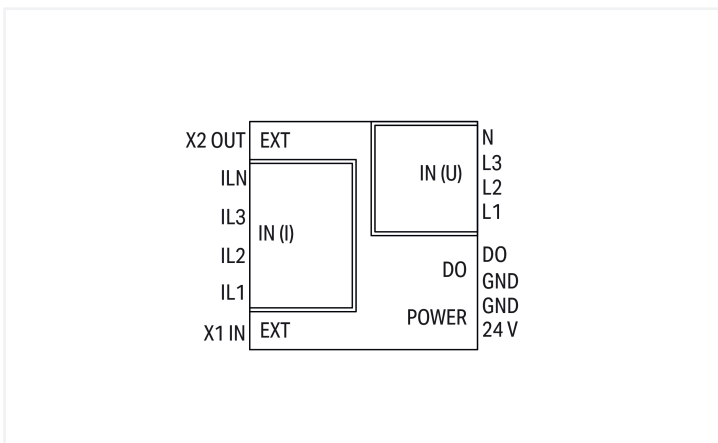
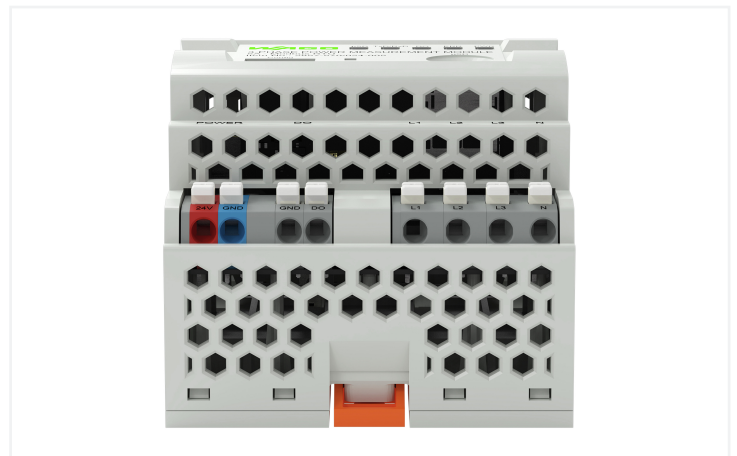


Data Sheet | Item Number: 2857-570/024-005

3-Phase Power Measurement Module; 3x277/480 V/5 A; Modbus RTU; Digital output; 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 5 A 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 current (max.)	5 AAC
Response threshold	5 mA
Resolution (current)	0.15 mA
Measured variable	Voltage Current Electrical output Power factor RTD
Input signal (voltage)	277 VAC (ULN) 480 VAC (ULL)
Input signal (current)	5 AAC (current transformer)
Frequency range	50 ... 60 Hz (Harmonic analysis: 0 ... 3.3 kHz)
Input resistance (current input)	5 mΩ
Input resistance (voltage input)	1.5 MΩ

Output – MODBUS

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

Output – Digital

Configurable functions (DO)	Threshold Value Switch Pulse output (S0 interface)
Switching voltage (DO) max.	Supply voltage applied
Continuous current (DO) max.	100 mA (no internal restriction)

Communication

Communications	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)
Type of memory card	WAGO 758-879/000-3102 (microSD; 2 GB)

Signal Processing

Limit frequency	15.9 kHz
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Measurement Error

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

Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC (SELV)
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 50 mA (+ I_{D0})

Safety and protection

Rated Voltage	600 V
Overtoltage category	III
Pollution degree	2
Safe isolation	Input/supply and communication per EN 61010-1
Requirement (N input)	Neutral conductors that are part of the mains circuit are considered dangerous voltage.
IL_x input requirement	Coils/converters with basic insulation
Protection type	IP20
Test voltage (input/output/supply)	3.51 kVAC; 50 Hz; 1 min

Connection Data

Connector	2 x RJ-45 (daisy chain configuration)
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Connection 1

Connection type	Voltage
Connection technology	Push-in CAGE CLAMP®
WAGO connector	WAGO 804 Series
Strip length	10 ... 11 mm / 0.39 ... 0.43 inches
Solid conductor	0.25 ... 2.5 mm ² / 24 ... 14 AWG
Fine-stranded conductor	0.25 ... 2.5 mm ² / 24 ... 14 AWG

Connection 2

Connection type	Current/power supply/DO
Connection technology	Push-in CAGE CLAMP®
WAGO connector	WAGO 805 Series
Strip length	9 ... 10 mm / 0.35 ... 0.39 inches
Solid conductor	0.2 ... 1.5 mm ² / 24 ... 16 AWG
Fine-stranded conductor	0.2 ... 1.5 mm ² / 24 ... 16 AWG

Connection 3

Connection type	Modbus® communication
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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
Housing design	DIN-rail-mount enclosure

Material data

Fire load	0.044 MJ
Weight	115.6 g

Environmental requirements

Ambient temperature (operation)	-40 ... +70 °C
Ambient 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

