comemso®
your partner for complex embedded solutions

NEW

COMBINED MINI-CHARGER-TESTER

Generation 3.1

EV-SIMULATION ACCORDING TO

DIN IEC ISO SAE INTERNATIONAL CHAdeMO GB (DC)

MEMBER OF

electric mobility south-west CHAdeMO CHARIN INVENTED IN GERMANY

www.comemso.com

THE EASY-TO-USE CHARGING STATION TESTER.

The all new combined Mini-Charger-Tester can be used at the service application and maintenance. New in Generation 3.1: Now with intuitive touch screen, so no more additional hardware like a laptop required!

comemso covers new challenges of aftersales application.

Developments and aftersales services for e-mobility present new challenges for vehicle- and charging-system manufacturers. The number of chargers in the field increases and therefore also the efforts in the service applications. After each service of chargers, a final test is required to confirm the charger is still working properly and to ensure that nothing has been forgotten at the service call or maintenance. To test this, either one or two real EVs are required or a small mobile automatic tester such as the comemso combined Mini-Charger-Tester. The benefit of a small mobile tester even increases on a service for multi-charger-systems, where CCS and CHAdeMO have to be tested at the same service call or maintenance.

Global features.

- Intuitive touchscreen interface
- Notebook not required for on-site testing
- Simulation of conductive EV according to DIN 70121 (optional with ISO 15118) and CHAdeMO 1.1 (or lower) or optional AC, all with the aim to get the EVSE charging
- Fully automatic EV-Simulation on communication to get EVSE charging
- Fully automatic EV-Simulation on DC load circuit, which fits to communication
- Safety test of EVSE (DC-CCS only) to check isolation fault recognition
- Optional: Special Fault Injection on DC-CCS signal lines (PE cut, CP short)
- Test of EVSE / Charger in field application Power consumption max. 500 VA
- Output of measured DC voltage and DC current (not calibrated)
- Output of rough communication progress
- Output of test result (pass / fail)
- Result reports can be downloaded via USB output as PDF
- Rugged carrying case housing for mobile outdoor application with IP67 at closed lid (IP30 with open lid)
- Dimensions: ca. 560 x 420 x 250 mm (L x W x H); Weight about 15 kg
- Very easy to use, no knowledge of standard required. You don't have to be an engineer!

An innovation that inspires.

comemso is a winner of the 2019 Innovation Prize of the district of Esslingen (Baden-Wuerttemberg) with the portable quick tester.

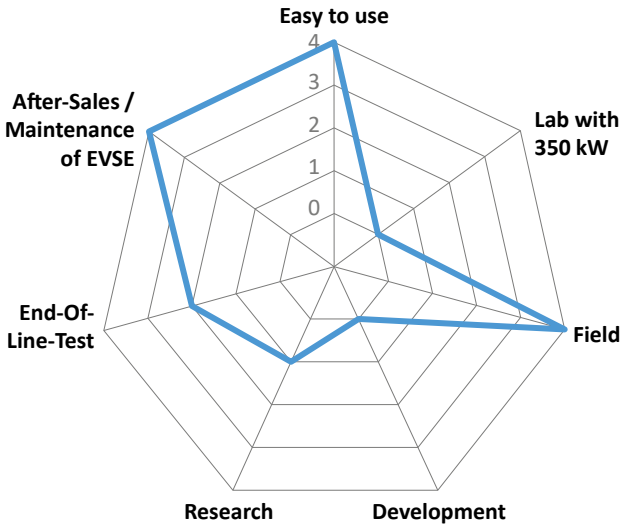
Innovationspreis 2019
des Landkreises Esslingen

Product categorization matrix.

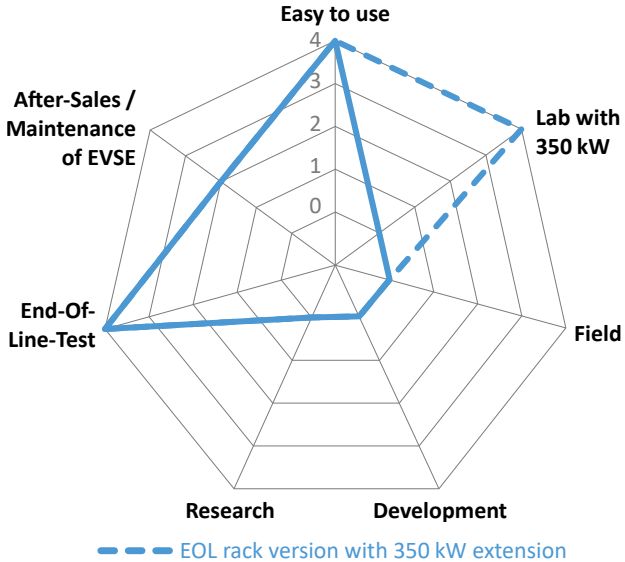
The product categorization matrix from comemso gives you an overview of the features and possibilities of the system presented in this brochure. This helps you to find the right comemso system for your application.

