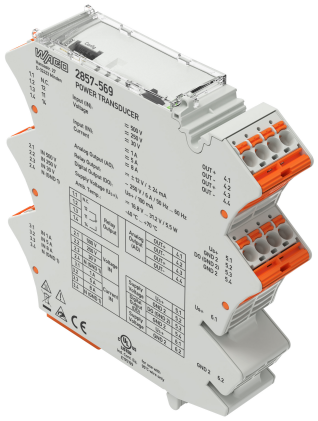
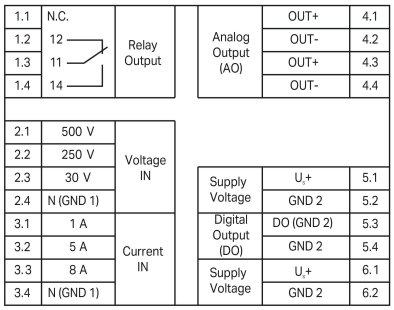
Data Sheet | Item Number: 2857-569

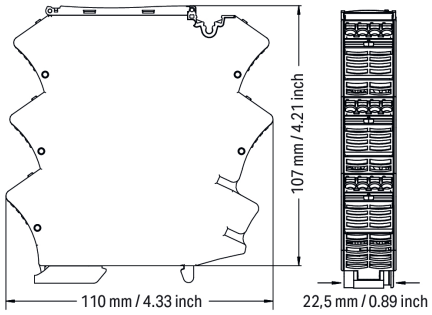
Single-Phase Power Signal Conditioner; Current and voltage input signal; Current and voltage output signal; Digital output; Configuration via software; Supply voltage: 24 VDC

https://www.wago.com/2857-569





1.1	N.C.	Relay Output	Analog Output (AO)	OUT+	4.1
1.2	12			OUT-	4.2
1.3	11			OUT+	4.3
1.4	14			OUT-	4.4
2.1	500 V	Voltage IN			
2.2	250 V		Supply Voltage	U_s+	5.1
2.3	30 V			GND 2	5.2
2.4	N (GND 1)		Digital Output (DO)	DO (GND 2)	5.3
3.1	1 A	Current IN		GND 2	5.4
3.2	5 A		Supply Voltage	U_s+	6.1
3.3	8 A			GND 2	6.2
3.4	N (GND 1)				



Short description:

WAGO's 1-phase power measurement module monitors and reports signal states with up to two switching thresholds. The sensor and status information that is collected is also converted to a standard analog signal. Current, voltage, effective power, apparent power or reactive power can be selected as the measured variable. Additionally, both frequency and phase angle are displayed.

Features:

- A relay with changeover contact reacts to configured measurement range limits (on/off switching delay and threshold value switch function can be configured with up to two threshold values).
- Adjustable software filter
- Analog unipolar/bipolar signals (current/voltage) at output
- Additional digital signal output for configured measurement range limits
- The digital output can be configured as a frequency generator or pulse output (S0 interface).

Notes

Note	This product is powered by 24 VDC, which can be bridged using lateral push-in type jumper bars: (6.1) U_S+ (BR) and (6.2) GND 2 (BR). With this variant, it is necessary to ensure that the maximum permissible total current of 6 A is not exceeded. Additional setting options via the WAGO Interface Configuration Software

Technical data

Configuration

Configuration options	WAGO Interface Configuration Software

Input

Input signal type	Voltage Current
Input signal (voltage)	500 V AC/DC (IN 2.1; per EN 61010-1) 300 V AC/DC (IN 2.1; per UL 61010-1) 250 V AC/DC (IN 2.2) 30 V AC/DC (IN 2.3)
Input signal (current)	1 A AC/DC (IN 3.1) 5 A AC/DC (IN 3.2) 8 A AC/DC (IN 3.3)
Frequency range	15 … 400 Hz
Input current (max.)	1.2 × I_N (≤ 60 °C); 1 × I_N (60 … 70 °C)
Input voltage (max.)	1.2 × U_N
Response threshold (voltage)	500 mVAC / 600 mVDC (IN 2.1) 50 mVAC / 500 mVDC (IN 2.2) 20 mVAC / 100 mVDC (IN 2.3)
Response threshold (current)	1.5 mAAC / 7.5 mADC (IN 3.1) 3 mAAC / 10 mADC (IN 3.2) 7.5 mAAC / 12 mADC (IN 3.3)
Resolution (voltage)	50 mV (IN 2.1) 30 mV (IN 2.2) 5 mV (IN 2.3)
Resolution (current)	1 mA (for all measurement ranges)

