

Data sheet

• **OMNIPOWER® single-phase**

- Single-phase residential meter
- Prepared for smart home applications
- Optimised for smart metering systems
- Secured against tampering
- Resistant to errors in the supply network
- Ultra-low power consumption
- Remote firmware update
- Power quality measurements according to EN 50160
- Type approved according to:
 - Active energy
EN 50470-1 (MID)
EN 50470-3 (MID)
 - Active energy
and reactive energy
IEC 62052-11 (IEC)
IEC 62053-21 (IEC)
IEC 62053-23 (IEC)
- Communication protocol:
 - DLMS/COSEM



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Application

OMNIPower® single-phase meter is a direct connected electricity meter for registration of electric energy. The meter is fully electronic without movable parts. Thus, energy registration is not affected by shock or impact during transport and mounting. Furthermore, measurements are correct no matter the physical mounting direction.

The shunt measuring principle secures good linearity and a considerable dynamic range. At the same time, the shunt measuring principle is immune to magnetism and DC currents.

The easily readable display scrolls automatically between readings, or readings can be changed manually by the consumer activating the left push button. The required display readings as well as their order are configurable.

In addition to being read from the display, data can be collected via Radio Mesh network, optical output or from the module area. The unique module area also permits external changing of tariffs, pulse inputs and outputs, and configuration as well as a wide range of communication media.

From the factory, the meter can be configured to measure both imported and exported energy. Measurements are saved in a permanent memory.

As default, OMNIPower® single-phase meter can generate load profiles in all four quadrants. A load profile provides detailed information about consumed and produced energy. An additional logger with 24 channels contains data for analysis purposes.

As default, OMNIPower® single-phase meter is supplied with the functions Smart Disconnect and software controlled Prepayment.

The OMNIPower® single-phase meter is also designed to support extended analysis of the main grid using measurements of THD, power factor, voltage unbalance, voltage variations and sags and swells.

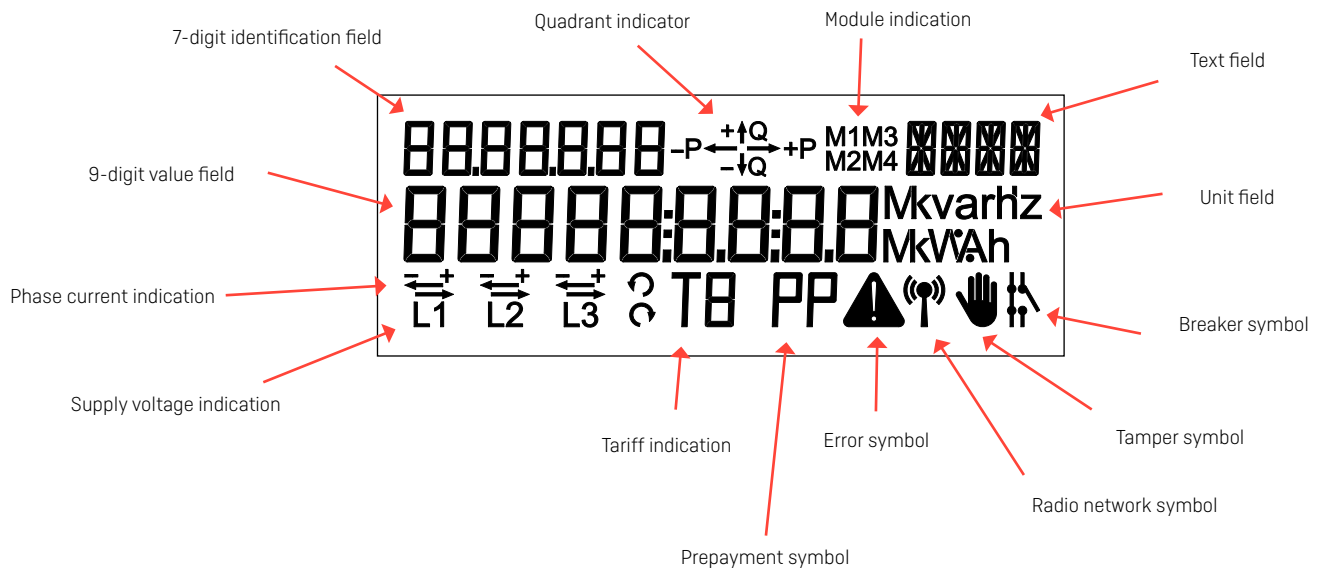
In order to minimise the manual configuration during installation, the meter is pre-configured from the factory. Furthermore, the meter can be reconfigured via a smart metering system.

Functions

Display

OMNIPower® single-phase meter is provided with a liquid crystal display (LCD). The registers that can be read from the display depend on the chosen configuration. It is also possible to remotely configure the display.

