 14697 IS 15884 IEC 62052-11 IEC: 62053-21 IEC: 62053-22 IEC: 62053-23 Cl. No. 4.2.2.11 of CBIP Publication No.: 304 CBIP Pub No.: 325	40 V to 320 V 1 mA to 120 A 45 Hz to 65 Hz P.F +1 to -1 Single Phase: (0.12 W to 38.4 kW) Three Phase: (0.36 W to 115.2 kW)
		No Load Condition/ Running with No Load	Cl No. 12.13 IS 13779 Cl No. 12.12 IS 14697 IS 15884 IEC 62052-11 IEC: 62053-21 IEC: 62053-22 IEC: 62053-23 Cl. No. 4.2.2.11 of CBIP Publication No.: 304 CBIP Pub No.: 325	40 V to 320 V 1 mA to 120 A 45 Hz to 65 Hz P.F +1 to -1 Single Phase: (0.12 W to 38.4 kW) Three Phase: (0.36 W to 115.2 kW)
		Repeatability of error	Cl 12.17 IS13779 Cl no. 12.16 IS 14697 IS 15884 IEC 62052-11 IEC: 62053-21 IEC: 62053-22 IEC: 62053-23 Cl. No. 4.2.2.11 of CBIP Publication No.: 304 CBIP Pub No.: 325	40 V to 320 V 1 mA to 120 A 45 Hz to 65 Hz P.F +1 to -1 Single Phase: (0.12 W to 38.4 kW) Three Phase: (0.36 W to 115.2 kW)

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Power Consumption / Power Loss	Cl No. 12.7.1 IS 13779 Cl no 12.7.1 IS 14697 IS 15884 IEC 62052-11 IEC: 62053-21 IEC: 62053-22 IEC: 62053-23 Cl. No. 4.2.2.11 of CBIP Publication No.: 304 CBIP Pub No.: 325	0.238 W to 50 W 0.238 VA to 50 VA

ELECTRONICS TESTING (as per ISO/IEC 17025: 2017)

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
AT LOCATION 2				
I.	**EMC TEST FACILITY**			
1.	**Electrical/ Electronic Products and Static Energy Meter**	Conducted emission / Mains terminal Disturbance Measurement	BS EN 61800-3: 2017	150 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	BS EN 61800-3: 2017	9 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	IEC 60255-26: 2013	150 kHz to 30 MHZ
		Conducted emission / Mains terminal	IEC 60255- 26: 2013	9 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance	IEC 61543 amd. 2: 1995	150 kHz to 30 MHz

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Measurement		
		Conducted emission / Mains terminal Disturbance Measurement	IEC 61543amd. 2: 1995	9 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	IEC 61800-3: 2017	150 kHz to 30 MHz
		Conducteds emission / Mains terminal Disturbance Measurement	IEC 61800-3: 2017	9 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	IEC 62040-2: 2016	9 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	IEC 62040-2: 2016	150 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	IEC 62053-21 amd. 1: 2003	9 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance	IEC 62053-22amd. 1: 2003	150 kHz to 30 MHz

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Measurement		
		Conducted emission / Mains terminal Disturbance Measurement	IEC 62053-22amd. 1: 2003	9 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	IEC 62053-23amd. 1: 2003	150 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	IEC 62053-23amd. 1: 2003	9 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	IS 15111-2amd. 6: 2002	9 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	IS14614: 1998	150 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	IS14614: 1998	9 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	BS EN 55011AMD.1: 2017	150 kHz to 30 MHz

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Conducted emission / Mains terminal Disturbance Measurement	BS EN 55011AMD.1: 2017	9 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	BS EN 55015: 2013	150 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	BS EN 55015:+A1:2015: 2013	9 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	BS EN 55032: 2015	150 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	BS EN 55032: 2015	9 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	CBIP-304: 2008	150 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	CBIP-304: 2008	9 kHz to 30 MHz
		Conducted emission /	CISPR 14-2: 2015	150 kHz to 30 MHz

