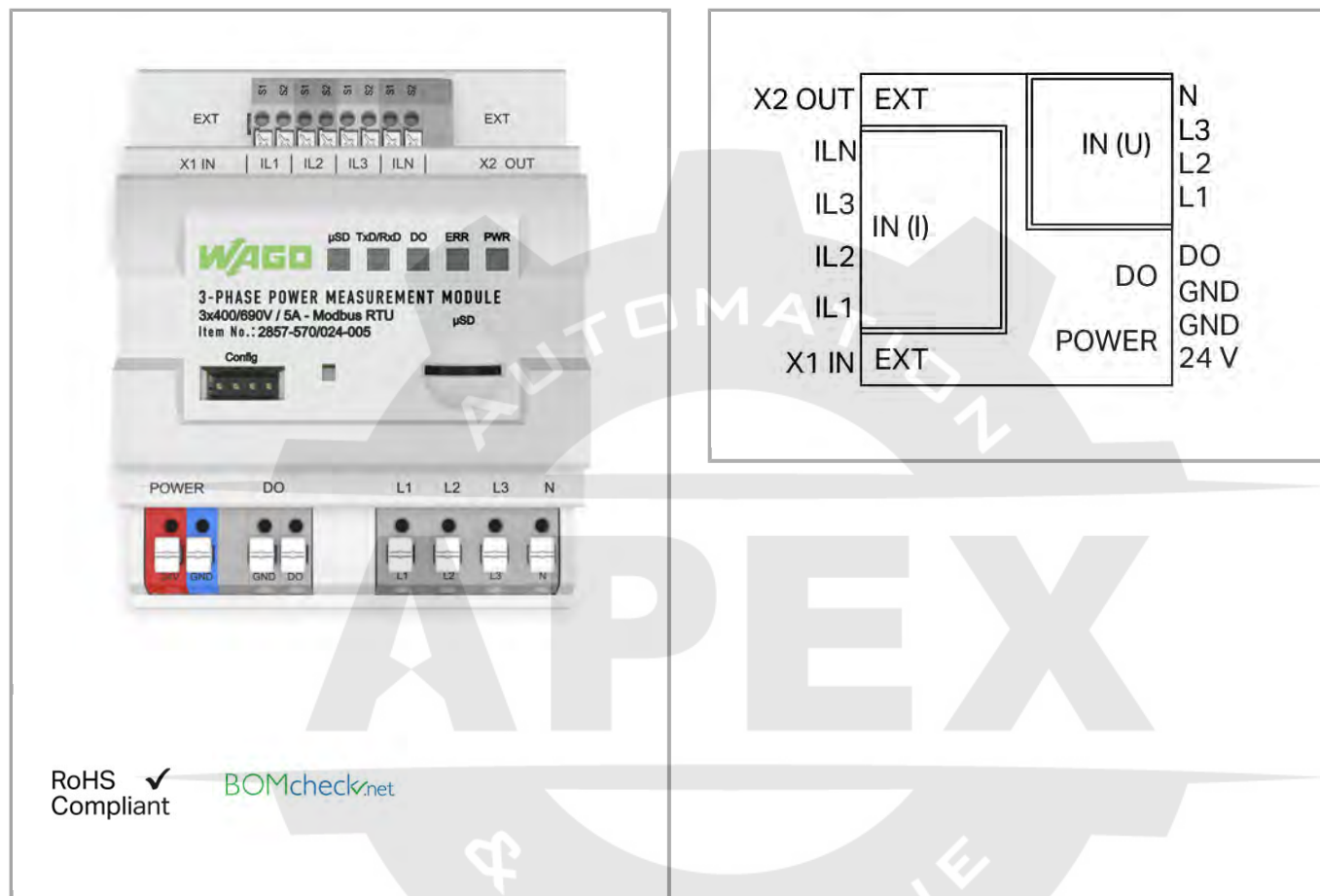


## Data sheet | Item number: 2857-570/024-001

3-Phase Power Measurement Module; 3x400/690 V/1 A; Modbus RTU;  
Digital output; Configuration via software; Supply voltage: 24 VDC



2857-570\_024-001



### 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<sup>®</sup> Interface. In addition, the measured variables can be stored on a microSD card.