The display configuration is constructed as three independent display lists: One for automatic shift function, one for manual shift function and one for battery-powered shift function. The display is constructed of segments as shown in the figure below.



| | |
|-------------------------------|---|
| 9-digit value field: | This field is used for displaying register values. |
| Unit field: | This field is used for displaying the units that are related to the value field. |
| 7-digit identification field: | OBIS code identification of the value in the value field. |
| Quadrant indicator: | Indicates the current load type. |
| Text field: | Contains additional text in connection with the meter's function. |
| Module indication: | Indicates if and which modules that communicate in the display. |
| Error symbol: | Indicates critical internal errors. |
| Breaker symbol: | Indicates the current position of the breaker if smart disconnect is enabled. If smart disconnect is disabled or the meter is without breaker, there is no indication. |
| Tamper symbol: | Indicates magnetic influence or opening of the terminal cover, either temporarily or permanently. |
| Radio network symbol: | Indicates communication with AMR systems. |
| Prepayment symbol: | Indicates whether the prepayment functionality is activated. |
| Tariff indication: | Indicates the current tariff if tariffs have been selected. |
| Supply voltage indicator: | Indicates that the voltage is above the minimum threshold (160 V). |
| Phase current indication: | Indicates that the load is above the minimum threshold (2.3 W). |

Functions

Display

The automatic shift function (scroll) changes between the selected readings every 10 seconds. Up to 16 readings can be selected.

The manual shift function changes through activation of the left push button. Up to 30 readings and the reading order can be selected. However, it is not possible to deselect the **legal** readings.

If the battery-operated shift function is selected, it becomes possible to read the display, also when the meter is not power supplied. Up to 8 readings can be selected, and shifts between readings are made by activating the push button.

The meter automatically returns from manual shift function to automatic scroll function two minutes after the last activation of the left push button.

Energy reading

OMNIPower® single-phase meter has a shunt for current measurement and resistance division for voltage measurement.

Energy consumption is calculated as an expression of the current compared to the phase voltage and time.

The energy registration is communicated to the meter's legal processor via the meter's own internal bus system and is summed in the meter's main registers.

Permanent memory

Measured and calculated data are stored in the meter's permanent memory. Data are stored by every change of energy register values.

Furthermore, the below values are stored at the end of a debiting period:

| Various | Energy registers | Power registers |
|------------------------------|--------------------------------------|---------------------------------------|
| RTC w/Quality info | Active positive energy A+ | Peak power P+max |
| Hour counter | Active negative energy A- | Peak power P+max RTC |
| Debiting stop counter | Reactive positive energy R+ | Peak power P+max Tariff 1 |
| Power threshold counter (A+) | Reactive negative energy R- | Peak power P+max Tariff 1 RTC |
| Pulse input | Apparent positive energy E+ | Peak power P+max Tariff 2 |
| | Apparent negative energy E- | Peak power P+max Tariff 2 RTC |
| | Active positive energy A+ Tariff 1 | Accumulated peak power P+max |
| | Active positive energy A+ Tariff 2 | Accumulated peak power P+max Tariff 1 |
| | Active positive energy A+ Tariff 3 | Accumulated peak power P+max Tariff 2 |
| | Active positive energy A+ Tariff 4 | Peak power Q+max |
| | Reactive positive energy R+ Tariff 1 | Peak power Q+max RTC |
| | Reactive positive energy R+ Tariff 2 | Peak power Q+max Tariff 1 |
| | Reactive positive energy R+ Tariff 3 | Peak power Q+max Tariff 1 RTC |
| | Reactive positive energy R+ Tariff 4 | Peak power Q+max Tariff 2 |
| | | Peak power Q+max Tariff 2 RTC |
| | | Accumulated peak power Q+max |
| | | Peak power S+max |
| | | Peak power S+max RTC |
| | | Peak power S-max |
| | | Peak power S-max RTC |

Functions

Plug-in modules

OMNIPower® single-phase meter can be mounted/retrofitted with plug-in modules without subsequent reverification.

The module communicates with the meter's microprocessor via an internal data bus. This provides innumerable functional possibilities such as extra pulse output, tariff, load control and data communication via e.g. GSM/GPRS and M-Bus.

Optical reading

An optical interface is placed on the front of the meter. This optical connection can be used to read data or configure e.g. display set-up, meter number and other settings.

Changes via the optical connection can be made by using the software program METER-TOOL OMNIPower®.

It is not possible to change the meter's legal data.

S0 pulse output

Emits pulses of active energy at 1000 pulses per kWh. The pulses are emitted synchronously with the LED. The maximum voltage, which may be connected to the S0 output, is 27 V DC (at 1 kΩ), and the maximum current, which can be drawn through the output, is 27 mA. The pulse time is 30 msec.

Breaker

OMNIPower® single-phase meter is available with integrated disconnection function which makes it possible to disconnect the electricity meter's supply outputs. The disconnection can be made locally by activating the meter's push button, automatically via the functions Smart Disconnect or Prepayment, or remotely via an automatic smart metering system.

Do **NOT** use the disconnection as a safety function.

The reconnection can be made via the same media as the disconnection. Furthermore, connection via push button can be configured to only be permitted after previous release command from a smart metering system.

The breaker is a bistable breaker that maintains its current position in the event of a power failure and after the subsequent re-establishment of power.

Functions

Load profile*

Load profiles can be configured to 15, 30 or 60 min. according to the integration period and for all four quadrants. The number of generated profiles corresponds to the selected energy type for the meter.

| Logging depth in days: Minutes | 15 | 30 | 60 |
|-----------------------------------|-----|-----|------|
| A+ | 278 | 556 | 1113 |
| A+/A- | 235 | 470 | 941 |
| A+/A-/R+/R- | 180 | 360 | 720 |
| A+/A-/R1/R2/R3/R4 | 145 | 291 | 583 |
| A+/A-/R+/R-/R1/R2/R3/R4 | 122 | 244 | 489 |

* Load profile for Austria is limited to 60 days with a fixed integration period of 15 min.

