

COMBINED MINI-CHARGER- TESTER

Generation 3.5



EV-SIMULATION ACCORDING TO



MEMBER OF



WWW.COMEMSO.COM



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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 3.5: Now with intuitive touch screen, informative reports and easy operation.



Solves new challenges of e-mobility.

The number of charging stations in the field is increasing and with it the service effort. In order to verify that a charging station is charging properly and that nothing has been forgotten during (re)commissioning, a final functional test is mandatory after every maintenance or repair.

This requirement has created many new challenges for electric vehicle and charging system manufacturers, as in the past one or two real electric vehicles, each with different charging standards,

were needed to test charging stations. We have developed a solution for this:

The comemso Mini-Charger tester simulates vehicle signals, communication protocols and load circuits of the charging standards DC-CCS and CHAdeMO and, if required, also AC.

In this way, we have effectively put two “vehicles” in one ultra-portable, easy-to-use case. The results are displayed in real time on the touchscreen and additionally stored in the device.





Simulation of conductive electric vehicles according to CCS (DIN 70121, ISO 15118) and CHAdeMO up to version 1.2; optional AC.

Fully automatic EV-Simulation on communication and load circuit.

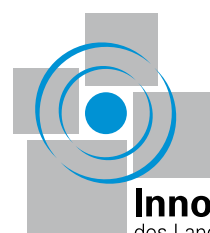
No computer required for on-site testing.

Safety test of EVSE (DC-CCS only) to check isolation fault recognition.

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

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



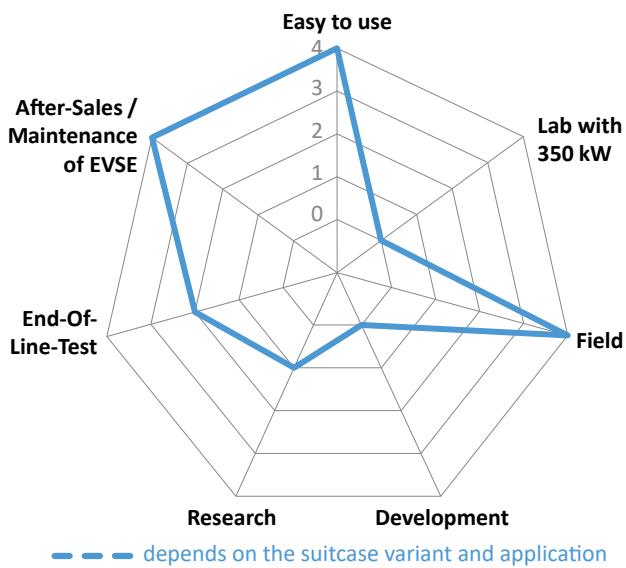
One test system – many possibilities.

The following product categorization matrixes give you an overview of the features and capabilities of the comemso Mini-Charger-Tester. This will help you

to find the right comemso system for your requirements. We would also be happy to advise you personally.

