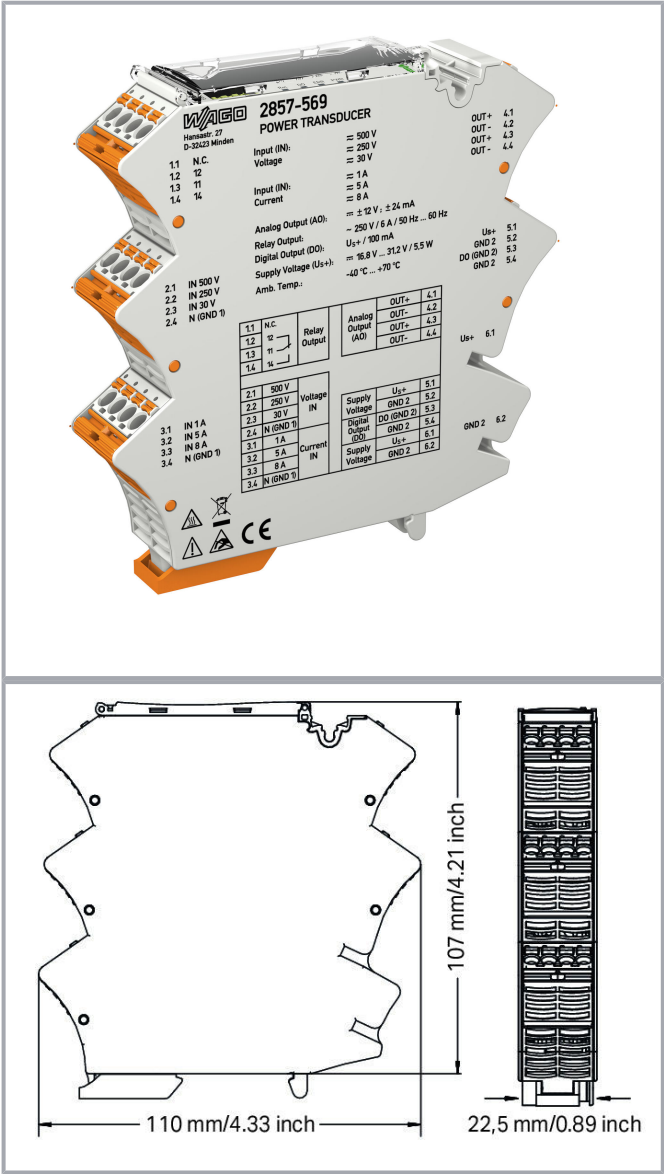


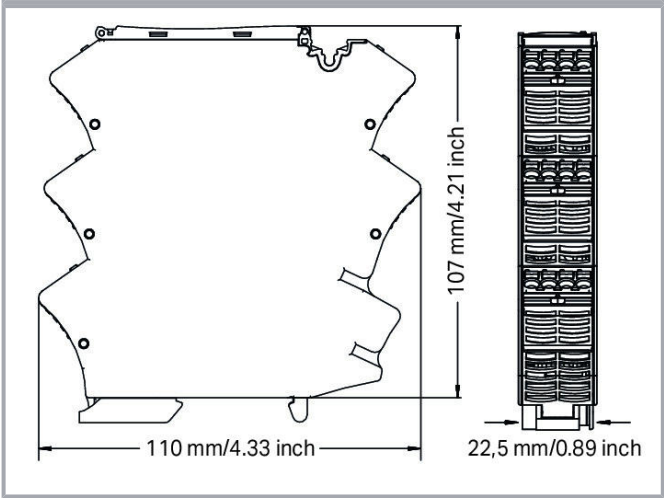
Data sheet | Item number: 2857-569

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	Supply Voltage	U _s +	6.1
3.2	5 A			GND 2	6.2
3.3	8 A				
3.4	N (GND 1)				



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

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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 (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.)	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/switchover 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)
--------------------	-----------------------------

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



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)	Basic insulation; Electrical isolation

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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)	Functional insulation
Insulation type (input/supply, analog output/relay output)	Functional insulation Functional insulation 500 V