The logging depths listed above apply to OMNIA 3.0 firmware and newer.

Analysis logger

OMNIPower® single-phase meter is provided with a configurable analysis logger. The logging depth is depending on the configuration of the meter as well as the number of registers. The analysis logger can register data from up to 24 different registers at a time. OMNIPower® single-phase meter is available with default settings which can be reconfigured subsequently via METERTOOL OMNIPower® or a smart metering system.

Tamper proof

Apart from the mechanical sealing, the meter also reveals tampering. In case of attempts of tampering (mechanical or magnetic), an alarm is activated which is time and date stamped and saved in the permanent memory. Alarms can be automatically transferred via the communication infrastructure and, in some cases, indicated on the display. Magnetic influence does not affect the measuring accuracy.

Approvals

OMNIPower® single-phase meter is type approved according to the Measuring Instruments Directive (MID) for active positive energy and according to the national requirements for other energy types, where required.

Approval

Type test according to:

- Active energy
- Reactive energy and active energy

Norm

EN 50470-1
EN 50470-3
IEC 62052-11
IEC 62053-21
IEC 62053-23

Various

Terminal
SO pulse output
Optical reading
OBIS/EDIS codes

Norm

DIN 43857 (partly)* or BS 7856
DIN 43864
DLMS/COSEM
IEC 62056-61

* The internal distance between terminals deviates from DIN 43857.

Technical data

Measuring principle

- Current
- Voltage

Nominal voltage U_n

Current

Current measurement by current shunt
Voltage measurement by voltage divider
230 VAC -20 % - +15 %
 I_{min} - I_{ref} (I_{max})

OMNIPower® single-phase meter

| Without breaker | With breaker |
|---------------------------------|---------------------------------|
| 0.25-5(100)A 35 mm ² | 0.25-5(100)A 35 mm ² |

Accuracy class

MID: Class A, Class B
IEC: Class 2, Class 1

Nominal frequency f_n

50 Hz \pm 5 % or 60 Hz \pm 5 %

Phase displacement

Unlimited

Operating temperature

-40 °C - +70 °C

Storage temperature

-40 °C - +85 °C

Protection class

IP54

Protection class

II

Technical data

| | |
|-----------------------------------|---|
| Relative humidity, non-condensing | < 75 % year's average at 21 °C < 95 % less than 30 days/year, at 25 °C |
| Weight | 1100 g with breaker/800 g without breaker |
| Application area | Indoors or outdoors in suitable meter cabinet |
| Internal consumption* | |

| OMNIPower® single-phase meter | Without breaker | With breaker |
|--|-----------------|-----------------|
| Maximum power consumption of the current circuits with basic current | 0.01 VA | 0.01 VA |
| Maximum power consumption of the voltage circuits | 0.6 VA 0.2 W | 0.6 VA 0.2 W |

* Measured by notified body during type test. Measured at phase L1.

| | |
|---------------------|--|
| Materials | Glass reinforced polycarbonate |
| Data storage | EEPROM, > 10 years without voltage |
| Display | LCD, 7 mm digit height (value field) LCD, 5 mm digit height (identification readings) LCD, 3 mm digit height (voltage and tariff readings) |
| Meter constant | 1000 imp/kWh |
| S0 pulse diode | 1000 imp/kWh, kvarh Pulse time 30 ms ± 10 % |
| S0 pulse output | 1000 imp/kWh Pulse time 30 ms ± 10 % |
| Short circuit level | 4500 A |

Real-time clock (RTC)

| | |
|-------------------------|---|
| Accuracy | Typically 5 ppm at 23 °C |
| Backup | Battery life > 10 years at normal operation Supercap life > 10 years at normal operation |
| Supercap operating time | 7 days fully charged |

Connections

| Main terminals Size | OMNIPOWER® Elevator terminal For use with connection: | | | OMNIPOWER® ST | |
|------------------------|--|---------------------|-----------------------|---|---------------------|
| | Multi-cored | 7-cored | Massive/terminal tube | Multi-cored | 7-cored |
| 35 mm ² | ≥ 6 mm ² | ≥ 6 mm ² | ≥ 2.5 mm ² | ≥ 6 mm ² | ≥ 6 mm ² |
| Screws | Pz 2 or straight slot Torque: 2.5 - 3 Nm | | | Pz 2 or straight slot Torque: 3-3.5 Nm | |
| Voltage output | 0.25 – 1.5 mm ² , 5 mm terminal forks | | | | |
| Screws | TORX Tx 10 Torque 1 Nm | | | | |

Communication

OMNIPOWER® single-phase meter can be supplied or retrofitted with communication modules. The modules function as inputs and outputs for the meter.
Mounting of modules does not require subsequent verification of the meter.