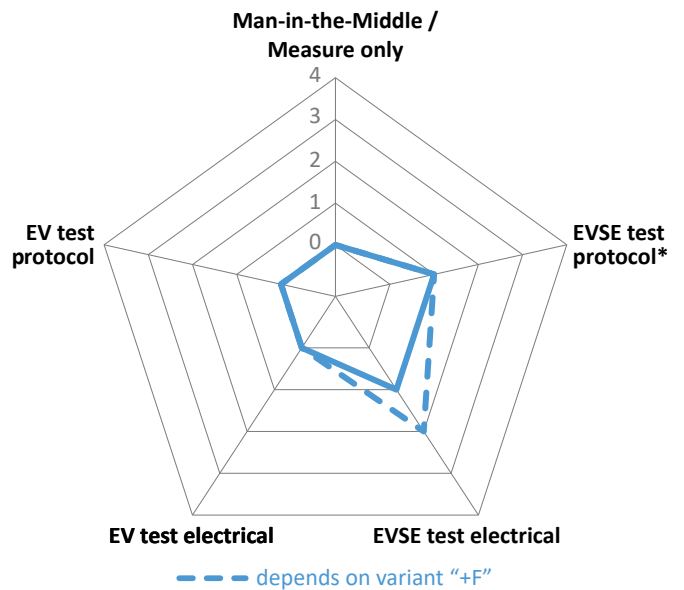
General

Mobile suitcase version



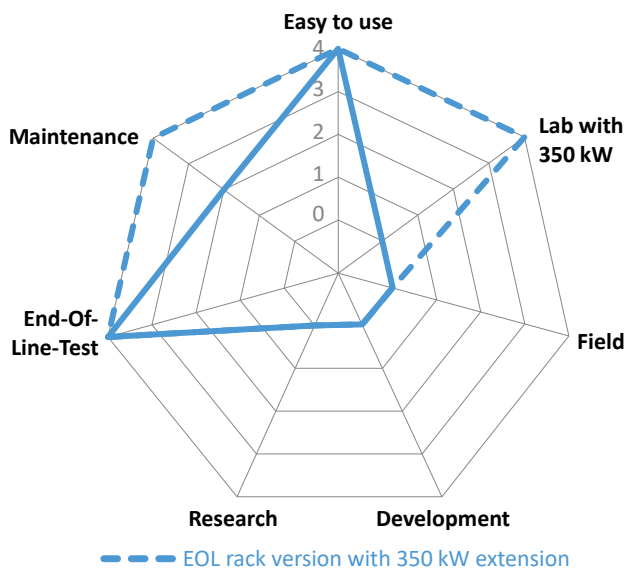
Applications

Mobile suitcase and EOL rack version

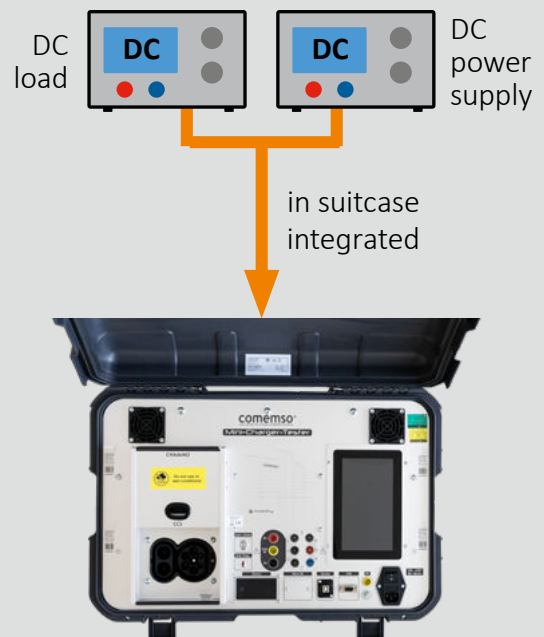


*full protocol emulation of EV and tolerant judgement, but no detailed analysis provided.

EOL rack version



Simple emulation of EV battery:



Made for field use.

Field setup in the vehicle trunk. The comemo Mini-Charger-Tester is connected to the 12V car cigarette lighter via a 1 kW sine wave inverter. A test laboratory in the trunk.



Overview of Mini-Charger-Tester suitcase combinations.

Name	Item number	DC-CCS Combo 1	DC-CCS Combo 2	CHAdemo	AC Type 1	AC Type 2	EV Simulation	Iso. Fault Sim.	Ext. Fault Sim.	Report file
Combined 1	061-1-332	•		•			appx. 300 V, 6A	•		•
Combined 2	061-1-331		•	•			appx. 300 V, 6A	•		•
DC-CCS 1	061-1-334	•					appx. 300 V, 6A	•		•
DC-CCS 2	061-1-333		•				appx. 300 V, 6A	•		•
DC-CCS 1 + 2	061-1-372	•	•				appx. 300 V, 6A	•		•
CHAdemo	061-1-335			•			appx. 300 V, 6A			•
Combined 1, AC+F	061-1-337	•		•	•		appx. 300 V, 6A	•	•	•
Combined 2, AC+F	061-1-336		•	•		•	appx. 300 V, 6A	•	•	•
DC-CCS 1, AC+F	061-1-338	•			•		appx. 300 V, 6A	•	•	•
DC-CCS 2, AC+F	061-1-339		•			•	appx. 300 V, 6A	•	•	•
DC-CCS 1 + 2, AC+F	061-1-340	•	•		•	•	appx. 300 V, 6A	•	•	•
MAINTENANCE										
1 year	061-7-002									
Factory calibration	061-8-002									
TRAINING										
Training video	910-1-026						Can be selected instead of personal online training.			
Online training, max. 2 hours	910-1-015									



Would you like a little more?

If your focus is on end-of-line (EOL) testing in production, we provide a suitable solution with the laboratory rack version. Designed for continuous operation* under laboratory conditions. The performance corresponds to the general listed technical data and can be extended up to 350 kW if required.



*Use time can be up to 8 hours per day.

Overview of possible Mini-Charger-Tester combinations.

Name	Item number	DC-CCS Combo 1	DC-CCS Combo 2	CHAdEMO	AC Type 1	AC Type 2	HPC	EV Simulation	Isolation Fault Sim.	Ext. Fault Sim.	Report file
Combined 1 EOL	061-1-102	●		●				appx. 300 V, 7A	●		●
Combined 2 EOL	061-1-101		●	●				appx. 300 V, 7A	●		●
DC-CCS 1 EOL	061-1-107	●						appx. 300 V, 7A	●		●
DC-CCS 2 EOL	061-1-106		●					appx. 300 V, 7A	●		●
CHAdEMO EOL	061-1-108			●				appx. 300 V, 7A			●
Combined 1 EOL, AC+F	061-1-104	●		●	●			appx. 300 V, 7A	●	●	●
Combined 2 EOL, AC+F	061-1-103		●	●		●		appx. 300 V, 7A	●	●	●
Combined 1 + 2 EOL, AC+F	061-1-105	●	●	●	●	●		appx. 300 V, 7A	●	●	●
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 EOL	061-7-003										
Factory calibration	061-8-002										
TRAINING											
Training video	910-1-026										



