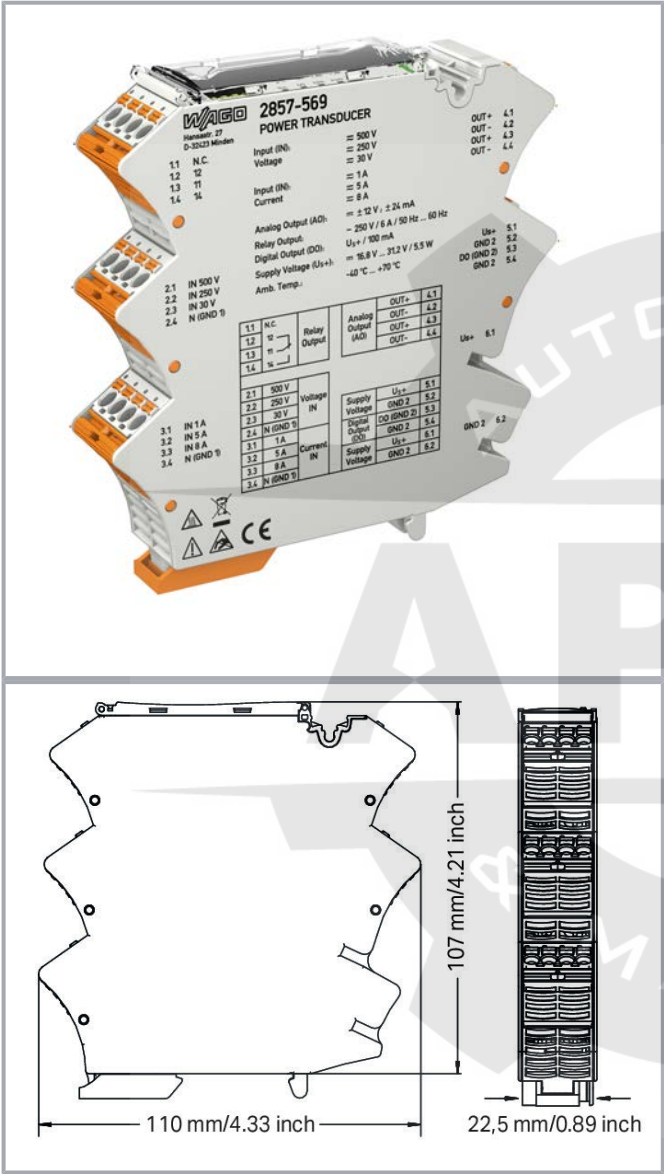


Data sheet | Item number: 2857-569



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

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	Supply Voltage	U _s +	5.1
2.2	250 V				GND 2	5.2
2.3	30 V				DO (GND 2)	5.3
2.4	N (GND 1)				GND 2	5.4
3.1	1 A		Current IN	Digital Output (DO)	U _s +	6.1
3.2	5 A				GND 2	6.2
3.3	8 A				U _s +	6.1
3.4	N (GND 1)				GND 2	6.2

Item description

Short description:

This 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

Subject to changes. Please also observe the further product documentation!

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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
- Simulation of input/output response via WAGO Interface Configuration Display
- 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).

Notice:

The device is supplied with 24 VDC, which can be commoned using lateral push-in type jumper bars: (6.1) US+ (BR) and (6.2) GND 2 (BR). With this variant, it is necessary to ensure that the max. permissible total current of 6 A is not exceeded.

Note:

- This product is supplied with 24 VDC, which can be commoned 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 WAGO Interface Configuration Software or WAGO Configuration Display

Data

Technical data

Configuration

Configuration options

WAGO Interface Configuration Software
WAGO Configuration Display

Input

Input signal type	Voltage Current
Input signal (voltage)	AC/DC 500 V (IN 2.1; per EN 61010-1); AC/DC 300 V (IN 2.1; per UL 61010-1); AC/DC 250 V (IN 2.2) ; AC/DC 30 V (IN 2.3)
Input signal (current)	AC/DC 1 A (IN 3.1); AC/DC 5 A (IN 3.2) ; AC/DC 8 A (IN 3.3)
Frequency range	15 ... 400 Hz
Input current (max.)	$1.2 \times I_N (\leq 60^\circ\text{C})$; $1 \times I_N (60 \dots 70^\circ\text{C})$
Input voltage (max.)	$1.2 \times U_N$
Response threshold (voltage)	500 mVAC / 600 mVDC (IN 2.1) 50 mVAC / 500 mVDC (IN 2.2)