Communication Modules

| | |
|----------|---|
| Serial | Serial RS-485 or RS-232 communication or current loop with pulse inputs, tariff inputs or load control. |
| M-Bus | Reading via wired M-Bus system. |
| GSM/GPRS | Collection of consumption data via GSM/GPRS communication. Supports SMS reading. |

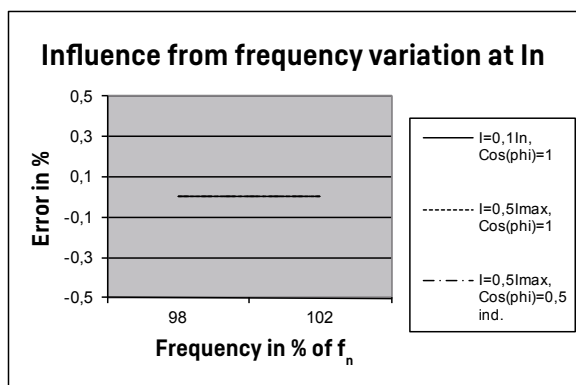
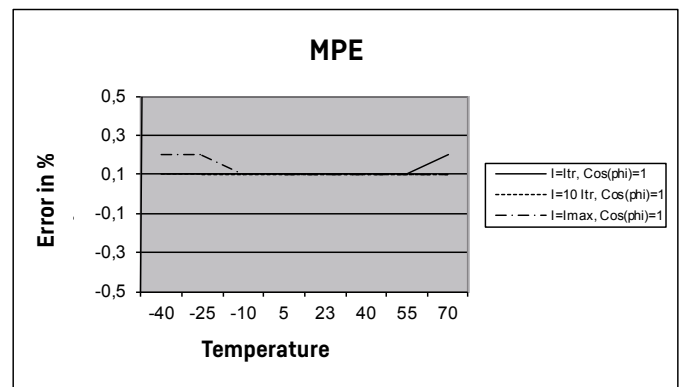
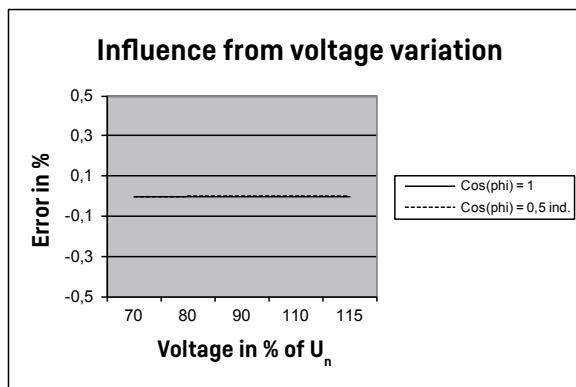
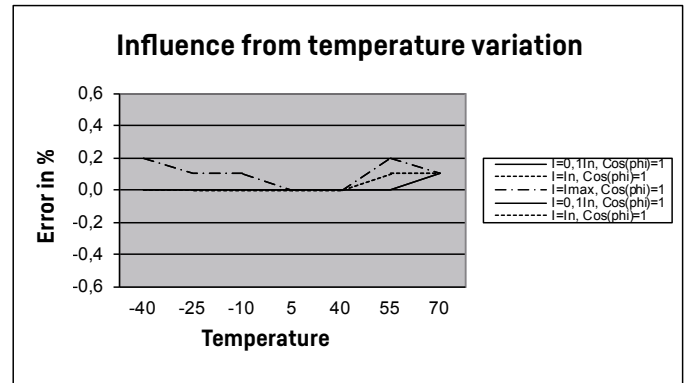
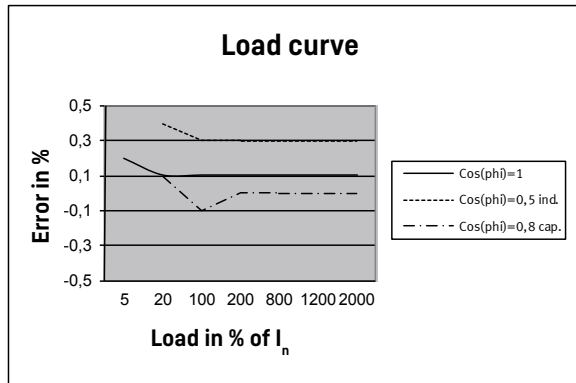
Integrated radio

OMNIPOWER® single-phase meter can be provided with built-in radio communication. Radio communication therefore requires no mounting/retrofitting of communication module. If the meter's module area is used for another type of communication, the built-in radio communication can be deactivated.

Consumer communication channel (CCC) module

In OMNIPOWER® single-phase meter, it is possible to mount a CCC module. The module can be used for communication and data exchange with smart home products such as energy displays and external relays. The CCC module is mounted without using tools or breaking the seal of the meter. The mounting may be done by e.g. the consumer himself.

