comemso

MCS Megawatt Charging

Performance that surpasses everthing

comemso

EVCA MCS product family

1500 V
Maximum voltage

1500 A
Maximum current

2.25
Megawatt
Maximum power

The future talks about mega

For the future of e-mobility, it is crucial to create confidence in the reliability, precision and standard compliance of electric vehicles and charging stations.
The MCS EVCA Flex product family from comemso paves the way into the megawatt era of electromobility, even in the megawatt range, with superior measurement accuracy and comemso's signature Flex architecture.

The MCS product family includes equipment for testing vehicles and charging stations in the following variants:

- EVCA Flex for tests with power up to the megawatt range (2.25 MW) including cooled cables and connectors for long-term tests.
- ComOnly for EVCC and SECC communication tests, without voltage and current.
- EMC Link for testing in EMC applications.
- Software test environment comframe for controlling, manipulating, and analyzing the charging process.
- Complete MCS test system CE marked for laboratory use in Europe.

Function overview
MCS electric vehicle testing:
Simulate, measure, and analyze the charging process, control external bidirectional DC sources.

MCS charging station testing:
Simulate, measure, and analyze the charging process, control external bidirectional DC sources as battery emulation.

- Measurement of power, signal quality, and communication standards. Manual control of low-level signals for detailed signal analysis and debugging.
- Simulate plugging and unplugging for automated testing.
- Recording complete charging cycles for later analysis and to compare and evaluate a series of charging processes.
- Includes quick and easy root cause analysis for every high-level communication measurement and standards-based data visualization.

Coming soon

- EV/EVSE – Professional-Simulation
  edit, overwrite, delay, and send high-level messages.
- Gateway for analyzing encrypted communication between vehicle and charging station.
- Manipulating gateway for targeted modification of communication between the vehicle and the charging station.
- Monitoring insulation resistance.
- Simulation of error cases.
- Comprehensive interoperability testing.
- Standard conformity and robustness testing.
- Remote control of the entire test process via REST API.

Standard conformity

Low-level signals	• Based on IEC 61851-23-3:2025 • Simulation and monitoring of the „Charge Enable" (CE) and „Insertion Detection" (ID) signals. • Temperature monitoring of plugs and inlets • Auxiliary voltage for EV and EVSE
High-level communication	Physical layer based on ISO 15118-10:2024 (two-wire Ethernet 10BASE-T1S standard) with ISO 15118-20/Amnd1 application layer. • Encrypted communication with TLS 1.3 • Charging & discharging functionality • Bidirectional power transfer protocol • Plug & Charge with user-specific certificates
Plugs/Inlets	• Based on IEC TS 63379 • (vehicle connection and cable) • ComOnly Box (Connection box with banana sockets for individual signals)

We have the solution for your EMC test application

Get in touch with us.

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