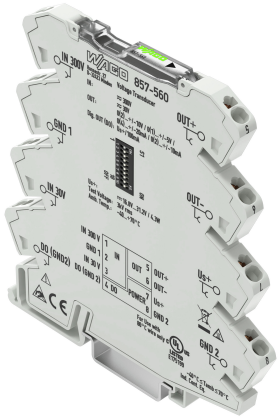
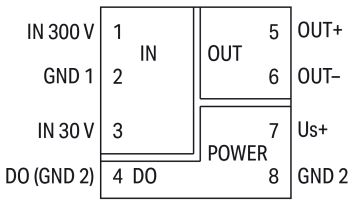
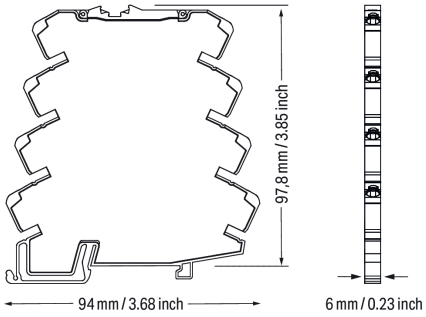
Data Sheet | Item Number: 857-560

Voltage signal conditioner; Voltage input signal; Current and voltage output signal; Digital output; Configuration via software; Supply voltage: 24 VDC; 6 mm module width

https://www.wago.com/857-560







857-560

DIP Switch Adjustability

• = ON | Default

DIP Switch S1

1	2	Input	3	Measurement Method	4	Filter
		300 V		Effective value (RMS)		off
	•	150 V	•	Arithmetic mean value (bipolar output)	•	active
•		30 V				
•	•	15 V				

DIP Switch S1

5	6	7	Output Signal Range (Bipolar for Arithmetic Mean Value)
			(+/-) 0 ... 20 mA
	•		4 ... 20 mA
•			(+/-) 0 ... 10 V
•	•		2 ... 10 V
		•	(+/-) 0 ... 10 mA
	•	•	2 ... 10 mA
•		•	(+/-) 0 ... 5 V
•	•	•	1 ... 5 V

DIP Switch S1

8	9	Measurement Range Underflow	Measurement Range Overflow	10	Digital Output DO/ Signaling
		Lower limit of measurement range -5 %*	Upper limit of measurement range +2.5 %*		DO, V + switching
•		Lower limit of measurement range	Upper limit of measurement range +2.5 %	•	DO GND switching
	•	Lower limit of measurement range	Upper limit of measurement range		
•	•	Lower limit of measurement range -5 %	Upper limit of measurement range +5 %		

*acc. to NAMUR NE 43

Filter
The filter function allows a low-pass filter to be switched on in order to mask or "smooth out" oscillating measured values (e.g., during trailing edge flows).

Digital Output DO/Signaling
The digital output (DO) signals error messages and can be configured as follows: 24 V → 0 V/0 V → 24 V.

Short description:

WAGO's voltage signal conditioner measures AC/DC voltages up to 300 V, converting the input signal into a standard analog signal at the output.

Features:

- Two isolated measurement inputs for 30 and 300 V AC/DC
- RMS measurement or arithmetic mean value
- A digital signal output reacts to configured measurement range limits (on/off switching delay and threshold value switch function can be configured with up to two threshold values).
- Switchable filter function
- 3-way electrical isolation with 2.5 kV test voltage

Technical data

Configuration

Configuration options	DIP switch WAGO Interface Configuration Software

Input

Input signal type	Voltage
Input signal (voltage)	300 V AC/DC (IN 1) 30 V AC/DC (IN 2)
Measurement frequency	10 … 100 Hz (AC)
Frequency range	10 … 100 Hz (AC)
Input resistance (voltage input)	≥ 300 kΩ
Response threshold	300 mV (IN 1); 30 mV (IN 2)

Input

Resolution (voltage)	30 mV (IN 1) 3 mV (IN 2)

Output (analog)

Output signal type	Current Voltage
Output signal (voltage)	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V (invertible, also bipolar)
Output signal (current)	0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA (invertable, also bipolar)
Load impedance (voltage output)	≥ 1 kΩ
Load impedance (current output)	≤ 600 Ω

Output (digital)

Switching voltage (DO) max.	Supply voltage applied
Continuous current (DO) max.	100 mA (no internal restriction)
Number of switching thresholds (DO)	1 or 2 (adjustable)
Configurable rise/fall delay time (DO)	0 … 60 s (via software)

Signal Processing

Measurement method	RMS measurement; Arithmetic mean value
Limit frequency	2 kHz
Software filter (adjustable)	Moving average value (filter level: 30)
Step response (typ.)	30 ms

Measurement Error

Transmission error (max.)	≤ 0.5 % (of the full scale value)
Temperature coefficient	≤ 0.01 %/K

Power Supply

Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 46 mA (+ I_{DO})

Safety and protection

Rated Voltage	300 V; 150 V (UL)
Measurement category per EN/UL 61010-2-030	CAT II (input)
Note on insulation parameters	**Danger:** Configuration via the service interface must only be performed with a voltage-free measurement input! The digital output (DO) operates at the supply potential.
Protection type	IP20

Test voltage

Test voltage (input/analog output/supply/service interface)	2.5 kVAC; 50 … 60 Hz; 1 min

Insulation coordination (UL)

Overvoltage category	II
Pollution degree	2
Insulation type (input/analog output/supply/service interface)	Reinforced insulation (safe isolation)

Insulation coordination

Overvoltage category	II
Pollution degree	2
Insulation type (input/analog output/supply/service interface)	Double insulation (impedance and basic insulation); Requirement: The GND 1 input must not become hazardous when active and the measurement is performed as a low-side measurement!