Typical accuracy charts



MPE (Maximum Permissible Error)

Error composed of:

- current load
- voltage variation
- frequency variation
- temperature variation

Configuration – hardware

| | 68 | X ₁ - X ₂ | X ₃ - X ₄ | X ₅ | X ₆ - X ₇ | X ₈ | X ₉ - X ₁₀ | X ₁₁ | X ₁₂ | X ₁₃ - X ₁₄ | X ₁₅ | X ₁₆ |
|--|----|---------------------------------|---------------------------------|----------------|---------------------------------|----------------|----------------------------------|-----------------|-----------------|-----------------------------------|-----------------|-----------------|
| X₁ Meter type no. version | | | | | | | | | | | | |
| Single-phase meter | | 6 | | | | | | | | | | |
| X₂ Type no. version | | | | | | | | | | | | |
| OMNIPower® | | 1 | | | | | | | | | | |
| X₃ Housing | | | | | | | | | | | | |
| Standard | | | 1 | | | | | | | | | |
| ST- meter | | | 2 | | | | | | | | | |
| X₄ Measuring systems | | | | | | | | | | | | |
| 1 system | | | 1 | | | | | | | | | |
| X₅ Current range | | | | | | | | | | | | |
| 5-100 A | | | | 1 | | | | | | | | |
| 5-65 A | | | | 4 | | | | | | | | |
| 10-60 A | | | | 6 | | | | | | | | |
| 10-80 A | | | | 7 | | | | | | | | |
| 5-80 A | | | | 8 | | | | | | | | |
| X₆ Accuracy Class | | | | | | | | | | | | |
| Class A | | | | A | | | | | | | | |
| Class B | | | | B | | | | | | | | |
| Class 2 | | | | 2 | | | | | | | | |
| Class 1 | | | | 1 | | | | | | | | |
| X₇ Generation | | | | | | | | | | | | |
| Generation N | | | | | N | | | | | | | |
| X₈ Variant | | | | | | | | | | | | |
| 1. Variant | | | | | | 1 | | | | | | |
| 2. Variant | | | | | | 2 | | | | | | |
| X₉ Energy type | | | | | | | | | | | | |
| A+ | | | | | | 1 | | | | | | |
| A+/A- | | | | | | 2 | | | | | | |
| A+/A-/R+/R- | | | | | | 4 | | | | | | |
| X₁₀ Breaker | | | | | | | | | | | | |
| No breaker | | | | | | | 0 | | | | | |
| Dual breaker | | | | | | | 2 | | | | | |
| Standard breaker | | | | | | | 3 | | | | | |
| X₁₁ Communication | | | | | | | | | | | | |
| No radio | | | | | | | | 0 | | | | |
| Radio [For OMNIA®] | | | | | | | | 1 | | | | |
| X₁₂ Supply backup | | | | | | | | | | | | |
| Supercap | | | | | | | | | 0 | | | |
| Supercap + battery | | | | | | | | | 1 | | | |
| X₁₃ Interface | | | | | | | | | | | | |
| S0 output | | | | | | | | | | 1 | | |
| X₁₄X₁₅X₁₆ Country code | | | | | | | | | | | | XXX |

Configuration – software

| | | | Z1 | Z2 | Z3 | Z4 |
|--|--------------|--------------|----|----|----|----|
| Z1 Decimals in display | | | | | | |
| 7.0 | | | 1 | | | |
| 6.1 | | | 2 | | | |
| 7.2 | | | 3 | | | |
| 6.3 | | | 4 | | | |
| Z2 LED configuration | | | | | | |
| LED switched off without consumption | | | | 1 | | |
| LED switched on without consumption | | | | 2 | | |
| Z3 Primary module configuration | | | | | | |
| | I/O 1 | I/O 2 | | | | |
| No function | - | - | | | 00 | |
| 4-tariff | Input | Input | | | 01 | |
| 4-tariff inverted | Input | Input | | | 02 | |
| Pulse in/Alarm in | Input | Input | | | 03 | |
| Pulse in/Alarm in inverted | Input | Input | | | 04 | |
| Pulse in/A+ out | Input | Output | | | 05 | |
| R+ out/A+ out | Output | Output | | | 06 | |
| 2-tariff Alarm in | Input | Input | | | 07 | |
| 2-tariff inverted/Alarm in | Input | Input | | | 08 | |
| 2-tariff/Alarm in inverted | Input | Input | | | 09 | |
| 2-tariff inverted/Alarm in inverted | Input | Input | | | 10 | |
| 2-tariff/A+ out | Input | Output | | | 11 | |
| 2-tariff inverted/A+ out | Input | Output | | | 12 | |
| Pulse in/2-tariff | Input | Input | | | 13 | |
| Pulse in/2-tariff inverted | Input | Input | | | 14 | |
| Debiting stop pulse/- | Input | - | | | 15 | |
| A- out/A+ out | Output | Output | | | 16 | |
| Load control load/Status control | Input | Output | | | 17 | |
| Pulse in/Load tariff sync | Input | Output | | | 18 | |
| Pulse in inv./Load tariff sync | Input | Output | | | 19 | |
| Pulse in/Load tariff sync inverted | Input | Output | | | 20 | |
| Pulse in inv./Load tariff sync inverted | Input | Output | | | 21 | |
| 4-tariff sync load control | Input | Input | | | 22 | |
| 4-tariff sync load control inverted | Input | Input | | | 23 | |
| Load control 1 /Load control 2 | Output | Output | | | 26 | |
| Pulse in/Load control | Input | Output | | | 27 | |
| Pulse in/Toggle Load control 1 & 2 | Input | Output | | | 28 | |
| Earth fault module with 2x5A relays | I2C | I2C | | | 29 | |
| Z4 Integration period/Load profile period | | | | | | |
| 15 min. | | | | | | 2 |
| 30 min. | | | | | | 3 |
| 60 min. | | | | | | 4 |