PU (SPU)	1 pcs
Packaging type	Box
Country of origin	DE
Customs tariff number	85437090300

Product Classification

UNSPSC	41113630
eCl@ss 10.0	27-21-01-24
eCl@ss 9.0	27-21-01-24
ETIM 9.0	EC002476
ETIM 10.0	EC002476
ECCN	NO US CLASSIFICATION

Environmental Product Compliance

CAS-No.	1303-86-2 1317-36-8 7439-92-1 75980-60-8
REACH Candidate List Substance	Diboron trioxide Lead Lead monoxide Perfluorobutane sulfonic acid (PFBS) and its salts Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-
RoHS Compliance Status	Compliant,With Exemption
RoHS Exemption	6(c) 7(a) 7(c)-I 7(c)-II
SCIP notification number (Austria)	3c5b708a-4d0c-4c4f-915b-7f883a601861
SCIP notification number (Belgium)	4d261afe-4ebc-4c43-b333-d85400410058
SCIP notification number (Bulgaria)	8fbd3c1b-4dfd-4dc1-88db-675ccbee6ecc
SCIP notification number (Czech Republic)	44399f69-4a7f-43d4-a7cb-d98caf15c370
SCIP notification number (Denmark)	5f82d7c4-159f-4e53-baa9-5fb8e060ca75
SCIP notification number (Finland)	b5f30487-a528-4c3b-a705-3c841d7f4480
SCIP notification number (France)	159c395a-37a7-416b-a514-f8e33ccfe7c7

Environmental Product Compliance

SCIP notification number (Germany)	3896b16f-bdb0-4345-9d36-6d9e196fc444
SCIP notification number (Hungary)	da8b306f-e027-4f74-a3fd-9bf1b290f7a5
SCIP notification number (Netherlands)	9a34b2cc-6202-46ea-b92e-57b0a688a915
SCIP notification number (Poland)	188bfc07-cfb1-4f44-b082-fedc2a7684d6
SCIP notification number (Romania)	2db68257-7b65-4563-8897-274a6dd802ad
SCIP notification number (Sweden)	c8995f6e-e27f-4ba0-a327-70e4f9d77f79

Approvals / Certificates

General approvals **Declarations of conformity and manufacturer's declarations**



Approval	Standard	Certificate Name
EAC GZO Almaty Standart	TP TC 020/2011	EAC CoC 03083
EAC GZO Almaty Standart	TP TC 004/2011	EAC CoC 03084
UL Underwriters Laboratories Inc. (ORDINARY LOCATIONS)	UL 61010-2-201	E175199

Approval	Standard	Certificate Name
EU-Declaration of Conformity WAGO GmbH & Co. KG	-	-

Downloads

Environmental Product Compliance

Compliance Search
Environmental Product Compliance 2857-570/024-005 ↓




Documentation

Manual			
WAGO Current and Voltage Signal Conditioners and Power Measurement Modules			↓
Product Manual 3-Phase Power Measurement Module	2.0.0 11.08.2023	pdf 10700.02 KB	↓
Product Manual 3-Phase Power Measurement Module	V 1.0.0 15.01.2026	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-Phase Power measurement module	V 1.3.0 11.09.2023	pdf 1293.96 KB	↓


CAD/CAE-Data

CAD data	CAE data
2D/3D Models 2857-570/024-005 	EPLAN Data Portal 2857-570/024-005 
	ZUKEN Portal 2857-570/024-005 

Runtime Software

Firmware			
2857-0570/024-005, 3-Phasen-Leistungsumformer	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.: 750-923/000-001](#)

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

1.1.3 Current transformer

1.1.3.1 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

1.1.3.2 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

1.1.4 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 Power supply

1.1.6.1 Power Supply



Item No.: 787-2850

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

1.1.7 Power tap

1.1.7.1 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 mm² (8 AWG) - 16 mm² (6 AWG); Phase



Item No.: 855-8001

Power tap; with fuse; 2,5 mm² (12 AWG) - 6 mm² (10 AWG); Phase

Item No.: 855-8004

Power tap; without fuse; 10 mm² (8 AWG) - 16 mm² (6 AWG); N-conductor

Item No.: 855-8002

Power tap; without fuse; 2,5 mm² (12 AWG) - 6 mm² (10 AWG); N-conductor

1.1.8 Terminal blocks

1.1.8.1 Current transformer terminal block



Item No.: 2007-8874

Compact terminal block; for current and voltage transformers; 6,00 mm²; multicoloured

Item No.: 2007-8877

Compact terminal block; for current transformer circuit; 6,00 mm²; multicoloured

1.1.9 Tool

1.1.9.1 Operating tool

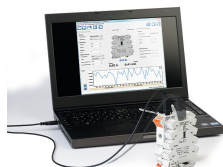


Item No.: 210-720

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

Installation Notes

Configuring



Configuration via WAGO Interface Configuration Software