

HV-Messadapter¹ MEB V2.0 (Art. No.: 5500/6107)

Notes on Safety

- This device is intended to be used only by electrically skilled persons or persons, who are trained for a particular procedure by an electrically skilled person.
- Always follow vehicle manufacturers guidelines and procedures, when working at a vehicle! Ensure to follow disconnect procedure before loop in this device!



Danger

Hazard of severe burns and blindness due to arcing when disconnecting high-voltage plugs under load! Never disconnect plug connectors under load! These tasks should only be performed by trained personnel!

- The device is intended to be used in dry environment (IP20). Wetted electrical equipment should never be used! If the box accidentally getting wet in use, DO NOT TOUCH and IMMEDIATELY de-energise the device and disconnect it!

Moisture means any form of condensed water on the device, which can occur even with distinct temperature differences. When transporting from cold to warm, ALWAYS allow the device to adjust to the temperature so that there is no condensate on the device during use.



Danger

Hazard of electric shock if operating a wet device due to voltage flashover! The device must be dried and tested by authorised and trained personnel!

- The device must be checked for damage before each use! DO NOT USE damaged devices, cables or connectors!



Danger

Hazard of electric shock if operating a damaged device due to possible contact with live parts! Have the device checked and repaired by authorised and trained personnel!

- The device must be checked for dirt and corrosion of the plugs and receptacles before each use! To prevent pollution, all existing caps on the sockets must be closed when not in use. The device should be transported and stored in the supplied case for protection.



Caution

Operation with dirty connector systems can result in damage to the vehicle and the device! Have affected connectors cleaned and checked by authorised personnel!

- The device ages with use. The current carrying capacity is about 10 Ampere with brand-new contacts and decreases with dirt and oxidation.

Safety Instruction

It is recommended to have the device checked regularly and, if necessary, to replace it cyclically in order to permanently comply with the manufacturer's specifications.

¹ German: Messadapter <-> English: Break-Out Box

Intended Use

The device serves as a break-out box for determining voltage states on electric vehicles with the help of a qualified measurement device. Due to the protective resistors, it is for voltage-only measurements without load on the measurement side! Current flow results in a voltage drop on the resistors and leads to inaccurate measurement readings.

In addition, a shunt or short-circuit fault of the contacted battery leads against each other or the metal body of the vehicle can be simulated by means of a given resistance (66KOhm / 300KOhm) specified by the vehicle manufacturer. This is used to review vehicle's warning circuits/ displays and emergency cut-off system. Follow the vehicle manufacturers guidelines to do so.

Application

Plugging and to unplug the HV-breakout box

The applicable connector of the vehicle for intermediate connection should be switched at least load-free or completely de-energized. The procedures of the vehicle manufacturer must be observed!



Danger

Hazard of severe burns and blindness due to arcing when disconnecting high-voltage plugs under load! Never disconnect plug connectors under load! These tasks should only be performed by trained personnel!

The breakout box will be connected to the original vehicle sockets by looping it into the vehicles cable harness. If active operation under load with the device is necessary, manufacturer's specifications for vehicle and connector system must be complied with.

Safety Instruction

Recommendation: Do not load the device with more than 10 Ampere over a longer period of time (> 1 min.), otherwise there is a risk of excessive heating of the potentially used up connector with the possible consequence of thermal damage to the mating components.

Voltage Measurements

After connecting the box, voltage can be measured with a qualified measuring instrument and appropriate cables with 4 mm spring connectors (banana plugs) between any of the test terminals on the device. Pay attention to the markings close to the terminals!

- Red socket : "HV+", positive pole of the battery
- Black socket: "HV-", negative pole of the battery



Warning

Hazard of electric shock. Only use cables and instrumentation suitable for the voltage and in good order and condition.

Checking vehicle's insulation fault control

In order to provoke an error for testing the vehicle's system for battery insulation control, follow the vehicle manufacturers procedures. The device is built to the vehicle manufacturers specifications and the manufacturer of the device **is not invoked** in the necessary procedures!

The vehicle should react to this according to the vehicle manufacturer's specifications and, for example, report an insulation fault and, if necessary, switch off the battery.

Meaning of the corresponding German writings on the device:

- R_{iso} -Schwelle -> Insulation resistance threshold, R_{ins} -threshold
- rote Fehlerlampe -> red failure lamp; normally cut off of the batterie
- gelbe Warnlampe -> yellow warning lamp

This is for information only! Possibly the signalling in the latest vehicles is different. Refer to builder's manual!

Device Specifications

Electric

| | |
|-----------------------------------|---|
| Test voltage of the device: | 3000 V DC (lines against each other and to the outside) |
| Working voltage: | 1000 V DC max. |
| Ingress Protection Code: | IP 20 (Protection against intrusion with fingers) |
| Current-carrying capacity (new): | 10 A |
| Terminals for measurement/ tests: | 4 mm Ø, HV version (for spring-/ banana plugs) |

Environmental conditions

In use:

| | |
|--------------|---|
| Temperature: | 0 – 60 °C 32 – 140 °F |
| Humidity: | 0 – 90 % rel.h. (relative humidity), non-condensing |

Stored:

| | |
|--------------|----------------------------|
| Temperature: | -20 – 90 °C -4 – 194 °F |
| Humidity: | 0 – 95 % rel.h. |

Dimensions and weight

Device with cable, length x width x height, dimensions over everything:

- 68.0 cm x 6.5 cm x 4.0 cm
- 26.8 in x 2.6 in x 1.6 in

The device article no. 6107 has a metal eye ring on the small side opposite to the cable glands to be possibly hooked on. Its length enhances the device length about 1.5 cm/ 0.6 inch.

Weight:

- 0.78 kg
- 1.72 lbs