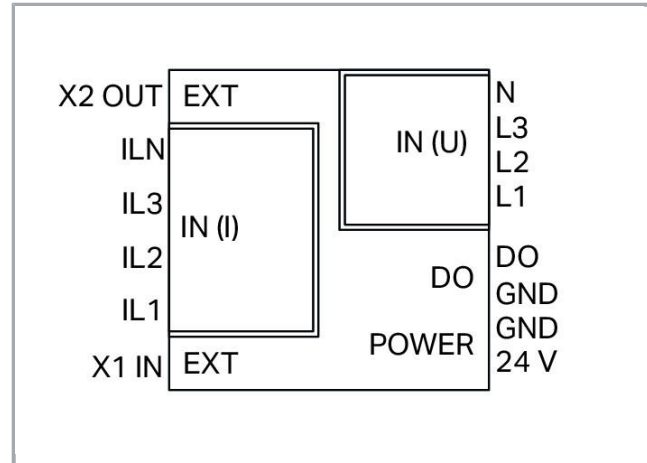
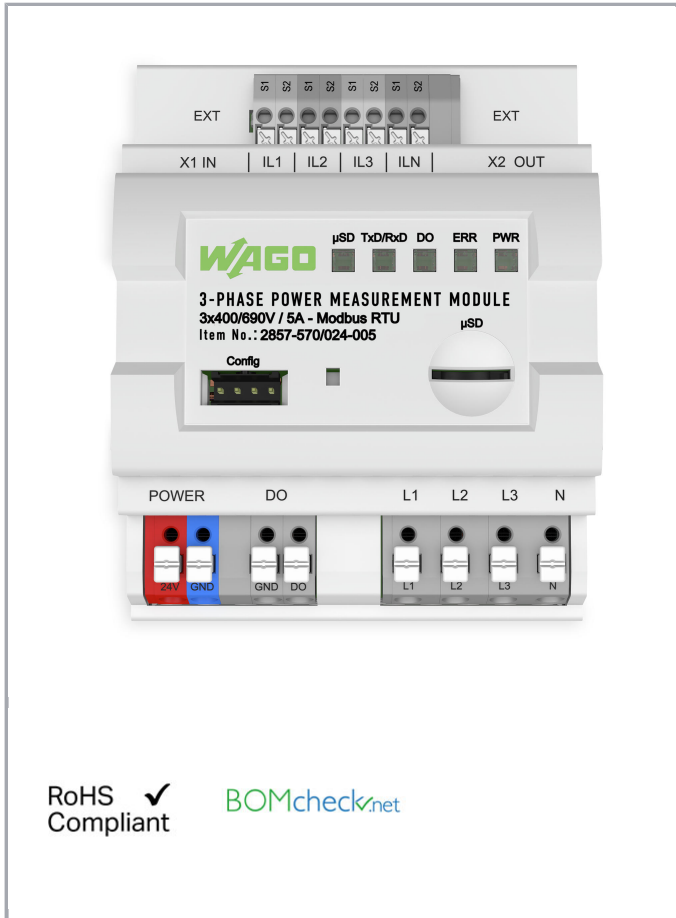


Data sheet | Item number: 2857-570/024-000

3-Phase Power Measurement Module; 3x400/690 V/RC; Modbus RTU; Digital output; Configuration via software; Supply voltage: 24 VDC



www.wago.com/2857-570/024-000



RoHS Compliant

BOMcheck.net

Item description

Short description:

WAGO's 3-phase power measurement module in a DIN-railmount enclosure measures electrical data in three-phase supply networks – remotely from the control level.

Measured variables such as active/apparent/reactive power, energy consumption, power factor, phase angle and frequency can be accessed via Modbus[®] Interface. In addition, the measured variables can be stored on a microSD card.

Features:

- Current measurement via Rogowski Coils RC xxx
- Mobile measurement and storage of measured values on microSD card
- Configuration and display of measured values during operation via configuration interface

Subject to changes. Please also observe the further product documentation!

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Do you have any questions about our products?

We are always happy to take your call at +49 (571) 887-44222.



- Compact device in DIN-rail-mount enclosure saves space used for building technology
- Communication of measured values via Modbus[®] Interface
- Configurable digital signal output as pulse output

Note:

Additional setting options via interface configuration software

In the present network, ensure that the neutral conductor is not dangerously active!