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Mains terminal Disturbance Measurement		
		Conducted emission / Mains terminal Disturbance Measurement	CISPR 14-2: 2015	9 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	CISPR 32: 2015	150 to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	CISPR14-1: 2016	150 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	CISPR14-1: 2016	9 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	IEC 61000-6-3 AMD.1: 2010	150 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	IEC 61000-6-3 AMD.1: 2010	9 kHz to 30 MHz
		Conducted emission / Mains terminal	IEC 62052-11AMD.1: 2016	150 kHz to 30 MHz

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Disturbance Measurement		
		Conducted emission / Mains terminal Disturbance Measurement	IEC 62052-11AMD.1: 2016	9 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	IEC 62053-21amd. 1: 2003	150 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	IS 14697amd. 3: 1999	150 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	IS 14697amd. 3: 1999	9 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	IS16102 (Part 2) amd. 2: 2012	150 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	IS16102 (Part 2) amd. 2: 2012	9 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance	IS16103 (Part 2) amd. 2: 2012	150 kHz to 30 MHz

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Measurement		
		Conducted emission / Mains terminal Disturbance Measurement	IS16103 (Part 2) amd. 2: 2012	9 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	CISPR 32: 2015	9 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	IS 15111-2amd. 6: 2002	150 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	CISPR 11 (Upto Amnd. 2):2019	150 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	CISPR 11(Upto Amnd. 2):2019	9 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	CISPR 13: 2009	150 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	CISPR 14-1: 2016	9 kHz to 30 MHz

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Conducted emission / Mains terminal Disturbance Measurement	CISPR 14-1: 2016	150 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	CISPR 15: 2018	150 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	CISPR 15: 2018	9 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	CISPR 22: 2008	9 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	CISPR 22: 2008	150 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	IS 13779amd.5: 1999	9 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	IS 13779: 1999	150 kHz to 30 MHz, Max. Current: 200A/phase
		Conducted emission /	IS 6873 (Part 2/Sec	9 kHz to 30 MHz

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Mains terminal Disturbance Measurement	1):2012	
		Conducted emission / Mains terminal Disturbance Measurement	IS 6873 (Part 2/Sec 1): 2012	150 kHz to 30 MHz Max Current 200A/phase
		Conducted emission / Mains terminal Disturbance Measurement	IS 6873 (Part 3): 2009	150 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	IS 6873 (Part 3): 2009	9 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	IS 6873 (Part 5): 2012	9 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	IS 6873 (Part 5): 2012	150 kHz to 30 MHz
		Conducted emission / Mains terminal Disturbance Measurement	IEC 61000-6-4: 2018	150 kHz to 30 MHz
		Conducted emission / Mains terminal	IEC 61000-6-4: 2018	9 kHz to 30 MHz

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Disturbance Measurement		
		Conducted emission / Mains terminal Disturbance Measurement	CISPR 13:2009	9 kHz to 30 MHz
		Immunity to conducted disturbances induced by RF fields	EN 61008-1:Amd. 1 & 2:2013	1 V to 10 kV
		Immunity to conducted disturbances induced by RF fields	IEC 60947-3,AMD.2: 2015	1 V to 10 kV
		Immunity to conducted disturbances induced by RF fields	IEC 61800-3::2017	1 V to 10 kV
		Immunity to conducted disturbances induced by RF fields	BS EN 61000-4-1:1995	1 V to 10 kV
		Immunity to conducted disturbances induced by RF fields	CBIP- 304:2008	1 V to 10 kV
		Immunity to conducted disturbances induced by RF fields	CISPR 24:2015	1 V to 10 kV
		Immunity to conducted disturbances induced by RF fields	IEC 1543 - +Amnd. No. 1& 2: 1995	1 V to 10 kV
		Immunity to conducted disturbances induced	IEC 60255-26: 2013	1 V to 10 kV