#### Features:

- Current measurement via 1A 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<sup>®</sup> 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	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	AC 400 V ( $U_{LN}$ ); AC 690 V ( $U_{LL}$ )
Input signal, current	4 x AC 1 A; (Current transformer)
Frequency range	45 65 Hz (Harmonics analysis: 0 3.3 kHz)
Input resistance (input/current)	22 m $\Omega$
Input resistance (input/voltage)	1.5 M $\Omega$
Max. input current	1 ACA
Max. input voltage	400 VAC ( $U_{LN}$ ); 690 VAC ( $U_{LL}$ )
Response threshold	10 mA
Resolution	10 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)
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
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 mm² / 20 12 AWG
Fine-stranded conductor	0.25 2.5 mm² / 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 mm² / 24 16 AWG

Fine-stranded conductor (2)	0.2 1.5 mm <sup>2</sup> / 24 16 AWG
Strip length (2)	9 10 mm / 0.35 0.39 inch
Connection type (3)	Modbus <sup>®</sup> 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

Fire load	0.047 MJ
Weight	117.5 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

## Commercial data

Country of origin	DE
GTIN	4055143827539
Customs Tariff No.	85437090300

## Approvals / Certificates

### Ship Approvals

Logo	Approval	Additional Approval Text	Certificate name
	<b>DNV GL</b> Det Norske Veritas, Germanischer Lloyd	-	TAA00001ZY













## Compatible products

### current transformer

	<b>Item no.: 855-1001/2500-1001</b> Plug-in current transformer; Primary rated current: 2500 A; Secondary rated current: 1 A; Rated power: 10 VA; Accuracy class: 1	855-1001
	<b>Item no.: 855-2701/035-001</b> Plug-in current transformer; Primary rated current: 35 A; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 1	855-2701
	<b>Item no.: 855-2701/064-001</b> Plug-in current transformer; Primary rated current: 64 A; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 1	855-2701
	<b>Item no.: 855-3001/060-003</b> Split-core current transformer; Primary rated current: 60 A; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 3; Cable length: 3 m	855-3001
	<b>Item no.: 855-3001/100-003</b> Split-core current transformer; Primary rated current: 100 A; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 3; Cable length: 3 m	855-3001
	<b>Item no.: 855-3001/200-001</b> Split-core current transformer; Primary rated current: 200 A; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 1; Cable length: 3 m	855-3001
	<b>Item no.: 855-3001/250-001</b> Split-core current transformer; Primary rated current: 250 A; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 1; Cable length: 3 m	855-3001
	<b>Item no.: 855-301/050-103</b> Plug-in current transformer; Primary rated current: 50 A; Secondary rated current: 1 A; Rated power: 1.25 VA; Accuracy class: 3	855-301
	<b>Item no.: 855-301/060-101</b> Plug-in current transformer; Primary rated current: 60 A; Secondary rated current: 1 A; Rated power: 1.25 VA; Accuracy class: 1	855-301
	<b>Item no.: 855-301/075-201</b> Plug-in current transformer; Primary rated current: 75 A; Secondary rated current: 1 A; Rated power: 2.5 VA; Accuracy class: 1	855-301

