DHZ Three Phase Electricity Meters

DHZ current transformer electricity meters are used to measure electricity in 2, 3 and 4-conductor networks (three phase). Meters are connected to current transformers to calculate the electricity consumption.

M-bus interface option allows accurate data transmission to management systems.

Features

- Digital A/C Current Transformer Electricity Meter
- Optional 2-Tariff Meters Available
- Pulse Output according to DIN 43864 or M-Bus according to EN1434-3 Connectivity Options
- Adjustable Transforming Ratio
- Installation Error Correction
- DIN-rail mounting according to EN50022 (TS35)
- Multi-Use Display
- Optional with Battery

Product sheet MT8.10

Model Type | Model | Description
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DHZ-5-1 | Three Phase Current Transformer Electricity Meter, S0 Impulse Output
DHZ-5-1-M-BUS | Three Phase Current Transformer Electricity Meter, M-Bus Network
DHZ-5(65) | Three Phase Electricity Meter with Direct Connection, S0 Impulse Output
DHZ-5(65)-M-BUS | Three Phase Electricity Meter with Direct Connection, M-Bus Network

Technical Data

- Operating Voltage: 3 x 230 / 400V
- Current: DHZ-5-1: 5/1 A
  - DHZ-5(65): 5(65)A
- Frequency: 50-60Hz
- Precision: 1%
- Impulse Output: According to DIN43863 Mosfet
  - 5(65): Length 100 ms, 100 Imp/kWh
  - 5(65): Length 100 ms, 1000 Imp/kWh
- M-Bus Interface: According to EN1434-3
  - Readable Data: Energy Counter Reading, Monthly Consumption for One Year, Momentary Power, Media, Status, Manufacturer
- Protection Class: Housing - IP51
  - Connections - IP20
- Mounting: DIN-Rail
- Display: 8-Digit LCD
  - Energy value tariff 1 & 2
  - Display Test
  - Converter Constants
  - Impulse Constants
  - Impulse Length
  - M-bus address and baud rate
- Mounting: DIN-rail
The menu below illustrates the standard menu structure. In addition to the items displayed on the menu three phase meters show amperes and voltages to each phase.

In normal operation the meter is in standard menu. In the display the energy value of tariff 1 is displayed. With a short press of the button it is switched over to the next menu option. At the end of the standard menu, with a long press of the button, there is the possibility to change into test mode address mode) or into the edit mode. The possibility to switch to another menu / mode is represented in the display by „Go“. With a longer press of the button the display jumps from every position in the standard menu back to the standard display. This also happens when the button is not operated for longer than 5 minutes.

1) only with meters with M-BUS-interface
2) only with uncertified meters and meters with an unlocked edit mode

<table>
<thead>
<tr>
<th>Meaning</th>
<th>Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard display, tariff 1</td>
<td>00023625 kWh</td>
</tr>
<tr>
<td>Display text</td>
<td>888888888888 kWh</td>
</tr>
<tr>
<td>Tariff 1</td>
<td>00023625 kWh</td>
</tr>
<tr>
<td>Tariff 2 (if configured)</td>
<td>0005702 kWh</td>
</tr>
<tr>
<td>U-transformer constant (only with transformer meters)</td>
<td>100 U-Con5k</td>
</tr>
<tr>
<td>I-transformer constant (only with transformer meters)</td>
<td>10 I-Con5k</td>
</tr>
<tr>
<td>Output constant in Imp./kWh (only with meters with S0-output)</td>
<td>5000 50 Con5k</td>
</tr>
<tr>
<td>Impulse length in seconds (only with meters with GO output)</td>
<td>0.050 SEC 50E50</td>
</tr>
<tr>
<td>Primary address (only with meters with M-BUS-interface)</td>
<td>001 1Addr-ESS</td>
</tr>
<tr>
<td>Secondary address (only with meters with M-BUS-interface)</td>
<td>00000356 2Addr-ESS</td>
</tr>
<tr>
<td>Baud rate (only with meters with M-BUS-interface)</td>
<td>9600 BA00-Rt</td>
</tr>
<tr>
<td>Error register</td>
<td>00000000 Error</td>
</tr>
<tr>
<td>Firmware version</td>
<td>21200000 UFr 5on</td>
</tr>
<tr>
<td>Activation of the test mode</td>
<td>Go TEst</td>
</tr>
<tr>
<td>Activation of the address menu</td>
<td>00 Addr-ESS</td>
</tr>
<tr>
<td>Activation of the edit menu</td>
<td>Go Ed-ESS</td>
</tr>
</tbody>
</table>

1. Hinged terminal cover
2. Seal eye
3. Panel for transformer plate
4. Call up button for operation of the meter
5. LCD-Display
6. Test LED
7. Hinged terminal cover
Installation

The meters from the series DHZ are planned for DIN-Rail mounting in accordance with EN 50 022. With connection of the meter please pay careful attention to the relevant connection diagram which can be found on the inside of the terminal cover and also with the delivery documents. If the connection diagram is not included, please contact the supplier.

The direct connected version from the DHZ [5(65) A] can be connected to a 3- or 4-phase busbar (with a left-sided N-connection).

Meters for direct connection are to be protected against short circuits with a back-up fuse of max. 63 A and with transformer connected meters with a max. of 6 A in the voltage path. The control input is to be secured with a back-up fuse of 0.5 A.

On the upper part of the meter the following can be found:
- the inputs for the current- and voltage feeding / supply
- the control input
- the pulse output

On the lower part of the meter the following can be found:
- the voltage outputs
- the M-BUS-interface (optional)
- the connection for the busbars (only with direct connection meters 5(65) A)

SAFETY PRECAUTIONS

The meters are to be used exclusively for measuring electrical energy and must only be operated within the specified technical data.

When installing or changing the meter, the conductor to which the meter is connected must be de-energized. Contact of parts under voltage is extremely dangerous. Therefore the relevant back-up fuses are to be removed and stored so that other people cannot insert this unnoticed.

Before opening the meter the secondary circuit of the current transformer must be short circuited. The high voltage on the current transformer is extremely dangerous and destroys the current transformer.

The system voltage input is under voltage.

**WARNING:** The local standards, guidelines, regulations and instructions are to be obeyed. Only authorized personnel are permitted to install the electricity meters.

When storing, transporting and operating the meter it should be protected against dampness, dirt and damage and also not be operated outside the specified technical data (see also name plate). During the operation of the meter pay attention to the temperature range (see technical data).
Wiring Diagrams

DHZ-5-1
With Current Transformers

With Inline Connection (no CT's)

DHZ-5(65)

Accessories

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DHZ-3010-xxx</td>
<td>Solid Core Current Transformers up to 500A (xxx = rating)</td>
</tr>
<tr>
<td>DHZ-4012-xxx</td>
<td>Solid Core Current Transformers 600A to 800A (xxx = rating)</td>
</tr>
<tr>
<td>DHZ-TKxx-xxx</td>
<td>Split Core Current Transformers up to 3000A (xxx = rating)</td>
</tr>
<tr>
<td>MA6</td>
<td>Panel Door Installation Frame for DHZ</td>
</tr>
</tbody>
</table>

Dimensions

[Diagram of dimensions]