Configuration – software

| | Z5 | Z6 | | Z7 | Z8 |
|--|----|----|--|----|----|
| Z5 Display configuration | | | Z7 Debiting logging interval | | |
| See display order form or contact Kamstrup | - | | None (externally controlled) | 00 | |
| Z6 Debiting stop date | | | Monthly | 01 | |
| 1 | | 01 | Every second month, January | 02 | |
| 2 | | 02 | Every second month, February | 03 | |
| 3 | | 03 | Every third month, January | 04 | |
| 4 | | 04 | Every third month, February | 05 | |
| 5 | | 05 | Every third month, March | 06 | |
| 6 | | 06 | Half-yearly, January | 07 | |
| 7 | | 07 | Half-yearly, February | 08 | |
| 8 | | 08 | Half-yearly, March | 09 | |
| 9 | | 09 | Half-yearly, April | 10 | |
| 10 | | 10 | Half-yearly, May | 11 | |
| 11 | | 11 | Half-yearly, June | 12 | |
| 12 | | 12 | Yearly, January | 13 | |
| 13 | | 13 | Yearly, February | 14 | |
| 14 | | 14 | Yearly, March | 15 | |
| 15 | | 15 | Yearly, April | 16 | |
| 16 | | 16 | Yearly, May | 17 | |
| 17 | | 17 | Yearly, June | 18 | |
| 18 | | 18 | Yearly, July | 19 | |
| 19 | | 19 | Yearly, August | 20 | |
| 20 | | 20 | Yearly, September | 21 | |
| 21 | | 21 | Yearly, October | 22 | |
| 22 | | 22 | Yearly, November | 23 | |
| 23 | | 23 | Yearly, December | 24 | |
| 24 | | 24 | Z8 Pulse out length/Alarm input | | |
| 25 | | 25 | 30 msec pulse length/Alarm input deactivated | | 1 |
| 26 | | 26 | 30 msec pulse length/Alarm input active | | 2 |
| 27 | | 27 | 80 msec pulse length/Alarm input deactivated | | 3 |
| 28 | | 28 | 80 msec pulse length/Alarm input active | | 4 |

Configuration – software

| | | Z9 | Z10 | Z11 | Z12 |
|---|------------------------------|----|-----|-----|-----|
| Z9 Disconnect setup | | | | | |
| See Disconnect order form or contact Kamstrup | | - | | | |
| Z10 Analysis logger setup | | | | | |
| Default setup | | | 000 | | |
| Z11 Greenwich Mean Time (GMT) | | | | | |
| 0 | GMT | | | 00 | |
| 1 | + 1 Hour [DK/NO/SE/DE/FR/ES] | | | 01 | |
| 2 | + 2 Hours [FI] | | | 02 | |
| 3 | + 3 Hours | | | 03 | |
| 4 | + 4 Hours | | | 04 | |
| 5 | + 5 Hours | | | 05 | |
| 6 | + 6 Hours | | | 06 | |
| 7 | + 7 Hours | | | 07 | |
| 8 | + 8 Hours | | | 08 | |
| 9 | + 9 Hours | | | 09 | |
| 10 | + 10 Hours | | | 10 | |
| 11 | + 11 Hours | | | 11 | |
| 12 | + 12 Hours | | | 12 | |
| -11 | - 11 Hours | | | 13 | |
| -10 | - 10 Hours | | | 14 | |
| -9 | - 9 Hours | | | 15 | |
| -8 | - 8 Hours | | | 16 | |
| -7 | - 7 Hours | | | 17 | |
| -6 | - 6 Hours | | | 18 | |
| -5 | - 5 Hours | | | 19 | |
| -4 | - 4 Hours | | | 20 | |
| -3 | - 3 Hours | | | 21 | |
| -2 | - 2 Hours | | | 22 | |
| -1 | - 1 Hours | | | 23 | |
| Z12 Unit pulse input | | | | | |
| None | | | | | 00 |
| kWh | | | | | 01 |
| m ³ | | | | | 02 |
| L | | | | | 03 |

