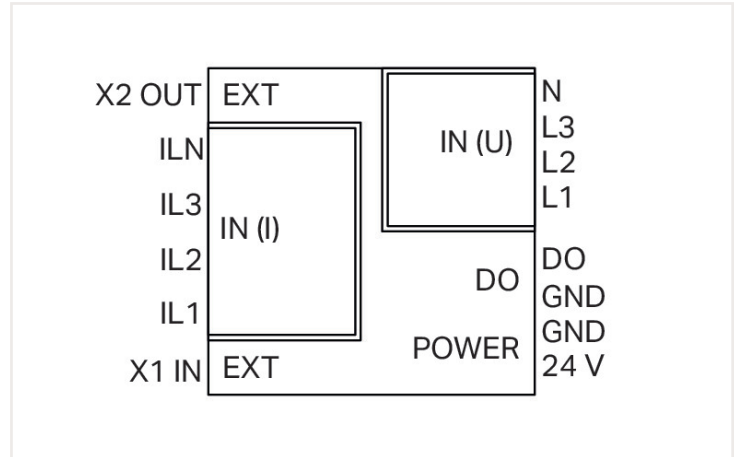
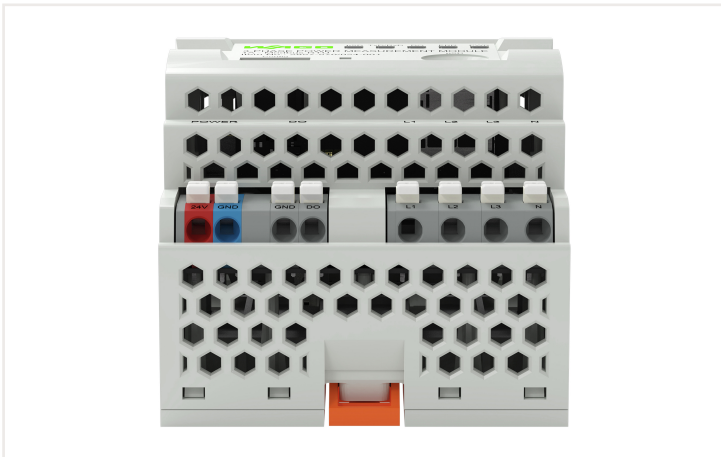
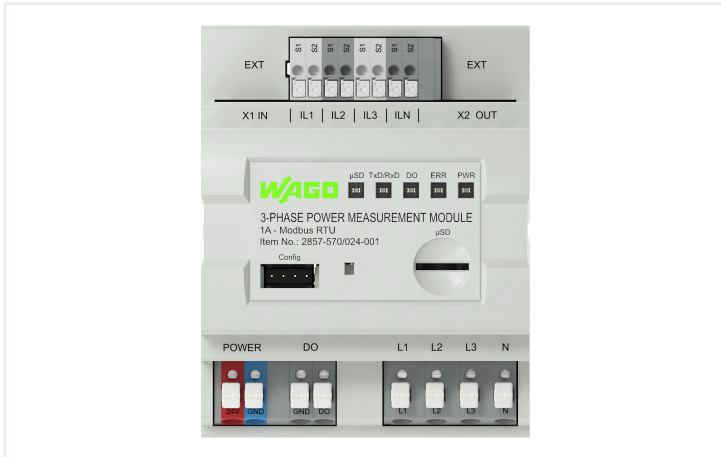


Data sheet | Item number: 2857-570/024-001

3-Phase Power Measurement Module; 3x277/480 V/1 A; Modbus RTU; Digital out-put; Configuration via software; Supply voltage: 24 VDC

<https://www.wago.com/2857-570/024-001>



**Short description:**

WAGO's 3-Phase Power Measurement Module in a DIN-rail-mount 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 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® interface
- Configurable digital signal output as pulse output

**Notes**

Note Additional setting options via the WAGO Interface Configuration Software

**Technical data****Configuration**

Configuration options	WAGO Interface Configuration Software
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**Input**