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		by RF fields		
		Immunity to conducted disturbances induced by RF fields	IEC 61850-3::2013	1 V to 10 kV
		Immunity to conducted disturbances induced by RF fields	IEC 62040-2::2016	1 V to 10 kV
		Immunity to conducted disturbances induced by RF fields	IEC 60255-26: 2013	1 V to 10 kV
		Immunity to conducted disturbances induced by RF fields	IEC 60335-1,AMD.2: 2016	1 V to 10 kV
		Immunity to conducted disturbances induced by RF fields	IEC 60439-1:Amd. 1: 2004	1 V to 10 kV
		Immunity to conducted disturbances induced by RF fields	IEC 60571:2012	1 V to 10 kV
		Immunity to conducted disturbances induced by RF fields	IEC 60601-1-2:2004	1 V to 10 kV
		Immunity to conducted disturbances induced by RF fields	IEC 60947-1:Amd. 1 & 2:2014	1 V to 10 kV
		Immunity to conducted disturbances induced by RF fields	IEC 60947-2:Amd. 1 & 2:2013	1 V to 10 kV
		Immunity to conducted	IEC 60947-2:Amd. 1 &	1 V to 10 kV

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		disturbances induced by RF fields	2:2013	
		Immunity to conducted disturbances induced by RF fields	IEC 60947-3:Amd. 1 : 2012	1 V to 10 kV
		Immunity to conducted disturbances induced by RF fields	IEC 60947-4-1: 2018	1 V to 10 kV
		Immunity to conducted disturbances induced by RF fields	IEC 60947-5-1: 2016	1 V to 10 kV
		Immunity to conducted disturbances induced by RF fields	IEC 61000-4-1: 2016	1 V to 10 kV
		Immunity to conducted disturbances induced by RF fields	IEC 61000-4-6 : 2013	1 V to 10 kV
		Immunity to conducted disturbances induced by RF fields	IEC 61000-6-1: 2016	1 V to 10 kV
		Immunity to conducted disturbances induced by RF fields	IEC 61000-6-2: : 2016	1 V to 10 kV
		Immunity to conducted disturbances induced by RF fields	IEC 61008-1:Amd. 1 & 2:2013	1 V to 10 kV
		Immunity to conducted disturbances induced by RF fields	IEC 61543: +Amd. 1 & 2:1995	1 V to 10 kV

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Immunity to conducted disturbances induced by RF fields	IEC 61547:2009	1 V to 10 kV
		Immunity to conducted disturbances induced by RF fields	IEC 61812-1:2011	1 V to 10 kV
		Immunity to conducted disturbances induced by RF fields	IEC 62053-23:+AMD1:2012003	1 V to 10 kV
		Immunity to conducted disturbances induced by RF fields	IEC62053-21:AMD1:20162003	1 V to 10 kV
		Immunity to conducted disturbances induced by RF fields	IS 12640(Part 1): :2008	1 V to 10 kV
		Immunity to conducted disturbances induced by RF fields	IS 12640(Part 2): :2008	1 V to 10 kV
		Immunity to conducted disturbances induced by RF fields	IS 14614:1998	1 V to 10 kV
		Immunity to conducted disturbances induced by RF fields	IEC 62052-11: 2003	1 V to 10 kV
		Ring wave Immunity Test	IEC 60255-26: 2013	(-)6 kV to 6 kV
		Ring wave Immunity Test	IEC 61000-4-12: 2017	(-)6 kV to 6 kV
		Ring wave Immunity	IEC 61008-1, AMD.21 &	(-)6 kV to 6 kV

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Test	2 : 2013	
		Ring wave Immunity Test	IEC 61800-3:2017	(-)6 kV to 6 kV
		Ring wave Immunity Test	IEC 62052-11, AMD.1:2016	(-)6 kV to 6 kV
		Ring wave Immunity Test	IEC 62053-23 AMD1:2016: 2003	(-)6 kV to 6 kV
		Ring wave Immunity Test	IS 12640(Part 1): :2008	(-)6 kV to 6 kV
		Ring wave Immunity Test	IS 12640(Part 2: 2008	(-)6 kV to 6 kV
2.	**Immunity to conducted disturbances induced by RF Fields**	Electrical/ Electronic products and static energy meter	IEC 60255-26: : 2013	1 V to 10 kV
3.	**Ring wave Immunity Test**	Electrical/ Electronic products and static energy meter	IEC 62053-21: AMD1:2016: 2003	(-)6 kV to 6 kV
4.	**Electrical/ Electronic Products and Static Energy Meter**	Ring wave Immunity Test	IEC 60255-26: 2013	(-)6 kV to 6 kV
		Ring wave Immunity Test	IEC 61008-1:Amd. 1 & 2:2012	(-)6 kV to 6 kV
		Ring wave Immunity Test	IEC 61800-3:2017	(-)6 kV to 6 kV
		Ring wave Immunity Test	IEC 61800-3:2017	(-)6 kV to 6 kV
		Ring wave Immunity Test	IEC 62052-11: 2003	(-)6 kV to 6 kV