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	20 mVAC / 100 mVDC (IN 2.3)
Response threshold (current)	1.5 mA AC / 7.5 mA DC (IN 3.1) 3 mA AC / 10 mA DC (IN 3.2) 7.5 mA AC / 12 mA DC (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 (V)	± 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.)	Supply voltage (applied): -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)

Output – relay

Number of changeover contacts	1
Switching voltage (max.)	AC 250 V
Limiting continuous current (relay; module assembly)	6 A (≤ 60 °C); 3 A (60 ... 70 °C)
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)
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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)

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 %
Power consumption at nominal supply voltage	≤ 70 mA (+ I_{DO})

Safety and protection

Measurement category per EN/UL 61010-2-030	CAT III (input)
Overvoltage category	III
Note on insulation parameters	The digital output (DO) is at the potential of the supply The service interface is 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, 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 parameters per EN/UL 61010-1

Line-to-neutral conductor voltage (AC) max.	300 V
Overvoltage category	III
Pollution degree	2
Insulation type (input/supply, analog output/relay output)	Reinforced insulation

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Insulation parameters per EN 61010-1

Line-to-neutral conductor voltage (AC) max.	600 V
Overvoltage category	III
Pollution degree	2
Insulation type (input IN 2.1/relay output)	Reinforced insulation
Insulation type (input/supply, analog output/relay output)	Double insulation (impedance and basic insulation) Requirement: The N (GND 1) input is dangerous 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 inch

Physical data

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

Mechanical data

Mounting type	DIN-35 rail
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Material data

Fire load	1.796 MJ
Weight	149 g

Environmental requirements

Surrounding air temperature (operation)	-40 ... 70 °C
Surrounding air temperature (storage)	-40 ... 85 °C
Temperature range of the connecting cable according to EN 61010-2-201	$\geq (T_{\text{surrounding air}} + 25 \text{ K})$
Temperature range of connecting cable per UL 61010-2-201 (min.)	95 °C
Relative humidity	5 ... 85 % (non-condensing)
Operating altitude (max.)	2000 m

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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

Packaging type	bag
Country of origin	DE
GTIN	4055143907323
Customs tariff number	8543704500

Approvals / Certificates

UL-Approvals

Logo	Approval	Additional Approval Text	Certificate name
	UL Underwriters Laboratories Inc. (ORDINARY LOCATIONS)	UL 61010-2-201	E175199

Optional accessories

General accessories

	Item no.: 2857-900 Setup unit	www.wago.com/2857-900
	Item no.: 855-8001 Voltage tap; with fuse; 12-10 AWG; Phase	www.wago.com/855-8001
	Item no.: 855-8002 Voltage tap; without fuse; 12-10 AWG; N-conductor	www.wago.com/855-8002
	Item no.: 855-8003 Voltage tap; with fuse; 8-6 AWG; Phase	www.wago.com/855-8003
	Item no.: 855-8004 Voltage tap; without fuse; 8-6 AWG; N-conductor	www.wago.com/855-8004
	Item no.: 855-8006	