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
---------------	-------------

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

PU (SPU)	1 Stück
Packaging type	bag
Country of origin	DE
GTIN	4055143907323
Customs tariff number	85437090300

Approvals / Certificates

UL-Approvals

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

Optional accessories

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;	www.wago.com/793-502

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white

Item no.: 793-503WMB marking card; as card; MARKED; 11 ... 20 (10x); not stretchable; Horizontal marking; snap-on type; www.wago.com/793-503
white**Item no.: 793-504**WMB marking card; as card; MARKED; 21 ... 30 (10x); not stretchable; Horizontal marking; snap-on type; www.wago.com/793-504
white**Item no.: 793-505**WMB marking card; as card; MARKED; 31 ... 40 (10x); not stretchable; Horizontal marking; snap-on type; www.wago.com/793-505
white**Item no.: 793-506**WMB marking card; as card; MARKED; 41 ... 50 (10x); not stretchable; Horizontal marking; snap-on type; www.wago.com/793-506
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; 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; www.wago.com/793-566
white**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**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**Jumpers****Item no.: 281-482**

Jumper; insulated; gray

www.wago.com/281-482**Item no.: 859-402**

Jumper; for jumper slot; 2-way; insulated; light gray

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

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**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**Tool****Item no.: 210-720**

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

www.wago.com/210-720**General accessories****Item no.: 2857-900**

Configuration display

www.wago.com/2857-900**Item no.: 855-8001**

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

www.wago.com/855-8001**Item no.: 855-8002**

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

www.wago.com/855-8002**Item no.: 855-8003**

Power tap; with fuse; 10 mm² (8 AWG) - 16 mm² (6 AWG); Phase

www.wago.com/855-8003**Item no.: 855-8004**

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

www.wago.com/855-8004**Item no.: 855-8006**

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 mm²; gray

www.wago.com/857-304**Terminal blocks****Item no.: 857-979**

Supply and through module

www.wago.com/857-979**Power supplies****Item no.: 787-2852**

Switched-mode power supply; 1-phase; 24 VDC output voltage; 1 A output current; -

www.wago.com/787-2852**Testing and measuring****Item no.: 735-500**

Test pin; 1 mm Ø; with solder connection for test wire

www.wago.com/735-500

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

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Downloads
Documentation
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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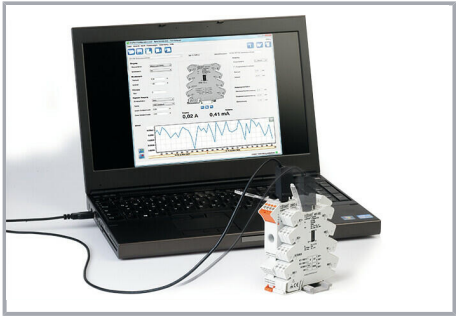
Environmental Product Compliance

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



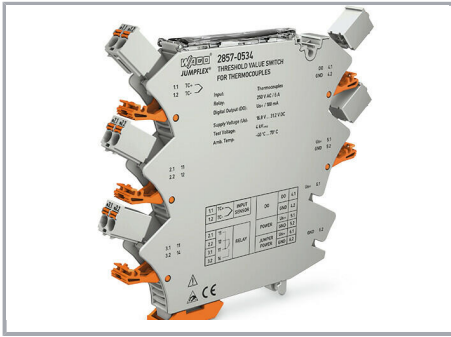
Configuration via WAGO Interface Configuration Software



Configuration via WAGO Configuration Display

Conductor termination

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

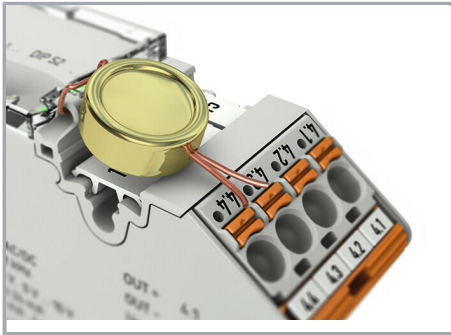


Pluggable connection technology



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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