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Ring wave Immunity Test	IEC 62053-23: AMD1:2016: 2003	(-)6 kV to 6 kV
		Ring wave Immunity Test	IEC 62053-23: AMD1:2016: 2003	(-)6 kV to 6 kV
5.	**Electrical/ Electronic Products and Static Energy Meter**	Electrical Fast Transient/Burst immunity test	BSEN 61000-4-1: 1995	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three phase: 32A
		Electrical Fast Transient/Burst immunity test	BSEN 610081Amend: 2012	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three phase: 32A
		Electrical Fast Transient/Burst immunity test	BSEN 61009-1 Amd. 1:2012	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three phase: 32A
		Electrical Fast Transient/Burst immunity test	CBIP-304: 2008	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three phase: 32A
		Electrical Fast	CISPR 24:2015	0.25 KV to 4 kV

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Transient/Burst immunity test		Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three phase: 32A
		Electrical Fast Transient/Burst immunity test	IEC 60255-22-4: 2008	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three phase: 32A
		Electrical Fast Transient/Burst immunity test	IEC 60255-26: 2013	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three phase: 32A
		Electrical Fast Transient/Burst immunity test	IEC 60335-1,AMD.2: 2016	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three phase: 32A
		Electrical Fast Transient/Burst immunity test	IEC 60439-1Amend. 1:2004	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three phase: 32A

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Electrical Fast Transient/Burst immunity test	IEC 60571:2012	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three phase: 32A
		Electrical Fast Transient/Burst immunity test	IEC 60601-1-2: 2014	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three phase: 32A
		Electrical Fast Transient/Burst immunity test	IEC 60947-1Amd. 1 & 2:2014	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three phase: 32A
		Electrical Fast Transient/Burst immunity test	IEC 60947-2Amd. 1 & 2:2013	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three phase: 32A
		Electrical Fast Transient/Burst immunity test	IEC 60947-3,AMD.2 : 2015	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
				Three phase: 32A
		Electrical Fast Transient/Burst immunity test	IEC 60947-4-1: 2018	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three phase: 32A
		Electrical Fast Transient/Burst immunity test	IEC 60947-5-1 AMD.11:2016	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three phase: 32A
		Electrical Fast Transient/Burst immunity test	IEC 60947-5-2 Amd. 1:2012	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three phase: 32A
		Electrical Fast Transient/Burst immunity test	IEC 61000-4-1: 2006	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three Phase: 32A
		Electrical Fast Transient/Burst immunity test	IEC 61000-4-4: 2012	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30%

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
				Single Phase: 16A Three phase: 32A
		Electrical Fast Transient/Burst immunity test	IEC 61000-6-1: 2016	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three phase: 32A
		Electrical Fast Transient/Burst immunity test	IEC 61000-6-2: 2016	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three phase: 32A
		Electrical Fast Transient/Burst immunity test	IEC 61008-1Amend. 1 &2: 2013	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three Phase: 32A
		Electrical Fast Transient/Burst immunity test	IEC 61326-1:2012	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three Phase: 32A
		Electrical Fast Transient/Burst immunity test	IEC 61543Amend. 1 & 2: 1995	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
				Pulse Width: 50ns±30% Single Phase: 16A Three Phase: 32A
		Electrical Fast Transient/Burst immunity test	IEC 61547:2009	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three Phase: 32A
		Electrical Fast Transient/Burst immunity test	IEC 61800-3:2017	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three Phase: 32A
		Electrical Fast Transient/Burst immunity test	IEC 61812-1:2011	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three Phase: 32A
		Electrical Fast Transient/Burst immunity test	IEC 61850-3:2013	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three Phase: 32A
		Electrical Fast Transient/Burst	IEC 62040-2:2016	0.25 KV to 4 kV Rise time :5 ns±30%