Output (analog)

Output signal type	Current Voltage
Output signal (voltage)	±12 V (SELV)
Output signal (current)	±24 mA (SELV)
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω

Output (digital)

Switching voltage (DO) max.	Applied supply voltage - 0.3 V
Continuous current (DO) max.	100 mA (no internal restriction)
Number of switching thresholds (DO)	2 (max.)
Configurable rise/fall delay time (DO)	0 … 60 s (via software)
Configurable functions (DO)	Disabled U_S/GND switching Threshold Value Switch Frequency generator Pulse output (S0 interface)
Setting range (frequency generator)	0.3 … 100 Hz
Setting range (pulse output)	1000 … 1 pulses/kW(h)

Output (relay)

Number of changeover/switchover contacts	1
Switching Voltage, Max.	250 VAC
Dielectric strength (open contact) (AC, 1 min)	1 kVrms
Number of switching thresholds (relay)	1 or 2 (adjustable)
Configurable rise/fall delay time (relay)	0 … 60 s (via software)

Signal Processing

Measurement method	True RMS measurement (TRMS)
Measured variables (calculated)	Active power Apparent power Reactive power Mains frequency Phase angle
Limit frequency	2 kHz
Software filter (adjustable)	Filter level: 1 … 30
Step response (max.)	350 ms (for default settings)

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	≤ 70 mA (+ I_{DO})

Safety and protection

Rated Voltage	600 V; 300 V (UL)
Measurement category per EN/UL 61010-2-030	CAT III (input)
Note on insulation parameters	The digital output (DO) operates at the supply potential. The service interface operates at the potential of the analog output.
Protection type	IP20

Test voltage

Test voltage (input IN 2.1/relay output; per EN 61010-1)	5.4 kVAC ; 50 Hz; 5 s 3.6 kVAC; 50 Hz; 1 min
Test voltage (input IN 2.1/relay output; per UL 61010-1)	3.51 kVAC; 60 Hz; 1 min
Test voltage (input/supply and analog output/relay output)	3.51 kVAC; 50 … 60 Hz; 1 min
Test voltage (supply/analog output)	3.6 kVAC; 50 … 60 Hz; 1 min

Insulation coordination (UL)

Overvoltage category	III
Pollution degree	2
Insulation type (input/supply and analog output/relay output)	Reinforced insulation (safe isolation)

Insulation coordination

Overvoltage category	III
Pollution degree	2
Insulation type (input IN 2.1/relay output)	Reinforced insulation (safe isolation)
Insulation type (input/supply and analog output/relay output)	Double insulation (impedance and basic insulation) Requirement: The N (GND 1) input must not be hazardous when active.

Connection Data

Connection technology	Push-in CAGE CLAMP®
WAGO connector	*picoMAX*® 5.0
Solid conductor	0.2 … 2.5 mm² / 24 … 12 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 12 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches

Physical data

Width	22.5 mm / 0.886 inches
Height	110 mm / 4.331 inches
Depth from upper-edge of DIN-rail	107 mm / 4.213 inches

Mechanical data

Mounting type	DIN-35 rail

Material data

Fire load	1.519 MJ
Weight	128.7 g

Continued on next page

Environmental requirements

Ambient temperature (operation)	-40 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 25 K)
Temperature range of the connection cable (UL)	95 °C
Relative humidity	5 … 85 % (non-condensing)
Operating altitude (max.)	2000 m

Standards and Specifications

Conformity marking	CE
EMC immunity to interference	EN 61000-6-2; EN 61326-2-3
EMC emission of interference	EN 61000-6-3; EN 61326-2-3
Standards/specifications	EN 61010-1 UL 61010-1 UL 61010-2-201

Commercial data

PU (SPU)	1 pcs
Packaging type	Bag
Country of origin	DE
GTIN	4055143907323
Customs tariff number	90303900000

Product Classification

UNSPSC	41113630
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 79-94-7
REACH Candidate List Substance	2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol 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)	e9a0da3f-7ab8-4615-8bb8-51d84373ba4c
SCIP notification number (Belgium)	cde42bc2-2ed6-4b3f-b95b-c988d14bf8db
SCIP notification number (Bulgaria)	02ec92ad-0329-4305-b22b-9e24a0f958c9
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SCIP notification number (Italy)	02841e02-dc41-4530-999f-a472b42b8822
SCIP notification number (Netherlands)	b182a8b9-fbbe-43c7-a18e-99b519fe0e2f
SCIP notification number (Poland)	f7f4ead4-ec70-41f8-88ec-eb9d615fea26