General

Mobile suitcase version

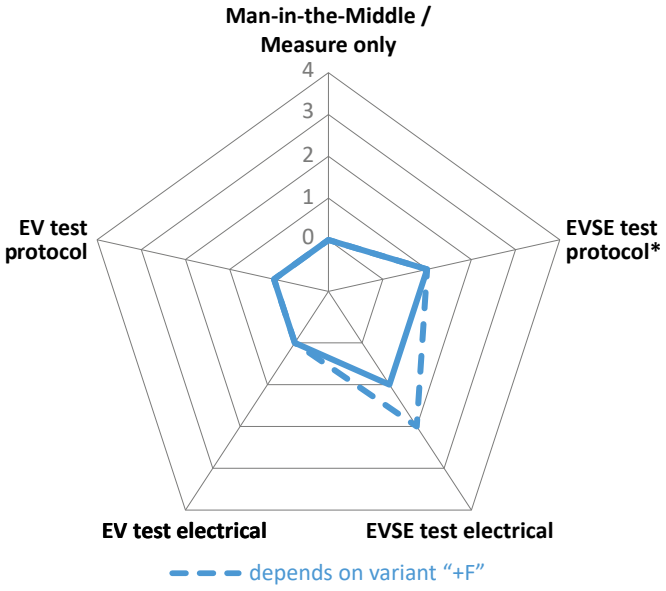


EOL rack version



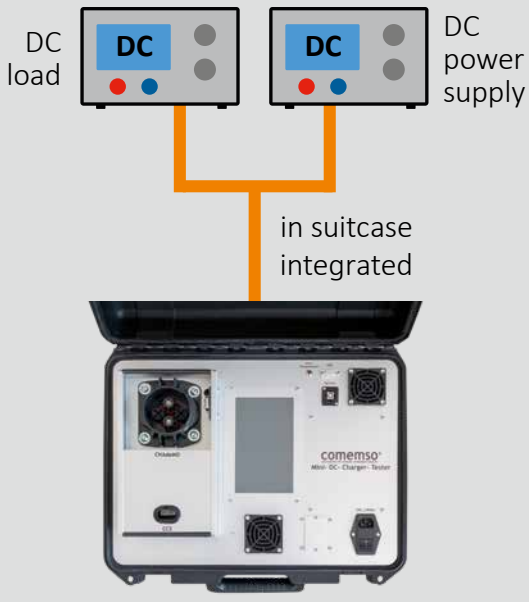
Applications

Mobile suitcase and EOL rack version



*full protocol emulation of EV and tolerant judgement, but no detailed analysis provided.

Simple emulation of EV battery:



Suitcase version for field application.

Field setup in the trunk with 12V car cigarette lighter, connected through a pure-sine wave 1kW power inverter. The inverter is not part of the comemso scope of delivery.

Overview of Mini-Charger-Tester suitcase combinations.

Model	Item number	DC-CCS Combo 1	DC-CCS Combo 2	CHAdeMO	DC-China GB/T	AC Type 1	AC Type 2	EV Simulation	Isolation Fault Sim.	Ext. Fault Sim.	Report file
Combined 1	061-1-022	•		•				approx. 300 V, 5A	•		•
Combined 2	061-1-021		•	•				approx. 300 V, 5A	•		•
DC-CCS 1	061-1-024	•						approx. 300 V, 5A	•		•
DC-CCS 2	061-1-023		•					approx. 300 V, 5A	•		•
DC-CCS 1 + 2	061-1-029	•	•					approx. 300 V, 5A	•		•
CHAdeMO	061-1-025			•				approx. 300 V, 5A			•
DC-China GB/T	061-1-028				•			approx. 300 V, 5A			•
Combined 1, AC+F	061-1-026	•		•		•		approx. 300 V, 5A	•	•	•
Combined 2, AC+F	061-1-027		•	•			•	approx. 300 V, 5A	•	•	•
DC-CCS 1, AC+F	061-1-030	•				•		approx. 300 V, 5A	•	•	•
DC-CCS 2, AC+F	061-1-031		•				•	approx. 300 V, 5A	•	•	•
DC-CCS 1 + 2, AC+F	061-1-032	•	•			•	•	approx. 300 V, 5A	•	•	•

Maintenance	
1 year	061-7-002

Training	
2 hours, online	910-1-015

Rack version for EOL test.