Item no.: 855-301/100-201

	Plug-in current transformer; Primary rated current: 100 A; Secondary rated current: 1 A; Rated power: 2.5 VA; Accuracy class: 1	855-301 / 100-201
	<b>Item no.: 855-301/150-501</b> Plug-in current transformer; Primary rated current: 150 A; Secondary rated current: 1 A; Rated power: 5 VA; Accuracy class: 1	855-301 / 150-501
	<b>Item no.: 855-301/200-501</b> Plug-in current transformer; Primary rated current: 200 A; Secondary rated current: 1 A; Rated power: 5 VA; Accuracy class: 1	855-301 / 200-501
	<b>Item no.: 855-301/250-501</b> Plug-in current transformer; Primary rated current: 250 A; Secondary rated current: 1 A; Rated power: 5 VA; Accuracy class: 1	855-301 / 250-501
	<b>Item no.: 855-301/400-1001</b> Plug-in current transformer; Primary rated current: 400 A; Secondary rated current: 1 A; Rated power: 10 VA; Accuracy class: 1	855-301 / 400-1001
	<b>Item no.: 855-301/600-1001</b> Plug-in current transformer; Primary rated current: 600 A; Secondary rated current: 1 A; Rated power: 10 VA; Accuracy class: 1	855-301 / 600-1001
	<b>Item no.: 855-4001/100-001</b> Split-core current transformer; Primary rated current: 100 A; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 1; Cable length: 3 m	855-4001 / 100-001
	<b>Item no.: 855-4001/150-001</b> Split-core current transformer; Primary rated current: 150 A; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 1; Cable length: 3 m	855-4001 / 150-001
	<b>Item no.: 855-4001/200-001</b> Split-core current transformer; Primary rated current: 200 A; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 1; Cable length: 3 m	855-4001 / 200-001
	<b>Item no.: 855-401/250-501</b> Plug-in current transformer; Primary rated current: 250 A; Secondary rated current: 1 A; Rated power: 5 VA; Accuracy class: 1	855-401 / 250-501
	<b>Item no.: 855-401/400-501</b> Plug-in current transformer; Primary rated current: 400 A; Secondary rated current: 1 A; Rated power: 5 VA; Accuracy class: 1	855-401 / 400-501
	<b>Item no.: 855-401/600-501</b> Plug-in current transformer; Primary rated current: 600 A; Secondary rated current: 1 A; Rated power: 10 VA; Accuracy class: 1	855-401 / 600-501
	<b>Item no.: 855-4101/200-001</b> Split-core current transformer; Primary rated current: 200 A; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 1; Cable length: 3 m	855-4101 / 200-001
	<b>Item no.: 855-4101/250-001</b> Split-core current transformer; Primary rated current: 250 A; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 1; Cable length: 3 m	855-4101 / 250-001
	<b>Item no.: 855-4101/400-001</b> Split-core current transformer; Primary rated current: 400 A; Secondary rated current: 1 A; Rated	

	power: 0.2 VA; Accuracy class: 1; Cable length: 3 m		855-4101
		/400-001	
	<b>Item no.: 855-5001/1000-000</b> Split-core current transformer; Primary rated current: 1000 A; Secondary rated current: 1 A; Rated power: 0.5 VA; Accuracy class: 0.5; Cable length: 5 m	/1000-000	855-5001
	<b>Item no.: 855-5001/250-001</b> Split-core current transformer; Primary rated current: 250 A; Secondary rated current: 1 A; Rated power: 0.5 VA; Accuracy class: 1; Cable length: 5 m	/250-001	855-5001
	<b>Item no.: 855-5001/400-000</b> Split-core current transformer; Primary rated current: 400 A; Secondary rated current: 1 A; Rated power: 0.5 VA; Accuracy class: 0.5; Cable length: 5 m	/400-000	855-5001
	<b>Item no.: 855-5001/600-000</b> Split-core current transformer; Primary rated current: 600 A; Secondary rated current: 1 A; Rated power: 0.5 VA; Accuracy class: 0.5; Cable length: 5 m	/600-000	855-5001
	<b>Item no.: 855-501/1000-1001</b> Plug-in current transformer; Primary rated current: 1000 A; Secondary rated current: 1 A; Rated power: 10 VA; Accuracy class: 1	/1000-1001	855-501
	<b>Item no.: 855-501/400-1001</b> Plug-in current transformer; Primary rated current: 400 A; Secondary rated current: 1 A; Rated power: 10 VA; Accuracy class: 1	/400-1001	855-501
	<b>Item no.: 855-501/600-1001</b> Plug-in current transformer; Primary rated current: 600 A; Secondary rated current: 1 A; Rated power: 10 VA; Accuracy class: 1	/600-1001	855-501
	<b>Item no.: 855-501/800-1001</b> Plug-in current transformer; Primary rated current: 800 A; Secondary rated current: 1 A; Rated power: 10 VA; Accuracy class: 1	/800-1001	855-501
	<b>Item no.: 855-5101/1000-000</b> Split-core current transformer; Primary rated current: 1000 A; Secondary rated current: 1 A; Rated power: 0.5 VA; Accuracy class: 0.5; Cable length: 5 m	/1000-000	855-5101
	<b>Item no.: 855-601/1500-501</b> Plug-in current transformer; Primary rated current: 1500 A; Secondary rated current: 1 A; Rated power: 5 VA; Accuracy class: 1	/1500-501	855-601
	<b>Item no.: 855-801/1000-1001</b> Plug-in current transformer; Primary rated current: 1000 A; Secondary rated current: 1 A; Rated power: 10 VA; Accuracy class: 1	/1000-1001	855-801
	<b>Item no.: 855-801/2000-1001</b> Plug-in current transformer; Primary rated current: 2000 A; Secondary rated current: 1 A; Rated power: 10 VA; Accuracy class: 1	/2000-1001	855-801