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Environmental Product Compliance

SCIP notification number (Romania)	0237191f-9eb4-45db-8b80-7a562cc49da6
SCIP notification number (Sweden)	7a289ca8-3605-43d8-9581-2947e0665a91

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	-	-

Downloads

Environmental Product Compliance

Compliance Search

Environmental Product Compliance 2857-569

Documentation

Manual

WAGO Current and Voltage Signal Conditioners and Power Measurement Modules

Instruction Leaflet

Single-Phase Power Signal Conditioner; Current and voltage input signal	V 2.0.0 30.09.2020	pdf 3007.72 KB	

CAD/CAE-Data

CAD data

2D/3D Models 2857-569

Continued on next page

1 Compatible Products

1.1 Optional Accessories

1.1.1 Communication

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

1.1.2 Installation

1.1.2.1 Mounting accessories



Item No.: 249-117
Screwless end stop; 10 mm wide; for DIN-rail 35 x 15 and 35 x 7.5; gray



Item No.: 249-197
Screwless end stop; 14 mm wide; for DIN-rail 35 x 15 and 35 x 7.5; gray



Item No.: 249-116
Screwless end stop; 6 mm wide; for DIN-rail 35 x 15 and 35 x 7.5; gray

1.1.3 Jumper

1.1.3.1 Jumper



Item No.: 281-482
Jumper; 2-way; insulated; gray



Item No.: 859-402/000-006
Jumper; for jumper slot; 2-way; insulated; blue



Item No.: 859-402
Jumper; for jumper slot; 2-way; insulated; light gray



Item No.: 859-402/000-005
Jumper; for jumper slot; 2-way; insulated; red



Item No.: 859-402/000-029
Jumper; for jumper slot; 2-way; insulated; yellow

1.1.4 Marking

1.1.4.1 Marker



Item No.: 2009-141
Micro-WSB-Inline; 2000 pieces on roll; plain; snap-on type; white

Item No.: 793-5501
WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; white



Item No.: 793-502
WMB marking card; as card; MARKED; 1 ... 10 (10x); not stretchable; Horizontal marking; snap-on type; white



Item No.: 793-566
WMB marking card; as card; MARKED; 1 ... 50 (2x); not stretchable; Horizontal marking; snap-on type; white

Item No.: 793-503
WMB marking card; as card; MARKED; 11 ... 20 (10x); not stretchable; Horizontal marking; snap-on type; white

Item No.: 793-504
WMB marking card; as card; MARKED; 21 ... 30 (10x); not stretchable; Horizontal marking; snap-on type; white

Item No.: 793-505
WMB marking card; as card; MARKED; 31 ... 40 (10x); not stretchable; Horizontal marking; snap-on type; white

Item No.: 793-506
WMB marking card; as card; MARKED; 41 ... 50 (10x); not stretchable; Horizontal marking; snap-on type; white

Item No.: 793-501
WMB marking card; as card; not stretchable; plain; snap-on type; white



Item No.: 2009-115
WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white

Continued on next page

1.1.4.2 Marking strip



Item No.: 2009-110
Marking strips; for Smart Printer; on reel; not stretchable; plain; snap-on type; white

1.1.5 Power supply

1.1.5.1 Power Supply



Item No.: 787-2852
Switched-mode power supply; 1-phase; 24 VDC output voltage; 1 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 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

1.1.7 Relay module

1.1.7.1 Relay module



Item No.: 857-304
Relay module; Nominal input voltage: 24 VDC; 1 changeover contact; Limiting continuous current: 6 A; Yellow status indicator; Module width: 6 mm; gray

1.1.8 Terminal blocks

1.1.8.1 Supply and through module



Item No.: 857-979
Supply and through module

Continued on next page

1.1.9 Test and measurement

1.1.9.1 Testing accessories



Item No.: 735-500
WAGO Test pin; 1 mm Ø; 30 V AC / 60 V DC; CAT0; 1 A; 6 mm uninsulated; Test lead for soldering up to 0,5mm²

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

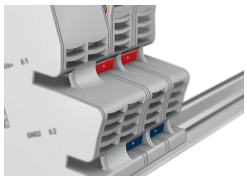


Configuration via WAGO Interface Configuration Software

Conductor termination

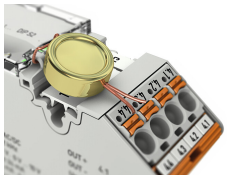


Pluggable connection technology



Commoning, not discrete wiring – Same outline allows use of a single in-line, push-in jumper.

Security



Lock-out seal option