Data
Technical Data

Configuration

| | |
|-----------------------|---------------------------------------|
| Configuration options | WAGO interface configuration software |
|-----------------------|---------------------------------------|

Input

| Input signal type | Voltage Current |
|----------------------------|--|
| Mains type | 3-phase power measurement with N-conductor (4 conductors) 3-phase power measurement with N-conductor (3 conductors) |
| Input signal voltage | AC 400 V (U_{LN}); AC 690 V (U_{LL}); AC 90 mV (WAGO Rogowski Coils RC xxx) |
| Sensitivity | 22.5 mV/kA (WAGO Rogowski Coils RC xxx) |
| Measurement range, current | 4 x AC 4000 A ((WAGO Rogowski Coils RC xxx) () |
| Frequency range | 45 ... 65 Hz (Harmonics analysis: 0 ... 3.3 kHz) |

Output – Digital

| | |
|-------------------------------|--|
| Max. switching voltage (DO) | Supply voltage applied |
| Max. continuous current (DO) | 100 mA (no internal restriction) |
| Configurable functionens (DO) | Threshold value switch; Pulse output (S0 interface) |

Communication

| | |
|-------------------------------|--------------------------------------|
| Communication | Modbus RTU |
| Interface | RS-485 (2-wire) via RJ-45 |
| Number of participants (max.) | 32 |
| Addressing | Via Interface configuration software |

Subject to changes. Please also observe the further product documentation!



Signal processing

| | |
|-------------------------------|--|
| Measuring procedure | True RMS measurement (measured value acquisition with 8 kHz) |
| Calculated measured variables | Line-to-line voltage Power output Energy Power factors Mains frequency Harmonic analysis (up to the 41st harmonic) Total harmonic distortion (THD) |
| Signal form | Any periodic signals (considering the threshold frequencies) |
| Max. operating frequency | 15.9 kHz |
| Type of memory card | WAGO 758-879/000-3102 (microSD; 2 GB) |

Measurement error

| | |
|-------------------------|---|
| Transmission error max. | ≤ 0.5 % for current and voltage (of the full scale value) |
|-------------------------|---|

Power supply

| | |
|---------------------------------------|-----------------------|
| Type of power supply | 24 VDC |
| Nominal supply voltage U_S | DC 24 V (SELV) |
| Supply voltage range | ±30 % |
| Current consumption at supply voltage | ≤ 50 mA (+ I_{DO}) |

Safety and protection:

| | |
|------------------------------------|---|
| Test voltage (input/output/supply) | AC 3.51 kV; 50 Hz; 1 min |
| Overvoltage category | III |
| Pollution degree | 2 |
| Safe isolation | Input/supply and communication per EN 61010-1 |
| Requirement (N input) | Shall not be dangerously active |
| Requirement (IL_x input) | Coils/converters with basic insulation |
| Protection class | IP20 |

Connection data

| | |
|-----------------------|---------------------|
| Connection type (1) | Voltage |
| Connection technology | Push-in CAGE CLAMP® |
| WAGO terminal | WAGO 804 Series |

Subject to changes. Please also observe the further product documentation!



| | |
|-----------------------------|--|
| Solid conductor | 0.25 ... 2.5 mm ² / 20 ... 12 AWG |
| Fine-stranded conductor | 0.25 ... 2.5 mm ² / 22 ... 12 AWG |
| Strip length | 10 ... 11 mm / 0.39 ... 0.43 inch |
| Connection type (2) | Current/Power supply/DO |
| Connection technology 2 | Push-in CAGE CLAMP [®] |
| WAGO terminal 2 | WAGO 805 Series |
| Solid conductor (2) | 0.2 ... 1.5 mm ² / 24 ... 16 AWG |
| Fine-stranded conductor (2) | 0.2 ... 1.5 mm ² / 24 ... 16 AWG |
| Strip length (2) | 9 ... 10 mm / 0.35 ... 0.39 inch |
| Connection type (3) | Modbus [®] communication |
| Connector | 2 x RJ-45 (daisy chain configuration) |