#### memory card

	<b>Item no.: 758-879/000-3102</b> Memory Card SD Micro; 2 GByte	/000-3102	758-879
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#### tools





**Item no.: 210-720**  
 Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft

210-720

#### wiring and connectors



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

/000-011

750-978

#### General accessories



**Item no.: 2007-8874**  
 Compact terminal block; for current and voltage transformers; 6,00 mm<sup>2</sup>; multicoloured

2007-8874



**Item no.: 2007-8877**  
 Compact terminal block; for current transformer circuit; 6,00 mm<sup>2</sup>; multicoloured

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

/790-108

289-175



**Item no.: 289-176**  
 Interface module; RJ-45; with power jumper contacts; RJ-45; Cat. 5; in mounting carrier

289-176



**Item no.: 750-923**  
 Configuration cable; USB connector; Length: 2.5 m; black

750-923



**Item no.: 750-923/000-001**  
 Configuration cable; USB connector; Length: 5 m

/000-001

750-923



**Item no.: 855-1851/350-000**  
 Current and voltage tap up to 185 mm<sup>2</sup>; Primary rated current: 350 A; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 0.5; fused

/350-000

855-1851



**Item no.: 855-501/150-000**  
 Current and voltage tap up to 50 mm<sup>2</sup>; Primary rated current: 150 A; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 0.5; fused

/150-000

855-501



**Item no.: 855-8001**  
 Power tap; with fuse; 2,5 mm<sup>2</sup> (12 AWG) - 6 mm<sup>2</sup> (10 AWG); Phase

855-8001



**Item no.: 855-8002**  
 Power tap; without fuse; 2,5 mm<sup>2</sup> (12 AWG) - 6 mm<sup>2</sup> (10 AWG); N-conductor

855-8002



**Item no.: 855-8003**  
 Power tap; with fuse; 10 mm<sup>2</sup> (8 AWG) - 16 mm<sup>2</sup> (6 AWG); Phase

855-8003



**Item no.: 855-8004**  
 Power tap; without fuse; 10 mm<sup>2</sup> (8 AWG) - 16 mm<sup>2</sup> (6 AWG); N-conductor

855-8004



**Item no.: 855-8006**  
 Power tap; for busbar; with fuse; Mounting screw M6

855-8006



**Item no.: 855-8008**  
 Power tap; for busbar; with fuse; Mounting screw M8

855-8008



**Item no.: 855-8015**  
 Power tap; for busbar; with fuse; Clamping connection

855-8015

**Item no.: 855-951/250-000**





Current and voltage tap up to 95 mm<sup>2</sup>; Primary rated current: 250 A; Secondary rated current: 1 A;  
 Rated power: 0.2 VA; Accuracy class: 0.5; fused

855-951

1250-000

#### power supply



Item no.: 787-2850

Switched-mode power supply; Compact; 1-phase; 24 VDC output voltage; 1.25 A output current

787-2850

## 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	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

Interface-Konfigurationssoftware FULL	1.6.2.11	exe	Download
Das Full-Setup beinhaltet neben der WAGO-Interface-Konfigurations-Software zusätzlich die Installation für das Microsoft .NET Framwork.	Jan 14, 2019	97.5 MB	

Interface-Konfigurationssoftware SMALL	1.6.2.11	exe	Download
Das Small-Setup beinhaltet nur die WAGO-Interface-Konfigurations-Software.	Jan 14, 2019	47.1 MB	



Subject to changes.

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