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		immunity test		Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three Phase: 32A
		Electrical Fast Transient/Burst immunity test	IEC 62052-11AMD.1: 2016	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three Phase: 32A
		Electrical Fast Transient/Burst immunity test	IEC 62053-21AMD1: 2003	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three Phase: 32A
		Electrical Fast Transient/Burst immunity test	IEC 62053-23AMD1: 2003	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three Phase: 32A
		Electrical Fast Transient/Burst immunity test	IS 12640(Part 1): 2008	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three Phase: 32A
		Electrical Fast	IS 12640(Part 2): 2008	0.25 KV to 4 kV

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Transient/Burst immunity test		Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three Phase: 32A
		Electrical Fast Transient/Burst immunity test	IS 14614:1998	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three Phase: 32A
		Electrical Fast Transient/Burst immunity test	IS 14700 :2008	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three Phase: 32A
		Electrical Fast Transient/Burst immunity test	IS 6873 :2009	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three Phase: 32A
		Electrical Fast Transient/Burst immunity test.	CISPR 14-2:2015	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three Phase: 32A

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Electrical Fast Transient/Burst immunity test.	IS 14697Amd. 3 : 1999	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three Phase: 32A
		Electrical Fast Transient/Burst immunity test.	IS 13779amd.5: 1999	0.25 KV to 4 kV Rise time :5 ns±30% Freq 5 kHz & 100 kHz Pulse Width: 50ns±30% Single Phase: 16A Three Phase: 32A
6.	**Electrical/ Electronic Products and Static Energy Meter**	Electrostatic Discharge immunity test	IEC: 61036 1A1: 2000:1996	2 kV to 30 kV
		Electrostatic Discharge immunity test	IEC 62052-11, AMD.1 : 2016	2 kV to 30 kV
		Electrostatic Discharge immunity test	CBIP-304 : 2008	2 kV to 30 kV
		Electrostatic Discharge immunity test	IEC 1543Amnd. No. 1& 2: 1995	2 kV to 30 kV
		Electrostatic Discharge immunity test	IEC 60571:2012	2 kV to 30 kV
		Electrostatic Discharge immunity	IEC 60694,AMD.1: 2001	2 kV to 30 kV

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		test		
		Electrostatic Discharge immunity test	IEC 60947-1,AMD.2: 2014	2 kV to 30 kV
		Electrostatic Discharge immunity test	IEC 60947-5-1: 2016	2 kV to 30 kV
		Electrostatic Discharge immunity test	IEC 60947-5-2, AMD.1:2012	2 kV to 30 kV
		Electrostatic Discharge immunity test	IEC 61000-4-2: 2008	2 kV to 30 kV
		Electrostatic Discharge immunity test	IEC 61000-6-1: 2016	2 kV to 30 kV
		Electrostatic Discharge immunity test	IEC 61000-6-2: 2016	2 kV to 30 kV
		Electrostatic Discharge immunity test	IEC 61547:2009	2 kV to 30 kV
		Electrostatic Discharge immunity test	IEC 62053-21: AMD1:2016 : 2003	2 kV to 30 kV
		Electrostatic Discharge immunity test	IEC 62053-21:AMD1:2016: 2003	2 kV to 30 kV
		Electrostatic	IS 12640(Part 1): :2000	2 kV to 30 kV

