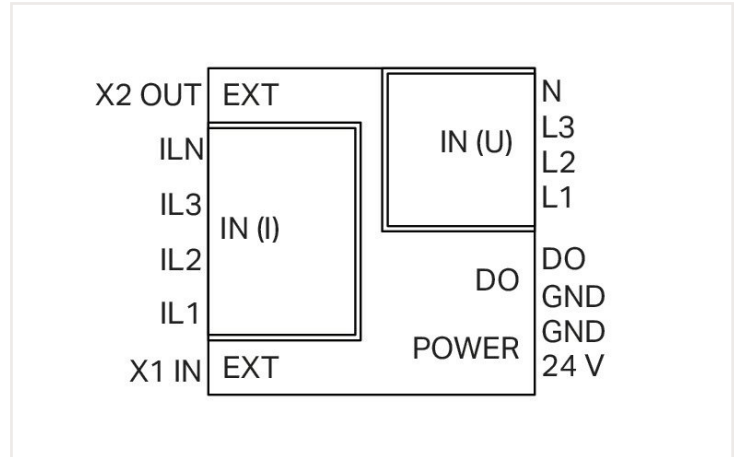
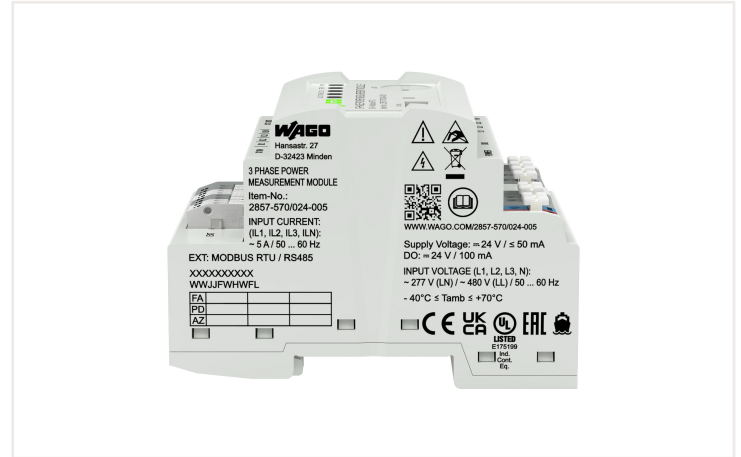
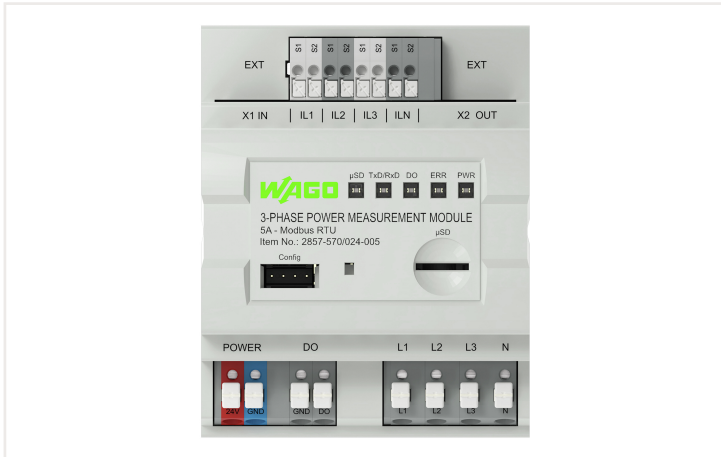


Data sheet | Item number: 2857-570/024-005

3-Phase Power Measurement Module; 3x277/480 V/5 A; Modbus RTU; Digital out-  
put; Configuration via software; Supply voltage: 24 VDC

<https://www.wago.com/2857-570/024-005>



**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 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

**Notes**

Note Additional setting options via the WAGO Interface Configuration Software

**Technical data****Configuration**

Configuration options	WAGO Interface Configuration Software
-----------------------	---------------------------------------

**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 5 A (Current transformer)
Frequency range	50 ... 60 Hz (Harmonics analysis: 0 ... 3.3 kHz)
Input resistance (current input)	5 m $\Omega$
Input resistance (voltage input)	1.5 M $\Omega$
Input current (max.)	5 AAC
Response threshold	5 mA
Resolution (current)	0.15 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	4055143827461
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  
2857-570/024-005



## Documentation

## Manual

Product Manual 3-Phase  
Power Measurement  
Module

V 1.0.0

pdf

16063.79 KB



## Bid Text

2857-570/024-005

15.07.2019

xml

8.62 KB



2857-570/024-005

15.07.2019

docx

19.89 KB



## Instruction Leaflet

3-Phasen-Leistungs-  
messmodul

V 1.1.0

pdf

1203.88 KB



## CAD/CAE-Data

## CAD data

2D/3D Models  
2857-570/024-005



## CAE data

ZUKEN Portal  
2857-570/024-005



## Engineering-Software

## Software for Interface-Products

WAGO Interface Confi-  
guration Software G2  
FULL

1.0.8.6

20.01.2022

exe

111289.67 KB



WAGO Interface Confi-  
guration Software G2  
SMALL

1.0.8.6

20.01.2022

exe

29307.84 KB



## Runtime Software

## Firmware

2857-0570/024-005, 3-  
Phasen-Leistungsmes-  
sumformer

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



1.1 Optional accessories

1 Compatible products

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.: 855-305/300-501**

Plug-in current transformer; Primary rated current 300 A; Secondary rated current: 5 A; Rated power: 5 VA; Accuracy class: 1



**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



**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



**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



**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



**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



**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



**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



**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



**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



**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



**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



**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



**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



**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



**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



**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



**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



**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



**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

### 1.1.2.2 Split-core current transformer



**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

**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

**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

**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



**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

**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

**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

### 1.1.3 Interface module

#### 1.1.3.1 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

### 1.1.4 Memory card

#### 1.1.4.1 Memory card



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

### 1.1.5 Power supply

#### 1.1.5.1 Power supply unit



**Item no.: 787-2850**  
Power supply; Compact; 1-phase; 24 VDC output voltage; 1.25 A output current

### 1.1.6 Power tap

#### 1.1.6.1 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

## 1.1.7 Terminal blocks

### 1.1.7.1 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

## 1.1.8 Tool

### 1.1.8.1 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