



TESTING AND MEASURING EQUIPMENT/ALLOWED SUBCONTRACTING
IEC 61851-22:2001-05, Edition 1.0
Electric vehicle conductive charging system –
Part 22: AC electric vehicle charging station

“R” Required
 “S” May be subcontracted, see OD 2012
 “SF” 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	Subcontracting
8.1	Control functions	Power source, Electrical load, Measuring instruments Oscilloscope, High voltage probe PWM simulation device	R 3PPS
8.3	Permissible surface temperature	AC source, measuring instruments, temperature measuring device Humidity chamber, Electrical load	R 3PPS
8.4	IP degree	Test equipment up to IP4X and IPX4 according to IEC 60529	S
		Test equipment above IP4X and IPX4 according to IEC 60529	S
9.2	Earthing electrode and continuity	AC source, measuring instruments	R
10.1.1	Dielectric withstand voltage	Electric strength tester	R
10.1.2	Impulse dielectric withstand (1,2/50 μ s)	Impulse voltage generator (1,2/50 μ s) Oscilloscope High voltage probe	R
10.1.3	Insulation resistance	Insulation test equipment	R

Clause	Measurement/testing	Testing / measuring equipment / material needed	Subcontracting
10.2	Leakage – touch current	AC source Electrical load Isolation transformer Measuring network according to IEC 60990 V-meter	R 3PPS
10.4	Clearances and creepage distances	Caliper, tolerances gauges Tracking test apparatus according to IEC 60112 Oscilloscope, High voltage probe, AC source, Electric load	R 3PPS
11.1.2	Ambient air temperature	Humidity chamber AC source, Electrical load, measuring instruments Isolation transformer Measuring network according to IEC 60990 V-meter Insulation test equipment Electric strength tester Impulse voltage generator (1,2/50 μ s) Oscilloscope High voltage probe	R 3PPS
11.1.3	Dry heat	Humidity chamber AC source, Electrical load, measuring instruments Isolation transformer Measuring network according to IEC 60990 V-meter Insulation test equipment Electric strength tester Impulse voltage generator (1,2/50 μ s) Oscilloscope High voltage probe	R 3PPS

Clause	Measurement/testing	Testing / measuring equipment / material needed	Subcontracting
11.1.4	Ambient humidity	Humidity chamber AC source, Electrical load, measuring instruments Isolation transformer Measuring network according to IEC 60990 V-meter Insulation test equipment Electric strength tester Impulse voltage generator (1,2/50 μ s) Oscilloscope High voltage probe	R 3PPS
11.1.5	Cold test	Humidity chamber AC source, Electrical load, measuring instruments Isolation transformer Measuring network according to IEC 60990 V-meter Insulation test equipment Electric strength tester Impulse voltage generator (1,2/50 μ s) Oscilloscope High voltage probe	R 3PPS
11.1.6	Ambient air pressure	AC source, Electrical load, measuring instruments Air pressure test chamber, Barometer Isolation transformer Measuring network according to IEC 60990 V-meter Insulation test equipment Electric strength tester Impulse voltage generator (1,2/50 μ s) Oscilloscope High voltage probe	S 3PPS

Clause	Measurement/testing	Testing / measuring equipment / material needed	Subcontracting
11.1.7	Solar radiation (optional)	AC source, Electrical load, measuring instruments Solar radiation test equipment according to IEC 60068-2-5 Isolation transformer Measuring network according to IEC 60990 V-meter Insulation test equipment Electric strength tester Impulse voltage generator (1,2/50 μ s) Oscilloscope High voltage probe	S 3PPS
11.1.8	Saline mist (optional)	AC source, Electrical load, measuring instruments Saline mist test equipment according to IEC 60068-2-52 Isolation transformer Measuring network according to IEC 60990 V-meter Insulation test equipment Electric strength tester Impulse voltage generator (1,2/50 μ s) Oscilloscope High voltage probe	S 3PPS
11.2.2	Mechanical impact	Test apparatus according to IEC 60068-2-75	R
11.2.3	Stability	Mechanical weights, time meter, measurement instruments	R
14	Marking and instructions	Water, petroleum spirit, piece of cloth	R