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Discharge immunity test		
		Electrostatic Discharge immunity test	IS 12640(Part 2): 2001	2 kV to 30 kV
		Electrostatic Discharge immunity test	IS 13779:AMD 4 June2006: 1999	2 kV to 30 kV
		Electrostatic Discharge immunity test	IS 14614:1998	2 kV to 30 kV
		Electrostatic Discharge immunity test	IS15884: 2010	2 kV to 30 kV
		Electrostatic Discharge immunity test.	IS 14697:Amd.1- 3:2004: 1999	2 kV to 30 kV
		Electrostatic Discharge immunity test.	CISPR 24:2015	2 kV to 30 kV
7.	**Electrical/ Electronic Products and Static Energy Meter**	Surge immunity test	BS EN 61000-4-1:1995	0.5 kV to 6.0 kV
		Surge immunity test	IEC 61543:Amd. 1 & 2:1995	5.45 kV to 6.0 kV
		Surge immunity test	IEC 61850-3:2013	0.5 kV to 6 kV
		Surge immunity test	IEC 60335-1,AMD.2: 2016	0.5 kV to 6 kV
		Surge immunity test	IEC 60439-1:Amd. 1: 2004	0.5 kV to 6 kV
		Surge immunity test	IEC 60601-1-2:: 2014	0.5 kV to 6 kV
		Surge immunity test	IEC 60947-3,AMD.2: 2015	0.5 kV to 6 kV

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Surge immunity test	IEC 60947-5-1: 2016	0.5 kV to 6 kV
		Surge immunity test	IEC 61000-4-1: 2006	0.5 kV to 6 kV
		Surge immunity test	IEC 61000-4-5, AMD.1:2017	0.5 kV to 6 kV
		Surge immunity test	IEC 61000-6-2: 2016	0.5 kV to 6 kV
		Surge immunity test	IEC 61547:2009	0.5 kV to 6 kV
		Surge immunity test	IEC 61547::2009	0.5 kV to 6 kV
		Surge immunity test	IEC 62052-11:: 2003	0.5 kV to 6 kV
		Surge immunity test	IS 14697:AMD .1-3:2004 : 1999	0.5 kV to 6 kV
		Surge immunity test	EN 61008-1:Amd. 1 & 2:2013	0.5 kV to 6 kV
		Surge immunity test	IEC 60947-2:2016	0.5 kV to 6 kV
		Surge immunity test	IEC 61000-4-1: 2006	0.5 kV to 6 kV
8.	**Surge Immunity Test**	Electrical/ Electronic products and static energy meter	IEC 60255-22-5: 2008	0.5 kV to 6 kV
		Electrical/ Electronic products and static energy meter	IEC 62053-21: AMD1:2016 : 2003	0.5 kV to 6 kV
		Electrical/ Electronic products and static energy meter	IS 13779:Amd. 1-5:2015: 1999	0.5 kV to 6 kV
		Electrical/ Electronic products and static energy meter	ITU K.20 : 2017	0.5 kV to 6 kV
		Electrical/ Electronic products and static energy meter	IEC 62053-23: AMD1:2016: 2003	0.5 kV to 6 kV

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
9.	**Electrical/ Electronic Products and Static Energy Meter**	Ring wave Immunity Test		(-)6 kV to 6 kV
10.	**Electrical/ Electronic Products**	Power Frequency Magnetic Field Immunity test	BS EN 55024: 2010	Qualitative
		Power Frequency Magnetic Field Immunity test	IEC 60255-26: 2013	Qualitative
		Power Frequency Magnetic Field Immunity test	CISPR 24:2015	Qualitative
		Power Frequency Magnetic Field Immunity test	EN 50121-4:2006	Qualitative
		Power Frequency Magnetic Field Immunity test	IEC 60947-1Amd. 1: 2014	Qualitative
		Power Frequency Magnetic Field Immunity test	IEC 60947-2 :2016	Qualitative
		Power Frequency Magnetic Field Immunity test	IEC 61000-4-8: 2009	Qualitative
		Power Frequency Magnetic Field Immunity test	IEC 61326-1:2012	Qualitative

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Power Frequency Magnetic Field Immunity test	IEC 61812-1:2011	Qualitative
		Power Frequency Magnetic Field Immunity test	IEC61547: 2009	Qualitative
		Impulse magnetic field immune-1ity test	IEC 61000-4-9: 2016	Qualitative
		Impulse magnetic field immunity test	IEC 61000-4-9: 2016	Qualitative
11.	**CFL, Electronic Ballast & other Lighting Products**	Radiated electromagnetic disturbances	BS EN 55015: 2013	9 kHz to 30 MHz
		Radiated electromagnetic disturbances	IS 15111-2. Amend. 7 : 2002	9 kHz to 30 MHz
		Radiated electromagnetic disturbances	IS 16101:2012	9 kHz to 30 MHz
		Radiated electromagnetic disturbances	IS 16102(Part 2): : 2017	9 kHz to 30 MHz
		Radiated electromagnetic disturbances	IS 16103 (Part 2).AMD 3:2012	9 kHz to 30 MHz
		Radiated electromagnetic disturbances	IS 16103-1. Amend.1:2012	9 kHz to 30 MHz
		Radiated Emission	CISPR 11,AMD.2: 2019	1 kHz to 6000 MHz