Geometrical Data

| | |
|---------------------------------------|--------------------|
| Width | 72 mm / 2.835 inch |
| Height from upper-edge of DIN-35 rail | 55 mm / 2.165 inch |
| Depth | 90 mm / 3.54 inch |

Mechanical data

| | |
|------------------|-------------|
| Type of mounting | DIN-35 rail |
|------------------|-------------|

Material Data

| | |
|--------|---------|
| Weight | 117.1 g |
|--------|---------|

Environmental Requirements

| | |
|---|-----------------------------|
| Surrounding air (operating) temperature | -40 ... 70 °C |
| Surrounding air (storage) temperature | -40 ... 85 °C |
| Relative humidity | 5 ... 95 % (non condensing) |

Standards and specifications

| | |
|------------------------------|--------------|
| Conformity marking | CE |
| EMC immunity to interference | EN 61000-6-2 |
| EMC emission of interference | EN 61000-6-3 |
| Standards/specifications | EN 61010-1 |

Subject to changes. Please also observe the further product documentation!

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Commercial data

| | |
|--------------------|---------------|
| Packaging type | BOX |
| Country of origin | DE |
| GTIN | 4055143829199 |
| Customs Tariff No. | 85437090300 |

Approvals / Certificates



Ship Approvals

| Logo | Approval | Additional Approval Text | Certificate name |
|--|---|--------------------------|------------------|
|  | DNV GL Det Norske Veritas, Germanischer Lloyd | - | TAA00001ZY |


Counterpart

Compatible products


transfer module

| | | |
|--|--|--|
|  | Item no.: 289-175/790-108 Interface module; RJ-45; PCB terminal blocks, double-row; Cat. 5; in mounting carrier; with shield connection; with shield clamping saddle | www.wago.com/289-175/790-108 |
|  | Item no.: 289-176 Interface module; RJ-45; with power jumper contacts; RJ-45; Cat. 5; in mounting carrier | www.wago.com/289-176 |

tools


| | | |
|--|---|--|
|  | Item no.: 210-720 Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft | www.wago.com/210-720 |
|--|---|--|

power supply








| | | |
|--|---|--|
|  | Item no.: 787-2850 Switched-mode power supply; Compact; 1-phase; 24 VDC output voltage; 1.25 A output current | www.wago.com/787-2850 |
|--|---|--|

wiring and connectors






Subject to changes. Please also observe the further product documentation!

| | | |
|--|---|---|
| | <p>Item no.: 750-923 Configuration cable; USB connector; Length: 2.5 m; black</p> | <p>www.wago.com/750-923</p> |
| | <p>Item no.: 750-923/000-001 Configuration cable; USB connector; Length: 5 m</p> | <p>www.wago.com/750-923/000-001</p> |
|  | <p>Item no.: 750-978/000-011 Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568A; AWG 22; Strain relief</p> | <p>www.wago.com/750-978/000-011</p> |

General accessories

| | | |
|--|--|---|
|  | <p>Item no.: 855-8001 Power tap; with fuse; 2,5 mm² (12 AWG) - 6 mm² (10 AWG); Phase</p> | <p>www.wago.com/855-8001</p> |
|  | <p>Item no.: 855-8002 Power tap; without fuse; 2,5 mm² (12 AWG) - 6 mm² (10 AWG); N-conductor</p> | <p>www.wago.com/855-8002</p> |
|  | <p>Item no.: 855-8003 Power tap; with fuse; 10 mm² (8 AWG) - 16 mm² (6 AWG); Phase</p> | <p>www.wago.com/855-8003</p> |
|  | <p>Item no.: 855-8004 Power tap; without fuse; 10 mm² (8 AWG) - 16 mm² (6 AWG); N-conductor</p> | <p>www.wago.com/855-8004</p> |
|  | <p>Item no.: 855-8006 Power tap; for busbar; with fuse; Mounting screw M6</p> | <p>www.wago.com/855-8006</p> |
|  | <p>Item no.: 855-8008 Power tap; for busbar; with fuse; Mounting screw M8</p> | <p>www.wago.com/855-8008</p> |
|  | <p>Item no.: 855-8015 Power tap; for busbar; with fuse; Clamping connection</p> | <p>www.wago.com/855-8015</p> |

