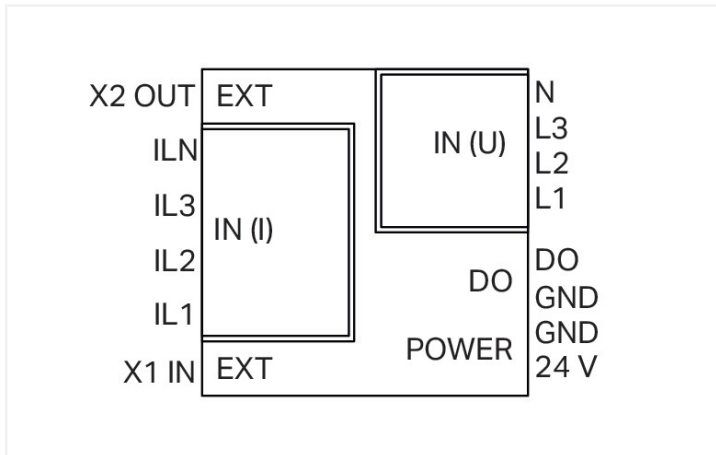


Data Sheet | Item Number: 2857-570/024-001

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>



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

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.)	1 AAC
Response threshold	10 mA
Resolution (current)	10 mA
Measured variable	Voltage Current Electrical output Power factor RTD
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

Input resistance (current input)	22 mΩ
Input resistance (voltage input)	1.5 MΩ

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)

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

Power 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_{D0})

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.
I_{Lx} input requirement	Coils/converters with basic insulation
Protection type	IP20
Test voltage (input/output/supply)	AC 3.51 kV; 50 Hz; 1 min

Connection data

Connector	2 x RJ-45 (daisy chain configuration)
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Output – MODBUS

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

Communication

Communication	Modbus RTU
Interface	RS-485 (2-wire) via RJ-45
Number of devices (max.)	32
Addressing	Via interface configuration software

Measurement error

Transmission error (max.)	≤ 0.5 % for current and voltage (of the full scale value)
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Connection 2

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

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

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)	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
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Environmental Product Compliance

SCIP notification number (Hungary)	d6acea0b-e26a-4b6d-9ab1-d659c89a1b48
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