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			CISPR 16-2-3: 2016	1 kHz to 6000 MHz
			CISPR 16-2-3:2016CISPR 11:2016 , CISPR22: 2008CISPR 32:2015 ,EN55022: 2010	1 kHz to 6000 MHz
			CISPR 22:2008	1 kHz to 6000 MHz
			CISPR 32:2015	1 kHz to 6000 MHz
			EN 55022:2010	1 kHz to 6000 MHz
12.	**Electrical/ Electronic Products and Static Energy Meter**	Radiated Emission	CISPR 16-2-3: 2016	30 MHz to 1000 MHz
			FCC part15: 2018	30 MHz to 1000 MHz
			BSEN 55011,AMD.1: 2017	30 MHz to 1000 MHz
			BSEN 55032:2012	30 MHz to 1000 MHz
			CISPR 11.AMD1:2015	30 MHz to 1000 MHz
			CISPR 14-1:2016	30 MHz to 1000 MHz
			CISPR 22::2008	30 MHz to 1000 MHz
			CISPR 32:2015	30 MHz to 1000 MHz
			EN 55022:2010	30 MHz to 1000 MHz
			FCC part15: 2018	30 MHz to 1000 MHz
			IEC 62040-2 :2016	30 MHz to 1000 MHz
			IEC 60255-26: 2013	30 MHz to 1000 MHz
			IEC 61000-6-3 AMD.1:2010	30 MHz to 1000 MHz
			IEC 61000-6-4: 2018	30 MHz to 1000 MHz
			IEC 61543:Amd. 1 & 2 – 2005: 1995	30 MHz to 1000 MHz
			IEC 61543:AMD. 1 & 2 – 2005: 1995	30 MHz to 1000 MHz
		Radiated Emission	IEC 61800-3:2017	30 MHz to 1000 MHz

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Radiated Emission	IEC 62052-11: 2003	30 MHz to 1000 MHz
		Radiated Emission	IEC 62053-21: AMD1:2016: 2003	30 MHz to1000 MHz
		Radiated Emission	IEC 62053- 21: AMD1:20162003	30 MHz to 1000 MHz
		Radiated Emission	IEC 62053-23: AMD1:2016: 2003	30 MHz to1000 MHz
		Radiated Emission	IS 14614:1998	30 MHz to1000 MHz
		Radiated Emission	IS 6873 (Part2/Sec 1) : 2012	30 MHz to 1000 MHz
		Radiated Emission	CBIP-304: 2008	30 MHz to 1000 MHz
13.	**Radiated Emission**	Electrical/ Electronic products and static energy meter	BS EN 55011AMD1:2016	30 MHz to 1000 MHz
14.	**CFL, Electronic Ballast & other lighting products**	Radiated electromagnetic disturbances	CISPR 15: 2013	9 kHz to 30 MHz
		Radiated electromagnetic disturbances		9 kHz to 30 MHz
15.	**Static Energy Meter**	Disturbance power measurement	2015 IS14697: 1999+Amd.1- 3:	30 MHz to 300 MHz
		Disturbance power measurement	CISPR 16-4-2Amd.2: : 2011	30 MHz to 300 MHz
		Disturbance power measurement	IS 13779 AMND.5: 1999	30 MHz to 300 MHz
		Disturbance power measurement	IS 14697Amend 4:1999	30 MHz to 300 MHz