Configuration – software

| | Z13 | Z14 | Z15 | Z16 | Z17 | Z18 | Z19 | Z20 |
|--|-----|-----|-----|-----|-----|-----|-----|-----|
| Z13 Tariff control plan | | | | | | | | |
| See tariff order form or contact Kamstrup | - | | | | | | | |
| Tariff disabled | 000 | | | | | | | |
| Module Port control | 001 | | | | | | | |
| Register control | 002 | | | | | | | |
| Z14 Load control plan | | | | | | | | |
| See load control order form or contact Kamstrup | - | | | | | | | |
| Load control disabled | 000 | | | | | | | |
| Register control | 001 | | | | | | | |
| Z15 Daylight saving time/Summer-winter time table | | | | | | | | |
| None | | | 000 | | | | | |
| EU | | | 001 | | | | | |
| Z16 Frequency code Protocol | | | | | | | | |
| None | | | | 000 | | | | |
| CH 318 K | | | | 318 | | | | |
| EU 319 K | | | | 319 | | | | |
| SE 326 K | | | | 326 | | | | |
| SE 328 K | | | | 328 | | | | |
| SE 329 K | | | | 329 | | | | |
| NO 337 K | | | | 337 | | | | |
| NO 338 K | | | | 338 | | | | |
| NO 339 K | | | | 339 | | | | |
| DK 348 K | | | | 348 | | | | |
| DK 349 K | | | | 349 | | | | |
| FI 356 K | | | | 356 | | | | |
| FI 357 K | | | | 357 | | | | |
| FI 359 K | | | | 359 | | | | |
| PL 369 K | | | | 369 | | | | |
| AT 376 K | | | | 376 | | | | |
| AT 379 K | | | | 379 | | | | |
| Z17 Push button 2 setup | | | | | | | | |
| See PB2 order form or contact Kamstrup | | | | | - | | | |
| No PB2 setup | | | | | 000 | | | |
| Z18 1107 configuration | | | | | | | | |
| See 1107 order form or contact Kamstrup | | | | | | - | | |
| Disabled | | | | | | 000 | | |
| Mode A and C, UD (only available for variant 1) | | | | | | 001 | | |
| Mode A and C, UD2 (only available for variant 1) | | | | | | 002 | | |
| Z19 Breaker position | | | | | | | | |
| No breaker | | | | | | | 0 | |
| Connected | | | | | | | 1 | |
| Disconnected | | | | | | | 2 | |
| Z20 Calendar setup | | | | | | | | |
| See Calendar setup order form or contact Kamstrup | | | | | | | | - |

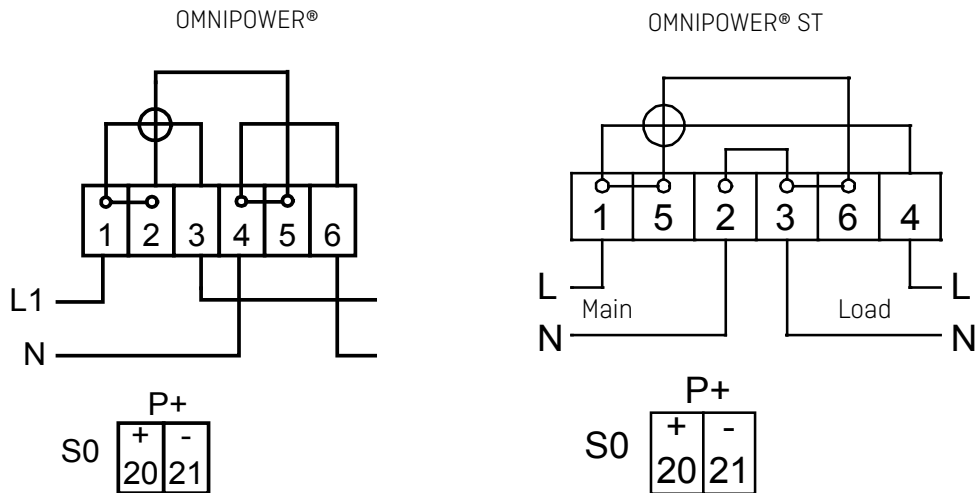
Configuration – software

| | Z25 | Z26 | Z27 | Z28 | Z29 | Z30 |
|--|-----|-----|-----|-----|-----|-----|
| Z25 Debitlogger 2 interval | | | | | | |
| Daily | 1 | | | | | |
| Weekly | 2 | | | | | |
| Monthly | 3 | | | | | |
| Z26 – Alarm configuration | | | | | | |
| No alarms enabled | | 000 | | | | |
| Z27 – Load profile data (DLMS) | | | | | | |
| Absolute values | | | 1 | | | |
| Delta values (only available for variant 2) | | | 2 | | | |
| Z28 – Local interface encryption | | | | | | |
| N/A (only for variant 1) | | | | 0 | | |
| Enabled (only available for variant 2) | | | | 1 | | |
| Disabled (only available for variant 2) | | | | 2 | | |
| Z29 – Load profile configuration | | | | | | |
| A+ | | | | | 1 | |
| A+/A- | | | | | 2 | |
| A+/A-/R+/R- | | | | | 3 | |
| A+/A-/R1/R2/R3/R4 (only available for variant 2) | | | | | 4 | |
| A+/A-/R+/R-/R1/R2/R3/R4 (only available for variant 2) | | | | | 5 | |
| Z30 – Debit 2 logger configuration | | | | | | |
| Profile 01 | | | | | | 1 |
| Profile 02 (only available for variant 2) | | | | | | 2 |

Installation

Connection diagrams

The connection diagram appears from the front of the meter.



Safety and installation guidelines

The meter shall only be used for measuring electrical energy and shall operate within the specified values only.

The meter must be switched off when working on it. It can be highly dangerous to touch connected meter parts.

Current local standards, guidelines, regulations and instructions must be observed. Only authorized personnel are permitted to install electricity meters.

Meters for direct connection must be protected against short circuit by a backup fuse in accordance with the maximum current stated on the meter.

The relevant backup fuse must therefore be removed and kept in a place where it cannot be inserted in the meter by unauthorized personnel.

