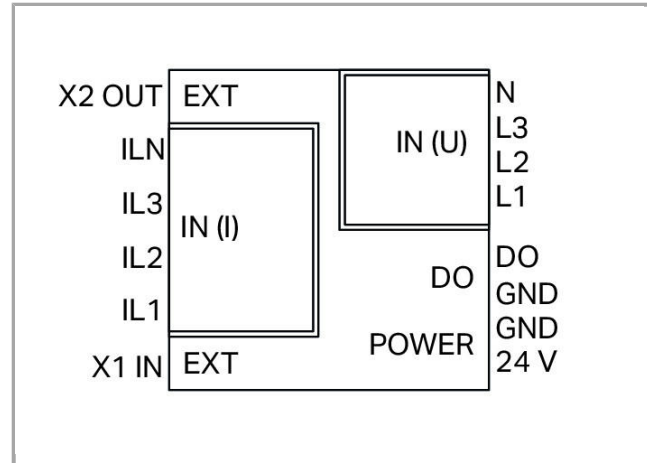
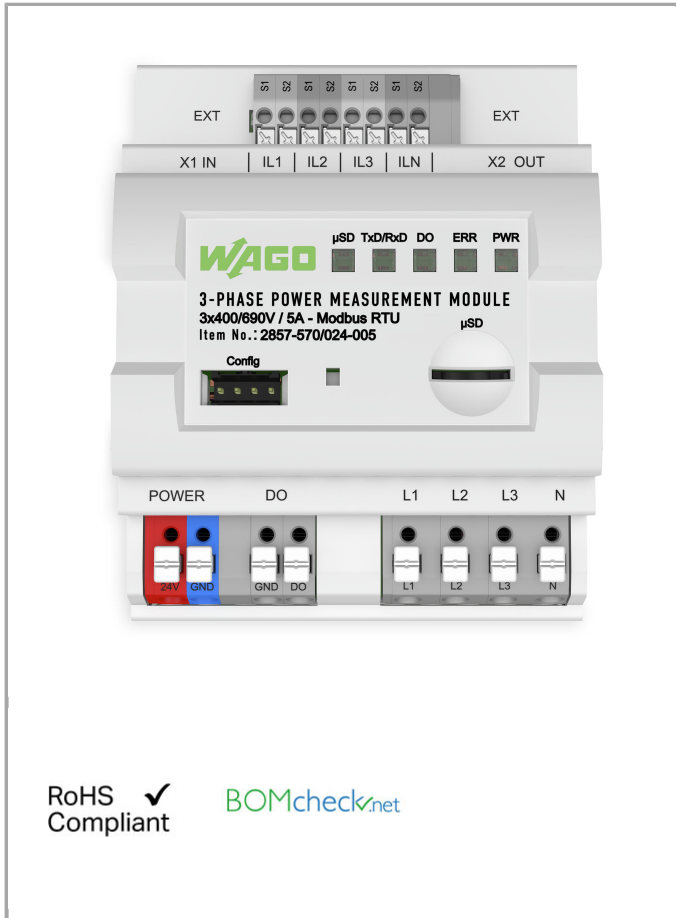


Data sheet | Item number: 2857-570/024-005

3-Phase Power Measurement Module; 3x400/690 V/5 A; Modbus RTU;
Digital output; Configuration via software; Supply voltage: 24 VDC



www.wago.com/2857-570/024-005



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 5A current transformer
- Mobile measurement and storage of measured values on microSD card
- Configuration and display of measured values during operation via configuration interface
- 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
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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	3 x AC 400 V (U_{LN}); 3 x AC 690 V (U_{LL})
Input signal, current	4 x AC 5 A; (Current transformer)
Frequency range	45 ... 65 Hz (Harmonics analysis: 0 ... 3.3 kHz)
Input resistance (input/current)	22 m Ω
Input resistance (input/voltage)	1.5 M Ω
Max. input current	5 AAC
Max. input voltage	400 VAC (U_{LN}); 690 VAC (U_{LL})
Response threshold	5 mA
Resolution	0.15 mA

Output – Digital

Max. switching voltage (DO)	Supply voltage applied
Max. continuous current (DO)	100 mA (no internal restriction)
Configurable functions (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

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)
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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
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
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Material Data

Weight	117.5 g
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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