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
16.	**Electrical/ Electronic Products and Static Energy Meter**	Radiated, radio frequency, Electromagnetic field immunity test	IS 14697AMD. 3 Oct.2004 : 1999	80 MHz to 6000 MHz
		Radiated, radio frequency, Electromagnetic field immunity test	61326 IEC: 2012	80 MHz to 6000 MHz
		Radiated, radio frequency, Electromagnetic field immunity test	BSEN 61000- 4-1: 2016	80 MHz to 6000 MHz
		Radiated, radio frequency, Electromagnetic field immunity test	CBIP-304: 2008	80 MHz to 6000 MHz
		Radiated, radio frequency, Electromagnetic field immunity Test	CISPR 24: 2015	80 MHz to 6000 MHz
		Radiated, radio frequency, Electromagnetic field immunity test	IEC 60335-1, AMD.2: 2016	80 MHz to 6000 MHz
		Radiated, radio frequency, Electromagnetic field immunity test	IEC 60439-1: + Amd: 2004	80 MHz to 6000 MHz
		Radiated, radio	IEC 60947-2:+ Amd. 1 &	80 MHz to 6000 MHz

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		frequency, Electromagnetic field immunity test	2:2013	
		Radiated, radio frequency, Electromagnetic field immunity test	IEC 60947-2: 2016	80 MHz to 6000 MHz
		Radiated, radio frequency, Electromagnetic field immunity test	IEC 60947-5- 1: 2016	80 MHz to6000 MHz
		Radiated, radio frequency, Electromagnetic field immunity test	IEC 61000-4- 3: 2010	80 MHz to 6000 MHz
		Radiated, radio frequency, Electromagnetic field immunity test	IEC 61000-6- 1: 2016	80 MHz to 6000 MHz
		Radiated, radio frequency, Electromagnetic field immunity test	IEC 61000-6- 2 : 2016	80 MHz to 6000 MHz
		Radiated, radio frequency, Electromagnetic field immunity test	IEC 61543: 1995 + Amd.1 & 2: 1995	80 MHz to 6000 MHz
		Radiated, radio	IEC 61850-3: 2013	80 MHz to 6000 MHz

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		frequency, Electromagnetic field immunity test		
		Radiated, radio frequency, Electromagnetic field immunity test	IEC 62052-11: 2003	80 MHz to 6000 MHz
		Radiated, radio frequency, Electromagnetic field immunity test	IEC 62052- 11: 2003	80 MHz to 6000 MHz
		Radiated, radio frequency, Electromagnetic field immunity test	IEC 62053-21: AMD1:2016 : 2003	80 MHz to 6000 MHz
		Radiated, radio frequency, Electromagnetic field immunity test	IEC 62053-23: +AMD1:2016: 2003	80 MHz to 6000 MHz
		Radiated, radio frequency, Electromagnetic field immunity test	IEC 62053-23:AMD1:2016: 2003	80 MHz to 6000 MHz
		Radiated, radio frequency, Electromagnetic field immunity test	IS 13779 AMD.5: 1999	80 MHz to 6000 MHz
		Radiated, radio frequency,		80 MHz to 6000 MHz

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Electromagnetic field immunity test		
		Radiated, radio frequency, Electromagnetic field immunity test	IS 14614:1998	80 MHz to 6000 MHz
		Radiated, radio frequency, Electromagnetic field immunity test	IEC 61008-1Amd. 1 & 2:2013	80 MHz to 6000 MHz
		Voltage Dips & Interruptions	IEC 61000-4-11 : Amd.2017: 2004	Upto 260 V
		Voltage Dips & Interruptions	IEC 60255-26: 2013	Upto 260 V
		Voltage Dips & Interruptions	IEC 60255-26:: 2013	Upto 260 V
		Voltage Dips & Interruptions	IEC 62052-11, AMD.1:2016	Upto 260 V
		Voltage Dips & Interruptions	IEC 1543Amend. No. 1& 2: 1995	Upto 260 V
		Voltage Dips & Interruptions	IEC 61547:2009	Upto 260 V
		Voltage Dips & Interruptions	IEC 62053-21:AMD1:20162003	Upto 260 V
		Voltage Dips & Interruptions	IEC 62053-23: AMD1:2016: 2003	Upto 260 V
		Voltage Dips & Interruptions	IS 14614: :1998	Upto 260 V