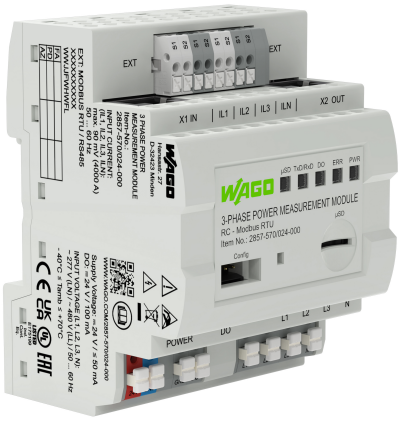
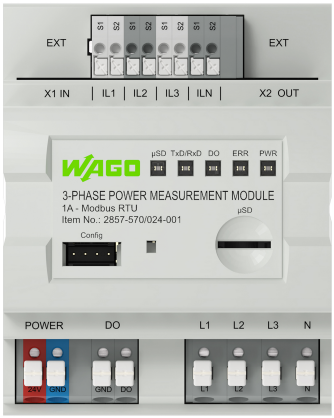
Data Sheet | Item Number: 2857-570/024-001

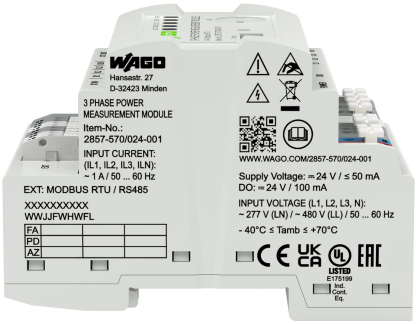
3-Phase Power Measurement Module; 3x277/480 V/1 A; Modbus RTU; Digital output; Configuration via software; Supply voltage: 24 VDC

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

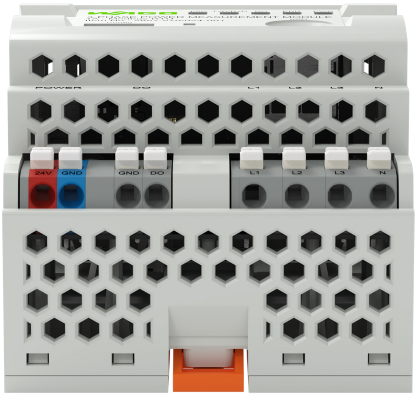


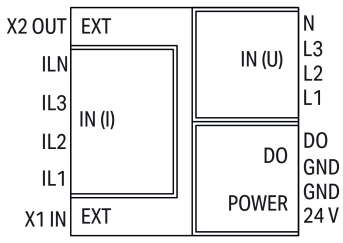












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Short description:
WAGO's 3-Phase Power Measurement Module in a DIN-rail-mount enclosure measures electrical data in three-phase supply networks – remotely from the control level.
Measured variables such as active/apparent/reactive power, energy consumption, 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 1 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
Network configuration	3-phase power measurement with N-conductor (4-conductor) 3-phase power measurement without N-conductor (3-conductor)
Input current (max.)	1 AAC
Response threshold	10 mA
Resolution (current)	10 mA
Measured variable	Voltage Current Electrical output Power factor RTD
Input signal (voltage)	277 VAC (ULN) 480 VAC (ULL)
Input signal (current)	1 AAC (current transformer)
Frequency range	50 … 60 Hz (Harmonic analysis: 0 … 3.3 kHz)
Input resistance (current input)	22 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)
Limit frequency	15.9 kHz

Continued on next page

Measurement Error

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

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_{DO})

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 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)

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 mm² / 24 … 14 AWG
Fine-stranded conductor	0.25 … 2.5 mm² / 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 mm² / 24 … 16 AWG
Fine-stranded conductor	0.2 … 1.5 mm² / 24 … 16 AWG

Connection 3

Connection type	Modbus® communication

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

Continued on next page

Material data

Fire load	1.348 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	90303900000

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 2451-62-9 7439-92-1 75980-60-8
REACH Candidate List Substance	1,3,5-Tris(oxiran-2-ylmethyl)-1,3,5-triazinane-2,4,6-trione (TGIC) Diboron trioxide Lead Lead monoxide 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)	15d13b36-0a46-423a-baf0-25f90221a4d7
SCIP notification number (Belgium)	37cb977c-7afd-4d6b-99a2-c75722031572
SCIP notification number (Bulgaria)	6fdb7a61-9a73-491a-87c2-14bd4d2a27da
SCIP notification number (Czech Republic)	1963302d-27cc-497c-9336-916b863aece2
SCIP notification number (Denmark)	93676f10-06ff-435f-b314-51652050b5db
SCIP notification number (Finland)	3f54975c-8829-4804-b066-2e1212198413
SCIP notification number (France)	f15a2035-ea4d-463b-85d3-5d3caaccf2b5
SCIP notification number (Germany)	17ebc7e6-c2e2-475f-a072-a19a472fd55e
SCIP notification number (Hungary)	d6acea0b-e26a-4b6d-9ab1-d659c89a1b48
SCIP notification number (Italy)	7b560f3d-0d98-4ba2-9fef-e7f6bfd7f0b9
SCIP notification number (Netherlands)	0896ef5a-d7a8-40d6-9eeb-5e1c6451f580

Continued on next page

Environmental Product Compliance

SCIP notification number (Poland)	6fb46ab3-fc35-485c-9f81-160b6e695a33
SCIP notification number (Romania)	0dab5cdd-294c-4e22-9a5c-203eac2de80f
SCIP notification number (Sweden)	e5247453-2fea-4b36-9d6e-3364faaba8c0

Approvals / Certificates

General approvals

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

Declarations of conformity and manufacturer's declarations

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

Downloads

Environmental Product Compliance

Compliance Search

Environmental Product Compliance 2857-570/024-001

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 10255.03 KB	
Product Manual 3-Phase Power Measurement Module	V 1.0.0 15.01.2026	pdf 16063.79 KB	

Instruction Leaflet

3-Phase Power measurement module	V 1.3.0 11.09.2023	pdf 1293.96 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	

Continued on next page

CAD/CAE-Data

CAD data	CAE data
2D/3D Models 2857-570/024-001	EPLAN Data Portal 2857-570/024-001
	ZUKEN Portal 2857-570/024-001

Runtime Software

Firmware

2857-0570/024-001, 3-Phasen-Leistungsmes-sumformer	V 03 14.06.2022	zip 504.24 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

1.1.2 Communication

1.1.2.1 Communication cable



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

 Continued on next page

1.1.3 Current transformer

1.1.3.1 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



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

1.1.3.2 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

Continued on next page

1.1.3.2 Split-core current transformer



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

1.1.4 Installation

1.1.4.1 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

1.1.5 Interface module

1.1.5.1 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

1.1.6 Memory card

1.1.6.1 Memory card

Item No.: 758-879/000-3116
Memory Card SD Micro; pSLC-NAND; 16 GB; Temperature range: -40 to 85°C

1.1.7 Potential distribution

1.1.7.1 Current and voltage tap



Item No.: 855-1851/350-000
Current and voltage tap up to 185 mm²; 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 mm²; 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 mm²; Primary rated current: 250 A; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 0.5; fused

Continued on next page

1.1.8 Power supply

1.1.8.1 Power Supply



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

1.1.9 Power tap

1.1.9.1 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

1.1.10 Tool

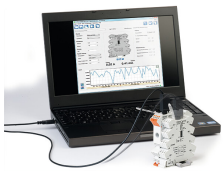
1.1.10.1 Operating tool



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