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	Power tap; for busbar; with fuse; Mounting screw M6	www.wago.com/855-8006
	Item no.: 855-8008 Power tap; for busbar; with fuse; Mounting screw M8	www.wago.com/855-8008
	Item no.: 855-8015 Power tap; for busbar; with fuse; Clamping connection	www.wago.com/855-8015
	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; 2,50 mm ² ; gray	www.wago.com/857-304
Mounting		
	Item no.: 249-116 Screwless end stop; 6 mm wide; for DIN-rail 35 x 15 and 35 x 7.5; gray	www.wago.com/249-116
	Item no.: 249-117 Screwless end stop; 10 mm wide; for DIN-rail 35 x 15 and 35 x 7.5; gray	www.wago.com/249-117
	Item no.: 249-197 Screwless end stop; 14 mm wide; for DIN-rail 35 x 15 and 35 x 7.5; gray	www.wago.com/249-197
Jumpers		
	Item no.: 281-482 Jumper; insulated; gray	www.wago.com/281-482
	Item no.: 859-402 Push-in type jumper bar; Light gray; Insulated; 18 A; 2-position	www.wago.com/859-402
	Item no.: 859-402/000-005 Jumper; for jumper slot; 2-way; insulated; red	www.wago.com/859-402/000-005
	Item no.: 859-402/000-006 Jumper; for jumper slot; 2-way; insulated; blue	www.wago.com/859-402/000-006
	Item no.: 859-402/000-029 Jumper; for jumper slot; 2-way; insulated; yellow	www.wago.com/859-402/000-029
Testing accessories		
	Item no.: 735-500 Test pin; 1 mm Ø; with solder connection for test wire	www.wago.com/735-500
Power supplies		
	Item no.: 787-2852 EPSITRON® / JUMPFLEX® power supply; single-phase; 24 VDC; 1 A	www.wago.com/787-2852
Clamps		
	Item no.: 857-979 JUMPFLEX® supply and through module	www.wago.com/857-979

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Marking accessories

	Item no.: 2009-110 Marking strips; for Smart Printer; on reel; not stretchable; plain; snap-on type; white	www.wago.com/2009-110
	Item no.: 2009-115 WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white	www.wago.com/2009-115
	Item no.: 2009-141 Micro-WSB-Inline; 2000 pieces on roll; plain; snap-on type; white	www.wago.com/2009-141
	Item no.: 793-501 WMB marking card; as card; not stretchable; plain; snap-on type; white	www.wago.com/793-501
	Item no.: 793-502 WMB marking card; as card; MARKED; 1 ... 10 (10x); not stretchable; Horizontal marking; snap-on type; white	www.wago.com/793-502
	Item no.: 793-503 WMB marking card; as card; MARKED; 11 ... 20 (10x); not stretchable; Horizontal marking; snap-on type; white	www.wago.com/793-503
	Item no.: 793-504 WMB marking card; as card; MARKED; 21 ... 30 (10x); not stretchable; Horizontal marking; snap-on type; white	www.wago.com/793-504
	Item no.: 793-505 WMB marking card; as card; MARKED; 31 ... 40 (10x); not stretchable; Horizontal marking; snap-on type; white	www.wago.com/793-505
	Item no.: 793-506 WMB marking card; as card; MARKED; 41 ... 50 (10x); not stretchable; Horizontal marking; snap-on type; white	www.wago.com/793-506
	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	www.wago.com/793-5501
	Item no.: 793-566 WMB marking card; as card; MARKED; 1 ... 50 (2x); not stretchable; Horizontal marking; snap-on type; white	www.wago.com/793-566

Tools

	Item no.: 210-720 Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; multicoloured	www.wago.com/210-720
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Cables and pluggable connectors

	Item no.: 750-923 Configuration cable; USB connector; Length: 2.5 m	www.wago.com/750-923
	Item no.: 750-923/000-001 Configuration cable; USB connector; Length: 5 m	www.wago.com/750-923/000-001

Downloads

Documentation

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Instruction Leaflet

Single-Phase Power Signal Conditioner; Current and voltage input signal	V 2.0.0 Sep 30, 2020	pdf 3.1 MB	Download
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Additional Information

Disposal; Electrical and electronic equipment, Packaging	V 1.0.0	pdf 265.8 kB	Download
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Environmental Product Compliance

Compliance Search

Environmental Product Compliance 2857-569	URL	Download
Single-Phase Power Signal Conditioner; Current and voltage input signal; Current and voltage output signal; Digital output; Configuration via software; Supply voltage: 24 VDC		

Installation Notes

Configuration



Configuration via WAGO Interface
Configuration Software



Configuration via WAGO Configuration
Display

Conductor termination

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Pluggable connection technology



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

Safety



Lock-out seal option

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