

# PRO-TYP II

## Single and 3-Phase Test Adapter with Type 2 Plug for Testing Charging Stations with the PROFITEST MTECH+ or MXTRA

3-349-883-03  
4/11.18

Single and 3-Phase Test Adapter for Testing for the Effectiveness of Protective Measures at Electrical Charging Stations with the Profitest Master, Simulating Fictitiously Connected Electric Vehicles and Simulating the Current-Carrying Capacity of Cord Sets per IEC 61851-1

- **Vehicle Simulation (CP)**  
Vehicle states A through E are selected with a rotary switch.
- **Cable Simulation (PP)**  
The various codings for charging cables with 13, 20, 32 and 63 A, as well as “no cable connected”, can be simulated with the help of a rotary switch.
- **Fault Simulation**  
Simulation of a short-circuit between CP and PE by means of a rotary switch
- **Indication of Phase Voltages** via LEDs  
Depending on the charging station, either one or three phases can be active.
- **Testing of electrical charging stations with permanently connected charging cable due to extended CP test pin**
- **CP Socket for PWM signal evaluation**



### Applications

VDE tests can be conducted at electrical charging stations in accordance with IEC 61851 with the help of the PRO-Typ II in combination with the **PROFITEST MTECH+ or MXTRA** test instrument. 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+ or MXTRA** test instrument. The range of applications includes R&D and service.

### Applicable Regulations and Standards

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

### Abbreviations and Their Meanings

Abbreviation	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 circuit breaker

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## Single and 3-Phase Test Adapter with Type 2 Plug for Testing Charging Stations with the PROFITEST MTECH+ or MXTRA

### Technical Data

#### Vehicle Simulation (CP)

States A, B, C, D 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 without venting  
State D: Vehicle connected and ready for charging with venting  
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. It's also possible to simulate the "no cable" state.

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:

- No cable: 0  $\Omega$   
13 A cable: 1.5 k $\Omega$   
20 A cable: 680  $\Omega$   
32 A cable: 220  $\Omega$   
63 A cable: 100  $\Omega$

#### Connection Values

- Input voltage 400 V (3-phase)  
Frequency 50 Hz  
Test consumer power 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 x L x H = 70 x 17 x 70 mm  
Complete with connector plug:  
W x L x H = 70 x 500 x 70 mm  
Weight approx. 940 g  
Protection IP 20

#### Ambient Conditions

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

### Scope of Delivery

- 1 PRO-TYP II test adapter  
1 Set of operating instructions

### Order Information

Designation	Type	Article Number
Single and 3-phase test adapter with type 2 plug	PRO-TYP II	Z525A
Single and 3-phase test adapter with type 2 plug; Version with swiss type socket	PRO-TYP II-CH	Z525D
Single and 3-phase test adapter with type 2 plug; Version without LEDs	PRO-TYP II-IS0	Z525E
Universal carrying pouch with flexible compartments	F2010	Z700G

#### Universal carrying pouch F2010