current transformer

| | | |
|--|---|---|
|  | <p>Item no.: 855-9150/2000-1251 Rogowski coil; Primary rated current 4000 A; Output signal 22.5 mV per kA; Cable length: 1.5 m; Feedthrough for measurement conductor 125 mm</p> | <p>www.wago.com/855-9150/2000-1251</p> |
|  | <p>Item no.: 855-9150/2000-1751 Rogowski coil; Primary rated current 4000 A; Output signal 22.5 mV per kA; Cable length: 1.5 m; Feedthrough for measurement conductor 175 mm</p> | <p>www.wago.com/855-9150/2000-1751</p> |
|  | <p>Item no.: 855-9150/2000-701 Rogowski coil; Primary rated current 4000 A; Output signal 22.5 mV per kA; Cable length: 1.5 m; Feedthrough for measurement conductor 70 mm</p> | <p>www.wago.com/855-9150/2000-701</p> |
|  | <p>Item no.: 855-9450/2000-1251 Rogowski coil; Primary rated current 4000 A; Output signal 22.5 mV per kA; Cable length 4.5 m; Feedthrough for measurement conductor 125 mm</p> | <p>www.wago.com/855-9450/2000-1251</p> |
|  | <p>Item no.: 855-9450/2000-1751 Rogowski coil; Primary rated current 4000 A; Output signal 22.5 mV per kA; Cable length 4.5 m; Feedthrough for measurement conductor 175 mm</p> | <p>www.wago.com/855-9450/2000-1751</p> |

Subject to changes. Please also observe the further product documentation!

**Item no.: 855-9450/2000-701**

Rogowski coil; Primary rated current 4000 A; Output signal 22.5 mV per kA; Cable length 4.5 m; Feedthrough for measurement conductor 70 mm

www.wago.com/855-9450/2000-701

memory card**Item no.: 758-879/000-3102**

Memory Card SD Micro; 2 GByte

www.wago.com/758-879/000-3102

Downloads**Documentation****Manual**

| | | | |
|----------------------------------|---------|----------------|----------|
| 3-Phase Power Measurement Module | V 1.0.0 | pdf 16.4 MB | Download |
|----------------------------------|---------|----------------|----------|

Instruction Leaflet

| | | | |
|-----------------------------|---------|---------------|----------|
| 3-Phasen-Leistungsmessmodul | V 1.1.0 | pdf 1.2 MB | Download |
|-----------------------------|---------|---------------|----------|

Additional Information

| | | | |
|--|---------|-----------------|----------|
| Disposal; Electrical and electronic equipment, Packaging | V 1.0.0 | pdf 265.8 kB | Download |
|--|---------|-----------------|----------|

Libraries**Library**

| | | | |
|--|--------------|--------|----------|
| Library for the Wago 3-Phase Powertransducer module 2857-570 | V 1.0.0 | zip | Download |
| WAGO-I/O-PRO Library for 2857-0570/0024-000x 3-Phase Powertransducer modules | Feb 28, 2019 | 2.2 MB | |

Engineering-Software**Software for Interface-Products**

| | | | |
|---|--------------|---------|----------|
| WAGO Interface Configuration Software SMALL | 1.6.3.7 | exe | Download |
| The full setup only includes the WAGO Interface Configuration Software. | Sep 17, 2019 | 48.0 MB | |

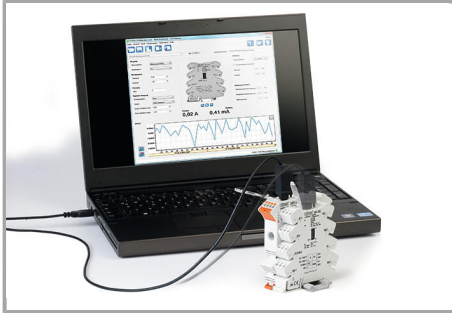
| | | | |
|--|--------------|---------|----------|
| WAGO Interface Configuration Software FULL | 1.6.3.7 | exe | Download |
| | Sep 17, 2019 | 98.5 MB | |

Subject to changes. Please also observe the further product documentation!

The full setup, in addition to the WAGO Interface Configuration Software, includes the installation for the Microsoft .NET Framework.

Installation Notes

Configuring



Configuration via WAGO interface configuration software

Subject to changes. Please also observe the further product documentation!