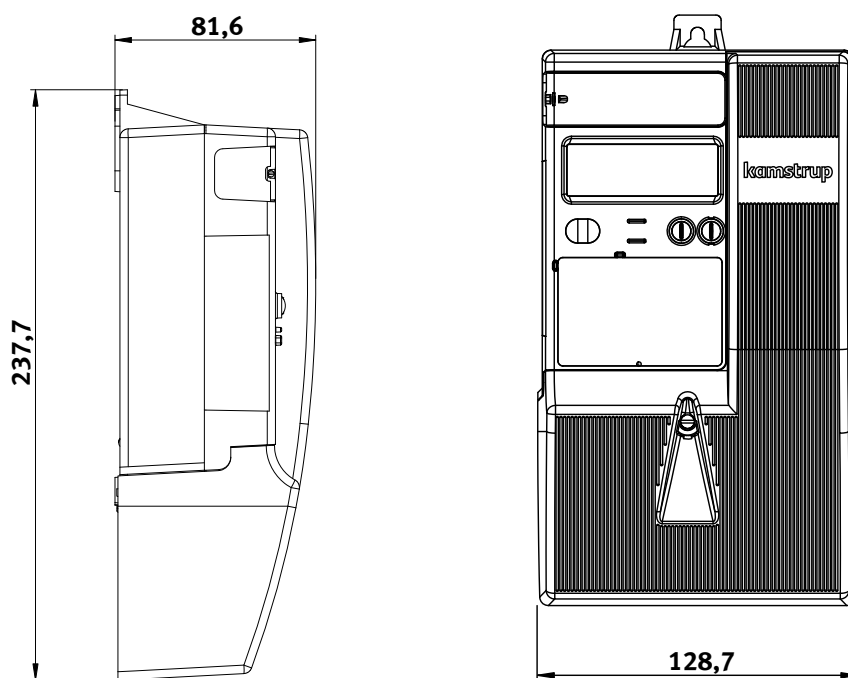
The meter constant LED flashes proportionally to the consumed active energy.

Only authorized personnel are allowed to break the utility sealing.

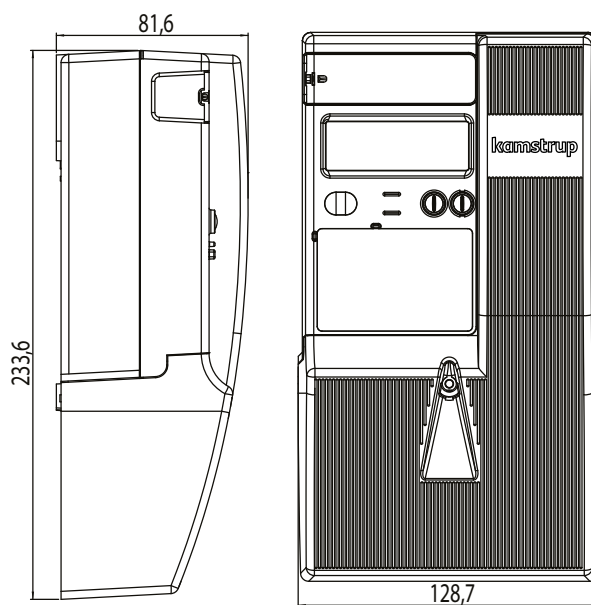
Warning! The breaker function in the meter must **NOT** be used as safety function.
When the meter's breaker function is used, the meter is still carrying a voltage.

Dimensions

OMNIPOWER®



OMNIPOWER® ST



Accessories

Modules

| | |
|---|-------------|
| IP10Li, TCP/IP-module* | 68 50 040 |
| GSM8i 2G* | 6819x0xxxxx |
| GSM8i 2G m/2x5A Load Control* | 6819x5xxxxx |
| GSM8i 2G m/RS-485 add-on* | 6819x6xxxxx |
| OMNICON® GSM** | 681Axxxxxx |
| 5A Load control module | 68 50 058 |
| M-Bus module, secondary addressing* (Wired) | 68 50 068 |
| 2 x 5A load control module | 68 50 069 |
| RS485-module, multi drop* | 68 50 072 |
| Data-/pulse module, dual pulse, 9600 | 68 50 075 |
| Tariff control, 4-tariff, 230 V input, current loop | 68 50 076 |
| Tariff control, 4-tariff, 230 V input | 68 50 078 |
| OMNICON® MUC-module** | 68 50 079 |
| Earth fault module** | 68 50 080 |
| Earth fault module with MUC module** | 68 50 081 |
| Wireless M-Bus, Submetering | 68 50 083 |
| RS-485 (Excl. LC/Tariff) | 68 50 084 |

Configuration software

| | |
|-----------|-----------|
| METERTOOL | 68 99 580 |
|-----------|-----------|

Various

| | |
|--|-----------|
| Standard OMNIPower® meter cover | 59 60 370 |
| Long OMNIPower® meter cover | 59 60 316 |
| Standard OMNIPower® ST meter cover | 59 60 617 |
| Long OMNIPower® ST meter cover | 59 60 618 |
| Optical reading head with USB plug | 66 99 099 |
| Optical reading head with 9-pole D-sub connector | 66 99 102 |
| METERTOOL kit for CT ratio programming | 68 30 017 |

* for non Kamstrup systems only

** for OMNIA® system only

Kamstrup A/S

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