Commercial data

Country of origin	DE
GTIN	4055143827461
Customs Tariff No.	85437090300

Approvals / Certificates

Ship Approvals

Logo	Approval	Additional Approval Text	Certificate name
















DNV GL
Det Norske Veritas, Germanischer Lloyd
















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Compatible products

General accessories


	Item no.: 2007-8874 Compact terminal block; for current and voltage transformers; 6,00 mm ² ; multicoloured	www.wago.com/2007-8874
	Item no.: 2007-8877 Compact terminal block; for current transformer circuit; 6,00 mm ² ; multicoloured	www.wago.com/2007-8877
	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
	Item no.: 750-923 Configuration cable; USB connector; Length: 2.5 m; black	www.wago.com/750-923
	Item no.: 750-923/000-001 Configuration cable; USB connector; Length: 5 m	www.wago.com/750-923/000-001
	Item no.: 855-8001 Power tap; with fuse; 2,5 mm ² (12 AWG) - 6 mm ² (10 AWG); Phase	www.wago.com/855-8001
	Item no.: 855-8002 Power tap; without fuse; 2,5 mm ² (12 AWG) - 6 mm ² (10 AWG); N-conductor	www.wago.com/855-8002
	Item no.: 855-8003 Power tap; with fuse; 10 mm ² (8 AWG) - 16 mm ² (6 AWG); Phase	www.wago.com/855-8003
	Item no.: 855-8004 Power tap; without fuse; 10 mm ² (8 AWG) - 16 mm ² (6 AWG); N-conductor	www.wago.com/855-8004
	Item no.: 855-8006 Power tap; for busbar; with fuse; Mounting screw M6	www.wago.com/855-8006
	Item no.: 855-8008 Power tap; for busbar; with fuse; Mounting screw M8	www.wago.com/855-8008
	Item no.: 855-8015 Power tap; for busbar; with fuse; Clamping connection	www.wago.com/855-8015

current transformer

	Item no.: 855-1005/2500-1001 Plug-in current transformer; Primary rated current: 2500 A; Secondary rated current: 5 A; Rated power: 10 VA; Accuracy class: 1	www.wago.com/855-1005/2500-1001
	Item no.: 855-305/050-103 Plug-in current transformer; Primary rated current: 50 A; Secondary rated current: 5 A; Rated power: 1.25 VA; Accuracy class: 3	www.wago.com/855-305/050-103
	Item no.: 855-305/060-101 Plug-in current transformer; Primary rated current: 60 A; Secondary rated current: 5 A; Rated power: 1.25 VA; Accuracy class: 1	www.wago.com/855-305/060-101
	Item no.: 855-305/075-201 Plug-in current transformer; Primary rated current: 75 A; Secondary rated current: 5 A; Rated power: 2.5 VA; Accuracy class: 1	www.wago.com/855-305/075-201
	Item no.: 855-305/100-201 Plug-in current transformer; Primary rated current: 100 A; Secondary rated current: 5 A; Rated power: 2.5 VA; Accuracy class: 1	www.wago.com/855-305/100-201
	Item no.: 855-305/150-501 Plug-in current transformer; Primary rated current: 150 A; Secondary rated current: 5 A; Rated power: 5 VA; Accuracy class: 1	www.wago.com/855-305/150-501
	Item no.: 855-305/200-501 Plug-in current transformer; Primary rated current: 200 A; Secondary rated current: 5 A; Rated power: 5 VA; Accuracy class: 1	www.wago.com/855-305/200-501
	Item no.: 855-305/250-501 Plug-in current transformer; Primary rated current: 250 A; Secondary rated current: 5 A; Rated power: 5 VA; Accuracy class: 1	www.wago.com/855-305/250-501
	Item no.: 855-305/300-501 Plug-in current transformer; Primary rated current 300 A; Secondary rated current: 5 A; Rated power: 5 VA; Accuracy class: 1	www.wago.com/855-305/300-501
	Item no.: 855-305/400-1001 Plug-in current transformer; Primary rated current: 400 A; Secondary rated current: 5 A; Rated power: 10 VA; Accuracy class: 1	www.wago.com/855-305/400-1001
	Item no.: 855-305/600-1001 Plug-in current transformer; Primary rated current: 600 A; Secondary rated current: 5 A; Rated power: 10 VA; Accuracy class: 1	www.wago.com/855-305/600-1001
	Item no.: 855-4005/150-101 Split-core current transformer; Primary rated current: 150 A; Secondary rated current: 5 A; Rated power: 1 VA; Accuracy class: 1; Cable length: 0.5 m	www.wago.com/855-4005/150-101
	Item no.: 855-405/250-501 Plug-in current transformer; Primary rated current: 250 A; Secondary rated current: 5 A; Rated power: 5 VA; Accuracy class: 1	www.wago.com/855-405/250-501
	Item no.: 855-405/400-501 Plug-in current transformer; Primary rated current: 400 A; Secondary rated current: 5 A; Rated power: 5 VA; Accuracy class: 1	www.wago.com/855-405/400-501
	Item no.: 855-405/750-501 Plug-in current transformer; Primary rated current 750 A; Secondary rated current: 5 A; Rated power: 5 VA; Accuracy class: 1	www.wago.com/855-405/750-501