Input signal type	Voltage Current RTD sensors
Network configuration	3-phase power measurement with N-conductor (4-conductor) 3-phase power measurement without N-conductor (3-conductor)
Input signal (voltage)	AC 277 V ( $U_{LN}$ ); AC 480 V ( $U_{LL}$ )
Input signal (current)	AC 1 A (Current transformer)
Frequency range	50 ... 60 Hz (Harmonics analysis: 0 ... 3.3 kHz)
Input resistance (current input)	22 m $\Omega$
Input resistance (voltage input)	1.5 M $\Omega$
Input current (max.)	1 AAC
Response threshold	10 mA
Resolution (current)	10 mA
Shunt (sekundär, DC)	DC
Stromwandler (sekundär, DC)	DC
Strom (primär, DC)	DC

**Output – MODBUS**

Number of devices (max.)	32
Addressing	via interface configuration software
Connector	2 x RJ-45 (daisy chain configuration)

**Output – digital**

Switching voltage (DO) max.	Supply voltage applied
Continuous current (DO) max.	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 devices (max.)	32
Addressing	via interface configuration software

**Signal processing**

Measurement method	True RMS measurement (measured value acquisition with 8 kHz)
Measured variables (calculated)	Line-to-line voltage Outputs Energy sources Power factors Mains frequency Harmonics analysis (up to 41st harmonic) Total Harmonic Distortion (THD)
Signal form	any periodic signals (considering the threshold frequencies)

### Signal processing

Limit 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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### Supply

Power supply type	24 VDC
Nominal supply voltage $U_s$	DC 24 V (SELV)
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 50 mA (+ $I_{bo}$ )

### Safety and protection

Rated voltage	600 V
Overvoltage category	III
Pollution degree	2
Safe isolation	Input/supply and communication per EN 61010-1
Requirement (N input)	Neutral conductors as part of the mains circuit, shall be considered hazardous live.
ILx input requirement	Coils/converters with basic insulation
Protection type	IP20

### Test voltage

Test voltage (input/output/supply)	AC 3.51 kV; 50 Hz; 1 min
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### Connection data

Connection type 1	Voltage
Connection technology	Push-in CAGE CLAMP®
WAGO connector	WAGO 804 Series
Solid conductor	0.25 ... 2.5 mm <sup>2</sup> / 24 ... 14 AWG
Fine-stranded conductor	0.25 ... 2.5 mm <sup>2</sup> / 24 ... 14 AWG
Strip length	10 ... 11 mm / 0.39 ... 0.43 inches
Connection type 2	Current/power supply/DO
Connection technology 2	Push-in CAGE CLAMP®
WAGO connector 2	WAGO 805 Series
Solid conductor 2	0.2 ... 1.5 mm <sup>2</sup> / 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 inches
Connection type 3	Modbus® communication
Connector	2 x RJ-45 (daisy chain configuration)

### Physical data

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

### Mechanical data

Mounting type	DIN-35 rail
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### Material Data

Fire load	0.047 MJ
Weight	115.6 g

### Environmental requirements

Ambient temperature (operation at $U_N$ )	-40 ... 70 °C
Surrounding air temperature (storage)	-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

eCl@ss 10.0	27-21-01-24
eCl@ss 9.0	27-21-01-24
ETIM 8.0	EC002476
ETIM 7.0	EC002476
PU (SPU)	1 Stück
Packaging type	Box
Country of origin	DE
GTIN	4055143827539
Customs tariff number	85437090300

### Approvals and certificates

#### General approvals



Approval	Standard	Certificate name
EAC Brjansker Zertifizierungs- stelle	TP TC 020/2011	EAC_Certificate_RU_C- DE.AM02.B.00115_19
EAC Brjansker Zertifizierungs- stelle	TP TC 004/2011	EAC RU C-DE.AM02. B.00122/19

#### Approvals for marine applications



Approval	Standard	Certificate name
DNV GL Det Norske Veritas, Ger- manischer Lloyd	-	TAA00001ZY