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: appx. 16 kg Rack: appx. 20 kg
Size (L x W x D)	Suitcase: appx. 600 x 400 x 330 mm Rack: appx. 483 x 355 x 700 mm
Operating temperature	Suitcase: -15 .. +40 °C Rack: Laboratory conditions
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 DC-CCS: DIN 70121 or ISO 15118 on demand. Can be changed by configuration via touch-screen.
Power consumption	max. 500VA, Inrush current higher
Inrush current	CHAdemo: appx. 10.7A DC-CCS: appx. 8.3A
Water resistance according to IEC 60529	Suitcase only: closed lid: IP66; open lid: IP43
Remote control for production automation	Rack only: RS232 for SCPI on demand
MEASURING RANGE, ACCURACY ETC.	
Voltage measurement	
Range	0 .. 1000V
Resolution (Display)	+/- 1V
Accuracy	+/- (1V + 0,5% of measured value)
Current measurement	
Range	0 .. 7A
Resolution (Display)	+/- 100mA
Accuracy	+/- 0,5A

EV SIMULATION	
Voltage	approx. 300V (output) A flexible value is available on demand for the rack version.
Current	approx. 6A A higher value is available on demand for the rack version.
Duration charge cycle	Suitcase: appx. 30 sec. (Enough time to check whether the EVSE works in general.) Rack: The usage time can be up to 8 hours per day.
ISOLATION FAULT SIMULATION FOR DC-CCS	
EVSE warning check	
DC+ to PE	475kOhm
DC- to PE	475kOhm
EVSE alert/switch off test	
DC+ to PE	95kOhm
DC- to PE	95kOhm
DC+ to PE	47kOhm
DC- to PE	47kOhm
Optional	Special Fault Injection on DC-CCS signal lines (PE cut, CP short).
MISCELLANEOUS	
Isolated Banana sockets	
DC	to validate the voltage
AC	connect AC load (up to max 32 A per phase)
Lock extension	for DC-CCS Inlet

Test reports with your logo.

To add a personal touch to the test report generated automatically after each test, you now have the option of inserting your company logo yourself – at no additional charge!

YOUR LOGO

comemso

Test Report

Mini-Charger-Tester

Charging method: CHAdemo

Date: 18.05.2021

Time: 16:31

Tester:

Test object ID: TestID

Filename: 2021-05-18_16-31-36_Measurement.csv

Tester_Name

TestID

2021-05-18_16-31-36_Measurement.csv

Test result: PASSED

State NO.

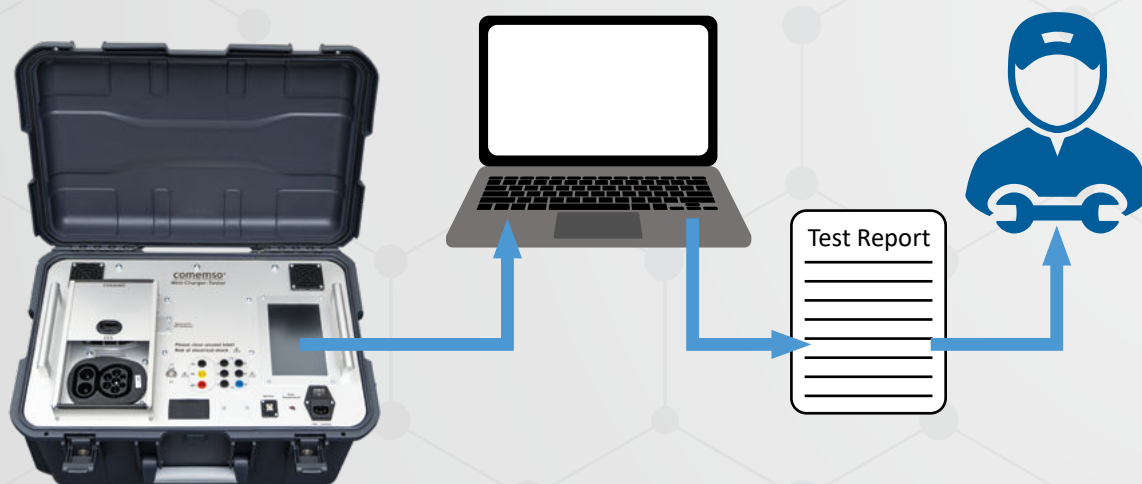
State



It doesn't get any faster or easier than this:



After a maintenance:



comemso_MINI-CHARGER-TESTER_3.5_EN_2022-08

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