	Item no.: 855-4105/250-101 Split-core current transformer; Primary rated current: 250 A; Secondary rated current: 5 A; Rated power: 1 VA; Accuracy class: 1; Cable length: 0.5 m	www.wago.com/855-4105/250-101
	Item no.: 855-4105/400-101 Split-core current transformer; Primary rated current: 400 A; Secondary rated current: 5 A; Rated power: 1 VA; Accuracy class: 1; Cable length: 0.5 m	www.wago.com/855-4105/400-101
	Item no.: 855-5005/1000-000 Split-core current transformer; Primary rated current: 1000 A; Secondary rated current: 5 A; Rated power: 0.5 VA; Accuracy class: 0.5; Cable length: 3 m	www.wago.com/855-5005/1000-000
	Item no.: 855-5005/400-001 Split-core current transformer; Primary rated current: 400 A; Secondary rated current: 5 A; Rated power: 0.5 VA; Accuracy class: 1; Cable length: 3 m	www.wago.com/855-5005/400-001
	Item no.: 855-5005/600-000 Split-core current transformer; Primary rated current: 600 A; Secondary rated current: 5 A; Rated power: 0.5 VA; Accuracy class: 0.5; Cable length: 3 m	www.wago.com/855-5005/600-000
	Item no.: 855-505/1000-1001 Plug-in current transformer; Primary rated current: 1000 A; Secondary rated current: 5 A; Rated power: 10 VA; Accuracy class: 1	www.wago.com/855-505/1000-1001
	Item no.: 855-505/400-1001 Plug-in current transformer; Primary rated current: 400 A; Secondary rated current: 5 A; Rated power: 10 VA; Accuracy class: 1	www.wago.com/855-505/400-1001
	Item no.: 855-505/600-1001 Plug-in current transformer; Primary rated current: 600 A; Secondary rated current: 5 A; Rated power: 10 VA; Accuracy class: 1	www.wago.com/855-505/600-1001
	Item no.: 855-505/800-1001 Plug-in current transformer; Primary rated current: 800 A; Secondary rated current: 5 A; Rated power: 10 VA; Accuracy class: 1	www.wago.com/855-505/800-1001
	Item no.: 855-5105/1000-000 Split-core current transformer; Primary rated current: 1000 A; Secondary rated current: 5 A; Rated power: 0.5 VA; Accuracy class: 0.5; Cable length: 3 m	www.wago.com/855-5105/1000-000
	Item no.: 855-605/1500-501 Plug-in current transformer; Primary rated current: 1500 A; Secondary rated current: 5 A; Rated power: 5 VA; Accuracy class: 1	www.wago.com/855-605/1500-501
	Item no.: 855-805/2000-1001 Plug-in current transformer; Primary rated current: 2000 A; Secondary rated current: 5 A; Rated power: 10 VA; Accuracy class: 1	www.wago.com/855-805/2000-1001

wiring and connectors

	Item no.: 750-978/000-011 Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568A; AWG 22; Strain relief	www.wago.com/750-978/000-011
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memory card

	Item no.: 758-879/000-3102 Memory Card SD Micro; 2 GByte	www.wago.com/758-879/000-3102
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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

tools



Item no.: 210-720

Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft

www.wago.com/210-720

Downloads

Documentation

Manual

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

3-Phasen-Leistungsmessmodul	V 1.1.0	pdf 1.2 MB	Download
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Additional Information

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

Library

Library for the Wago 3-Phase Powertransducer module 2857-570 WAGO-I/O-PRO Library for 2857-0570/0024-000x 3-Phase Powertransducer modules	V 1.0.0 28.02.2019.	zip 2.2 MB	Download
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Engineering-Software

Software for Interface-Products

WAGO Interface Configuration Software SMALL The full setup only includes the WAGO Interface Configuration Software.	1.6.3.7 17.09.2019.	exe 48.0 MB	Download
WAGO Interface Configuration Software FULL The full setup, in addition to the WAGO Interface Configuration Software, includes the installation for the Microsoft .NET Framework.	1.6.3.7 17.09.2019.	exe 98.5 MB	Download



Subject to changes.

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