GOSSEN METRAWATT

# PROFITEST H+E BASE, H+E BASE 32, H+E BASE C
# Tester for Electric Charging Stations

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- **Complete diagnosis of electric charging stations with a single test instrument:**
  – Vehicle states
  – Cable condition
  – Error states
  – PWM signal evaluation
  – Phases and phase sequence
  – Battery level
- **Error simulations:**
  – Short-circuiting of the diode in the vehicle's circuit
  – Short-circuit between CP and PE
  – Testing of the RCD by tripping and measuring breaking time
- **Indication of states by means of easy-to-understand symbols**
- **Easy operation and diagnostics (for persons with basic electro-technical instruction as well)**
- **Compact, battery powered device which is thus suitable for outdoor use**

## Applications

The test instrument is intended for examining the functional performance of charging stations for electric vehicles (mode 3 charging) with

- type 2 for PROFITEST H+E BASE, H+E BASE 32 or H+E BASE C,
- type 1 for PROFITEST H+E BASE C.

The test instrument is connected to the charging station to this end, in order to document communication between the charging station and the test instrument. If the charging process doesn't start, the source of error can be quickly pinpointed.

The range of applications includes R&D and service.

### Features

- Connection option for a test consumer via an integrated socket :
  – PROFITEST H+E BASE: earthing contact socket (230 V, max. 13 A)
  – PROFITEST H+E BASE 32: CEE (400 V, max. 32 A)
- Compact case, ideal for service calls
- Large display, background illumination can be activated
- Selectable user interface language – the following languages are available: D, GB, F, E, I, P
- Power supply via two 9 V (rechargeable) block batteries or power pack
- USB data interface for firmware updates

### Battery Charging Status – Power Saving Circuit

The battery charging status is indicated by means of 6 progressive segments.

The device is switched off automatically if none of the rotary switches are activated for a period of 10 minutes. Display illumination is deactivated automatically after 30 seconds.

### Diagnostics Information

| Measuring Parameter | Setting |
|---|---|
| Phase L1, L2, L3 | On/off |
| Phase sequence | CW / CCW |
| Resultant charging current (via evaluation of the duty cycle) | A |
| **PWM Signal** | |
| Frequency | Hz (set = 1 kHz) |
| Duty cycle (with PWM) | % |
| Upper voltage | 3, 6, 9, 12 V |
| Lower voltage | – 12 V |

### Status Visualization

| Displayable Vehicle Statuses (CP) | |
|---|---|
| No vehicle connected | ● |
| Vehicle connected | ● |
| Vehicle ready for charging without ventilation | ● |
| Vehicle ready for charging with ventilation | ● |
| **Cable Type (PP)** | |
| No cable | ● |
| 13 A cable | ● |
| 20 A cable | ● |
| 32 A cable | ● |
| 63 A cable | ● |
| **Simulatable Errors** | |
| Short-circuited diode | ● |
| CP-PE short-circuit | ● |
| RCD tripped : I = 30 mA between L1 and PE | ● |

# PROFITEST H+E BASE, H+E BASE 32, H+E BASE C
# Tester for Electric Charging Stations

## Technical Data

| | |
|---|---|
| Input voltage | 400 V (3-phase) |
| Frequency | 50 Hz |
| Test consumer power | max. 2.9 kVA |

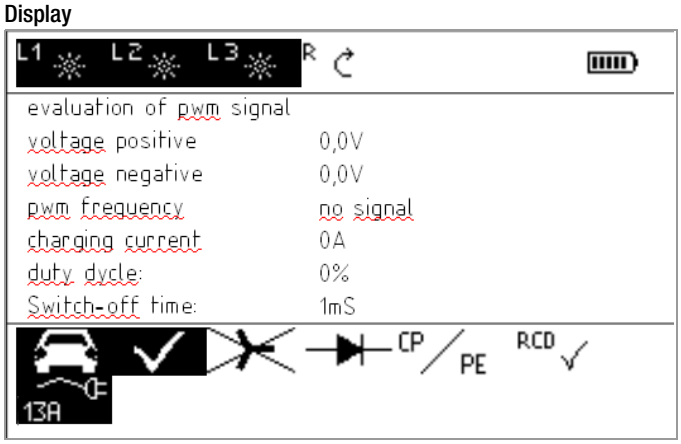
### Electrical Safety

| | |
|---|---|
| Protection class | I |
| Nominal voltage | 400 V DC |
| Test voltage | 500 V DC |
| Measuring category | CAT III, 300 V |
| Pollution degree | 2 |
| Fuses | None |

### Mechanical Design

| | |
|---|---|
| Dimensions (W x L x H) | H +E BASE:<br>200 mm x 240 mm x 115 mm<br>H+E BASE 32, H+E BASE C:<br>340 x 410 x 170 mm |
| Weight | H+E BASE: 2.35 kg<br>H+E BASE 32: 5.35 kg<br>H+E BASE C: 5.20 kg |
| Protection | IP 21 |

### Display




| | |
|---|---|
| Display | Multiple display with dot matrix,<br>240 x 128 pixels, diagonal: 10.7 cm (4.2") |

### 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 circuit breaker |

### Ambient Conditions

| | |
|---|---|
| Operating temperature | - 10 °C ... +45 °C |
| Storage temperature | - 25 °C ... +60 °C |
| Relative humidity | max. 80%,<br>condensation is ruled out |

## Applicable Regulations and Standards

| | |
|---|---|
| **IEC 61010-1/EN 61010-1/ VDE 0411-1** | Safety requirements for electrical equipment for measurement, control and laboratory use<br>– General requirements |
| **IEC 61851-1<br>DIN EN 61851-1** | Electric vehicle conductive charging system<br>– Part 1: General requirements |
| **DIN EN 61326-1<br>VDE 0843-20-1** | Electrical equipment for measurement, control and laboratory use –EMC requirements – Part 1: General requirements |
| **EN 60529<br>VDE 0470-1** | Test instruments and test procedures<br>Degrees of protection provided by enclosures (IP code) |

## Scope of Delivery

1 PROFITEST H+E BASE or H+E BASE 32 or H+E BASE C test instrument
2 9 V block batteries
1 12 V power pack
1 Set of operating instructions

## Order Information

| Designation | Type | Article Number |
|---|---|---|
| Test instrument for electric charging stations (type 2 connector socket and plug, earthing contact socket) | PROFITEST H+E BASE | M525A |
| Test instrument for electric charging stations (type 2 connector socket, CEE socket) | PROFITEST H+E BASE 32 | M525C |
| Test instrument for electric charging stations (type 1 and 2 connector sockets ) | PROFITEST H+E BASE C | M525D |



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