## Downloads

### Environmental Product Compliance

#### Compliance Search

Environmental Product Compliance  
2857-570/024-001



## Documentation

### Manual

Product Manual 3-Phase Power Measurement Module

V 1.0.0

pdf  
16063.79 KB



### Bid Text

2857-570/024-001

15.07.2019

xml  
8.60 KB



2857-570/024-001

15.07.2019

docx  
19.63 KB



### Instruction Leaflet

3-Phasen-Leistungs messmodul

V 1.1.0

pdf  
1203.88 KB



## CAD/CAE-Data

### CAD data

2D/3D Models  
2857-570/024-001



### CAE data

EPLAN Data Portal  
2857-570/024-001



ZUKEN Portal  
2857-570/024-001



## Engineering-Software

### Software for Interface-Products

WAGO Interface Configuration Software G2 FULL

1.0.8.6  
20.01.2022

exe  
111289.67 KB



WAGO Interface Configuration Software G2 SMALL

1.0.8.6  
20.01.2022

exe  
29307.84 KB



## Runtime Software

### Firmware

2857-0570/024-001, 3-Phasen-Leistungsmessumformer

V 03  
14.06.2022

zip  
503.49 KB



**Libraries**

Library			
Library for the Wago 3-Phase Powertransducer module 2857-570	1.0.0	28.02.2019	zip 2117.75 KB

**1 Compatible products**

**1.1 Optional accessories**

**1.1.1 Cables and connectors**

**1.1.1.1 Communication cable**



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

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

**1.1.1.2 Connector plug**



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

**1.1.2 Current transformer**

**1.1.2.1 Plug-in current transformer**



**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



**Item no.: 855-501/1000-1001**  
Plug-in current transformer; Primary rated current: 1000 A; Secondary rated current: 1 A; Rated power: 10 VA; Accuracy class: 1



**Item no.: 855-801/1000-1001**  
Plug-in current transformer; Primary rated current: 1000 A; Secondary rated current: 1 A; Rated power: 10 VA; Accuracy class: 1



**Item no.: 855-301/150-501**  
Plug-in current transformer; Primary rated current: 150 A; Secondary rated current: 1 A; Rated power: 5 VA; Accuracy class: 1



**Item no.: 855-601/1500-501**  
Plug-in current transformer; Primary rated current: 1500 A; Secondary rated current: 1 A; Rated power: 5 VA; Accuracy class: 1



**Item no.: 855-301/200-501**  
Plug-in current transformer; Primary rated current: 200 A; Secondary rated current: 1 A; Rated power: 5 VA; Accuracy class: 1



**Item no.: 855-801/2000-1001**  
Plug-in current transformer; Primary rated current: 2000 A; Secondary rated current: 1 A; Rated power: 10 VA; Accuracy class: 1



**Item no.: 855-301/250-501**  
Plug-in current transformer; Primary rated current: 250 A; Secondary rated current: 1 A; Rated power: 5 VA; Accuracy class: 1



**Item no.: 855-401/250-501**  
Plug-in current transformer; Primary rated current: 250 A; Secondary rated current: 1 A; Rated power: 5 VA; Accuracy class: 1



**Item no.: 855-1001/2500-1001**  
Plug-in current transformer; Primary rated current: 2500 A; Secondary rated current: 1 A; Rated power: 10 VA; Accuracy class: 1



**Item no.: 855-2701/035-001**  
Plug-in current transformer; Primary rated current: 35 A; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 1



**Item no.: 855-301/400-1001**  
Plug-in current transformer; Primary rated current: 400 A; Secondary rated current: 1 A; Rated power: 10 VA; Accuracy class: 1



**Item no.: 855-501/400-1001**  
Plug-in current transformer; Primary rated current: 400 A; Secondary rated current: 1 A; Rated power: 10 VA; Accuracy class: 1



**Item no.: 855-401/400-501**  
Plug-in current transformer; Primary rated current: 400 A; Secondary rated current: 1 A; Rated power: 5 VA; Accuracy class: 1



**Item no.: 855-301/050-103**  
Plug-in current transformer; Primary rated current: 50 A; Secondary rated current: 1 A; Rated power: 1.25 VA; Accuracy class: 3



**Item no.: 855-301/060-101**  
Plug-in current transformer; Primary rated current: 60 A; Secondary rated current: 1 A; Rated power: 1.25 VA; Accuracy class: 1