For those who have the focus for end-of-line tests in the production, we have the solution with our laboratory rack version. The power typically corresponds to the technical data listed below, but can be extended to 350 kW on demand.

Overview of possible Mini-Charger-Tester combinations.

Model	Item number	DC-CCS Combo 1	DC-CCS Combo 2	CHAdeMO	DC-China GB/T	AC Type 1	AC Type 2	HPC	EV Simulation	Isolation Fault Sim.	Ext. Fault Sim.	Report file
Combined 1 EOL	061-1-102	●		●					approx. 300 V, 5A	●		●
Combined 2 EOL	061-1-101		●	●					approx. 300 V, 5A	●		●
DC-CCS 1 EOL	061-1-107	●							approx. 300 V, 5A	●		●
DC-CCS 2 EOL	061-1-106		●						approx. 300 V, 5A	●		●
CHAdeMO EOL	061-1-108			●					approx. 300 V, 5A			●
Combined 1 EOL, AC+F	061-1-104	●		●		●			approx. 300 V, 5A	●	●	●
Combined 2 EOL, AC+F	061-1-103		●	●			●		approx. 300 V, 5A	●	●	●
Combined 1 + 2 EOL, AC+F	061-1-105	●	●	●		●	●		approx. 300 V, 5A	●	●	●
Comb. 1 + 2 EOL, AC+F, HPC	061-1-205	●	●	●		●	●	●	depends on your request	●	●	●

Software for automated control		
AC EVSE: SCPI (HPC)	061-6-001	For a personal offer, please let us know the required current, voltage and power for the desired HPC application. In addition, whether you already have a battery emulator.
DC-CCS EVSE: SCPI (HPC)	061-6-002	
CHAdeMO EVSE: SCPI (HPC)	061-6-002	

Maintenance		
1 year	061-7-002	
1 year EOL	061-7-003	

Training		
2 hours, online	910-1-015	

Technical data.

General

AC power supply voltage:	100 .. 240 V AC (Input) Suitcase version can be connected to a 12 V DC cigarette lighter via an inverter (inverter not included).
Weight:	**Suitcase:** ca. 15 kg **Rack:** ca. 20 kg
Size (L x W x D):	**Suitcase:** ca. 560 x 420 x 250 mm **Rack:** ca. 483 x 355 x 700 mm
Operating temperature:	**Suitcase:** -15 .. +40 °C **Rack:** Laboratory environment
Results:	on display and PDF report stored in device
Test/analysis standards:	**CHAdeMO:** Ver. 0.9.1, 1.0.0, 1.0.1, 1.1 and 1.2 (2.0 coming soon) **DC-CCS:** DIN 70121 or ISO 15118 on demand. Can be changed by configuration via the USB interface of the PC.
Power consumption: Inrush current:	max. 500 VA, in rush current higher **CHAdeMO:** about 10.7A **DC-CCS:** about 8.3 A
Water resistance acc. to IEC standard 60529	**Suitcase only:** closed lid: IP67 open lid: IP30
Remote control:	**Rack only:** RS232 for start/stop or SCPI on demand

Measuring range, accuracy etc.

Voltage measurement

Range:	0 .. 1000 V
Resolution (Display):	+/- 1 V
Accuracy (not calibrated):	+/- 1 V

Current measurement

Range:	0 .. 7 A
Resolution (Display):	+/- 100 mA
Accuracy (not calibrated):	+/- 0,5 A

EV Simulation

Voltage:	ca. 300 V (output) A flexible value is available on demand for the rack version.
Current:	ca. 5 A A higher value is available on demand for the rack version.
Duration charge cycle:	ca. 7 sec. (Enough time to check whether the EVSE works in general.) **Suitcase:** Can be changed within a small range on demand. **Rack:** The usage time can be up to 8 hours per day.

Others

Accessories:	Notebook not required for the test (only for configuration and report downloads) and for higher power requirements.
Usage:	very simple with “Start”-Button on integrated touchdisplay; fully automated EV simulation

NEW FEATURE

Isolation Fault Simulation for DC-CCS

EVSE warning check

DC+ to PE:	475 kOhm
DC- to PE:	475 kOhm

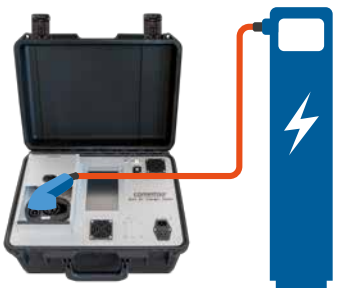
EVSE alert/switch off test

DC+ to PE:	95 kOhm
DC- to PE:	95 kOhm

Optional: Special Fault Injection on DC-CCS signal lines (PE cut, CP short)

CHAdeMO charger test setup:

DC-CCS EVSE test setup:



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