GOSSEN METRAWATT

METRALINE PRO-TYP EM I/II/III
Single and 3-Phase Test Adapter for Testing Charging Points with the PROFITEST MTECH+ (IQ) and MXTRA (IQ)

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Single and 3-phase test adapter for testing the effectiveness of protective measures at electric charging points with the Profitest Master, simulation of fictitiously connected electric vehicles and simulation of current-carrying capacity of cord sets per IEC 61851-1

- **Vehicle simulation (CP)**
  Vehicle states A, B, C and E are selected with a rotary switch.
- **Cable simulation (PP)**
  The various codings for charging cables with 13, 20, 32 and 63 A can be simulated with the help of a rotary switch.
- **Fault simulation**
  Simulation of a short-circuit between CP and PE via rotary switch
- **Indication of phase voltages** via LEDs
  Depending on the charging station, either one or three phases can be active.
- **Testing of electric charging stations with permanently attached charging cable by means of an extended CP test pin**
- **CP socket for evaluating the PWM signal**



Applications

VDE tests can be conducted at electric charging points in accordance with IEC 61851 with the help of the METRALINE PRO-TYP EM I/II/III test adapter in combination with **PROFITEST MTECH+** and **MXTRA** test instruments.

The test adapter triggers the charging process by simulating an electric vehicle. Only by means of simulation is the charging station's outlet energized so that it can be tested with the **PROFITEST MTECH+** and **MXTRA** test instruments.

The range of applications includes R&D and service applications for initial start-up, and for periodic testing.

METRALINE PRO-TYP EM I (Z525F)

The Profitest Master's measurement cables are connected via 4 mm safety sockets (L1, L2, L3, N, PE).

METRALINE PRO-TYP EM II (Z525G)

Same as the PRO-TYP EM I but with additional earthing contact socket.

METRALINE PRO-TYP EM II (Z525K)

Same as PRO-TYP EM I but with additional socket SN 441011 type 13.

METRALINE PRO-TYP EM III (Z525H)

Same as PRO-TYP EM I I but with additional, interchangeable test plug (type 2, type 1, Chinese plug and universally expandable).

Abbreviations and Their Meanings

Symbol	Meaning
CP	Displayable vehicle statuses
PP	Cable type
CP-PE	Resistance coding for enabling charging
PP-PE	Resistance coding for maximum charging current relative to conductor cross-section or cable type
PWM signal	Pulse-width modulated signal for communication with the vehicle via the CP cable
RCD	Residual current device

Applicable Regulations and Standards

IEC 61010-1/ DIN EN 61010-1/ VDE 0411-1	Safety requirements for electrical equipment for measurement, control and laboratory use – General requirements
IEC 61851-1 DIN EN 61851-1	Electric vehicle conductive charging system – Part 1: General requirements
EN 60529 VDE 0470-1	Test instruments and test procedures Degrees of protection provided by enclosures (IP code)

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Technical Data

Vehicle Simulation (CP)

States A, B, C and E can be simulated in accordance with IEC 61851. The various vehicle states are selected by means of a rotary switch.

State A	No vehicle connected
State B	Vehicle connected but not ready for charging
State C	Vehicle connected and ready for charging, venting of the charging area not required
State E	Error – short circuit between CP and PE via internal diode

Cable Simulation (PP)

The various codings for charging cables with 13, 20, 32 and 63 A can be simulated.

The various charging cables are simulated by connecting different resistances between PP and PE with the help of a rotary switch. The following values are possible in accordance with IEC 61851:

13 A cable	1.5 kΩ
20 A cable	680 Ω
32 A cable	220 Ω
63 A cable	100 Ω

Connection Values

Input voltage	400 V (3-phase)
Frequency	50 Hz
Power Test consumer	Max. 2.9 kVA (no continuous operation!)

Electrical Safety

Protection class	II
Test voltage	3.5 kV AC
Measuring category	CAT III 300 V
Pollution degree	2

Mechanical Design

Dimensions	Housing: W × L × H = 105 × 210 × 53mm Complete with connector plug: W × L × H = 105 × 750 × 62 mm
Weight	Approx. 795 g (PRO-TYP EM I)
Protection	IP 20

Ambient Conditions

Operating temperature	-10 °C … +45 °C
Storage temperature	-25 °C … +60 °C
Relative humidity	Max. 80%, condensation ruled out

Scope of Delivery

1 PRO-TYP EM test adapter (depending on variant)
1 Set of operating instructions

Order Information

Designation	Type	Article No.
Single and 3-phase test adapter with type 2 plug	METRALINE PRO-TYP EM I	Z525F
Single and 3-phase test adapter with type 2 plug, same as PRO-TYP EM I but with additional earthing contact socket	METRALINE PRO-TYP EM II	Z525G
Single and 3-phase test adapter with type 2 plug, same as PRO-TYP EM I but with additional socket SN 441011 type 13.	METRALINE PRO-TYP EM II	Z525K
Single and 3-phase test adapter with type 2 plug, same as PRO-TYP EM II but with additional, interchangeable test plug (optionally type 1, Chinese plug)	METRALINE PRO-TYP EM III	Z525H
Universal carrying pouch with flexible compartments	F2010	Z700G

F2010 Universal Carrying Pouch (Z700G)



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