### 1.1.2.1 Plug-in current transformer



**Item no.: 855-301/600-1001**

Plug-in current transformer; Primary rated current: 600 A; Secondary rated current: 1 A; Rated power: 10 VA; Accuracy class: 1



**Item no.: 855-401/600-501**

Plug-in current transformer; Primary rated current: 600 A; Secondary rated current: 1 A; Rated power: 10 VA; Accuracy class: 1



**Item no.: 855-501/600-1001**

Plug-in current transformer; Primary rated current: 600 A; Secondary rated current: 1 A; Rated power: 10 VA; Accuracy class: 1



**Item no.: 855-2701/064-001**

Plug-in current transformer; Primary rated current: 64 A; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 1



**Item no.: 855-301/075-201**

Plug-in current transformer; Primary rated current: 75 A; Secondary rated current: 1 A; Rated power: 2.5 VA; Accuracy class: 1



**Item no.: 855-501/800-1001**

Plug-in current transformer; Primary rated current: 800 A; Secondary rated current: 1 A; Rated power: 10 VA; Accuracy class: 1

### 1.1.2.2 Split-core current transformer



**Item no.: 855-4001/100-001**

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



**Item no.: 855-3001/100-003**

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



**Item no.: 855-5001/1000-000**

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



**Item no.: 855-5101/1000-000**

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



**Item no.: 855-4001/150-001**

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



**Item no.: 855-4001/200-001**

Split-core current transformer; Primary rated current: 200 A; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 0.5; Cable length: 3 m



**Item no.: 855-3001/200-001**

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



**Item no.: 855-4101/200-001**

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



**Item no.: 855-3001/250-001**

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



**Item no.: 855-4101/250-001**

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



**Item no.: 855-5001/250-001**

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



**Item no.: 855-4101/400-001**

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



**Item no.: 855-5001/400-000**

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



**Item no.: 855-3001/060-003**

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



**Item no.: 855-5001/600-000**

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

### 1.1.3 Installation

#### 1.1.3.1 Current transformer terminal block



**Item no.: 2007-8874**

Compact terminal block; for current and voltage transformers; 6,00 mm<sup>2</sup>; multicoloured



**Item no.: 2007-8877**

Compact terminal block; for current transformer circuit; 6,00 mm<sup>2</sup>; multicoloured

## 1.1.4 Interface module

### 1.1.4.1 Interface 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

**Item no.: 289-176**

Interface module; RJ-45; with power jumper contacts; RJ-45; Cat. 5; in mounting carrier

## 1.1.5 Memory card

### 1.1.5.1 Memory card



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

Memory Card SD Micro; 2 GByte

## 1.1.6 Potential distribution

### 1.1.6.1 Current and voltage tap



**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

**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

**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

## 1.1.7 Power supply

### 1.1.7.1 Power supply unit



**Item no.: 787-2850**

Power supply; Compact; 1-phase; 24 VDC output voltage; 1.25 A output current

## 1.1.8 Power tap

### 1.1.8.1 Power tap



**Item no.: 855-8015**

Power tap; for busbar; with fuse; Clamping connection

**Item no.: 855-8006**

Power tap; for busbar; with fuse; Mounting screw M6

**Item no.: 855-8008**

Power tap; for busbar; with fuse; Mounting screw M8

**Item no.: 855-8003**

Power tap; with fuse; 10 mm<sup>2</sup> (8 AWG) - 16 mm<sup>2</sup> (6 AWG); Phase



**Item no.: 855-8001**

Power tap; with fuse; 2,5 mm<sup>2</sup> (12 AWG) - 6 mm<sup>2</sup> (10 AWG); Phase

**Item no.: 855-8004**

Power tap; without fuse; 10 mm<sup>2</sup> (8 AWG) - 16 mm<sup>2</sup> (6 AWG); N-conductor

**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



## 1.1.9 Tool

### 1.1.9.1 Operating tool



**Item no.:** [210-720](#)

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

## Installation notes

### Configuring

Configuration via WAGO Interface Configuration Software