Continued on next page

Connection Data

Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches

Physical data

Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches

Mechanical data

Mounting type	DIN-35 rail

Material data

Insulation material (main housing)	Polyamide (PA66)
Flammability class per UL94	V0
Fire load	0.013 MJ
Weight	34 g

Environmental requirements

Ambient temperature (operation)	-40 … +70 °C (at nominal current)
Ambient temperature (storage)	-40 … +85 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 10 K)
Temperature range of the connection cable (UL)	80 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m

Standards and Specifications

Conformity marking	CE
EMC immunity to interference	EN 61000-6-2; EN 61326-2-3; EN 50121-3-2
EMC emission of interference	EN 61000-6-3; EN 61326-2-3; EN 50121-3-2
Standards/specifications	EN 61010-1 EN 61373 EN 50121-3-2

Commercial data

PU (SPU)	1 pcs
Packaging type	Bag
Country of origin	DE
GTIN	4055143481571
Customs tariff number	85437090300

Continued on next page

Product Classification

UNSPSC	41113630
eCl@ss 10.0	27-21-01-25
eCl@ss 9.0	27-21-01-25
ETIM 9.0	EC002477
ETIM 10.0	EC002477
ECCN	NO US CLASSIFICATION

Environmental Product Compliance

CAS-No.	11120-22-2 1303-86-2 1317-36-8 7439-92-1 75980-60-8
REACH Candidate List Substance	Diboron trioxide Lead Lead monoxide Lead silicate 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)	e39ffb15-f554-4816-a577-82f294898011
SCIP notification number (Belgium)	4e3c29de-9839-4487-8450-21e290cce428
SCIP notification number (Bulgaria)	a62309da-6e93-49d0-9ca6-31ee2cbbee05
SCIP notification number (Czech Republic)	4e179792-6d82-43e7-a0bc-61c1bbf5190b
SCIP notification number (Denmark)	d9e51cec-dd28-4094-8511-04bde8b72d54
SCIP notification number (Finland)	bfe296bd-7c71-4597-9172-90001c8c8f8c
SCIP notification number (France)	396a94fe-cc62-47b3-ae66-2fa168881435
SCIP notification number (Germany)	fbcf3bd8-1c98-48b5-a7db-5e8e81acb7f1
SCIP notification number (Hungary)	2b23d5cf-8881-40dc-b708-8ad82f781d25
SCIP notification number (Italy)	a6a805df-791f-45bb-b670-7af08d995145
SCIP notification number (Netherlands)	9cd592c7-c51d-4742-a863-2d13dd0e889c
SCIP notification number (Poland)	2b299cf8-7127-49b5-ba48-13995ec4bfb6
SCIP notification number (Romania)	d8ac266d-97e5-40de-a3e4-c13eda02beb5
SCIP notification number (Sweden)	02e70fdd-434e-4d94-91a6-1e9375b034c3

Approvals / Certificates

General approvals

Approval	Standard	Certificate Name
EAC GZO Almaty Standart	TP TC 004/2011	EAC CoC 03078
EAC GZO Almaty Standart	TP TC 020/2011	EAC CoC 03081
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	-	-

 Continued on next page

Downloads

Environmental Product Compliance

Compliance Search

Environmental Product Compliance 857-560

Documentation

Manual

WAGO Current and Voltage Signal Conditioners and Power Measurement Modules

Bid Text

857-560	17.07.2019	xml 7.35 KB
857-560	17.07.2019	docx 19.16 KB
857-560	17.07.2019	pdf 77.36 KB

Instruction Leaflet

Signal conditioner; voltage; configurable; with digital output	V 2.0.0 29.09.2020	pdf 2397.31 KB

CAD/CAE-Data

CAD data

2D/3D Models 857-560

CAE data

EPLAN Data Portal 857-560

WSCAD Universe 857-560

ZUKEN Portal 857-560

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

1.1.3 Interface module

1.1.3.1 Interface adapters

Item No.: 857-980
Interface adapter; 16-pole; analog

1.1.4 Jumper

1.1.4.1 Jumper

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

Item No.: 859-410/000-006
Jumper; for jumper slot; 10-way; insulated; blue

Item No.: 859-410
Jumper; for jumper slot; 10-way; insulated; light gray

Item No.: 859-410/000-005
Jumper; for jumper slot; 10-way; insulated; red

Item No.: 859-410/000-029
Jumper; for jumper slot; 10-way; insulated; yellow

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

Item No.: 859-403/000-006
Jumper; for jumper slot; 3-way; insulated; blue

Item No.: 859-403
Jumper; for jumper slot; 3-way; insulated; light gray

Item No.: 859-403/000-005
Jumper; for jumper slot; 3-way; insulated; red

Item No.: 859-403/000-029
Jumper; for jumper slot; 3-way; insulated; yellow

Item No.: 859-404/000-006
Jumper; for jumper slot; 4-way; insulated; blue

Item No.: 859-404
Jumper; for jumper slot; 4-way; insulated; light gray

Item No.: 859-404/000-005
Jumper; for jumper slot; 4-way; insulated; red

Item No.: 859-404/000-029
Jumper; for jumper slot; 4-way; insulated; yellow

Item No.: 859-405/000-006
Jumper; for jumper slot; 5-way; insulated; blue

Item No.: 859-405
Jumper; for jumper slot; 5-way; insulated; light gray

Item No.: 859-405/000-005
Jumper; for jumper slot; 5-way; insulated; red

Item No.: 859-405/000-029
Jumper; for jumper slot; 5-way; insulated; yellow

Item No.: 859-406/000-006
Jumper; for jumper slot; 6-way; insulated; blue

Item No.: 859-406
Jumper; for jumper slot; 6-way; insulated; light gray

Item No.: 859-406/000-005
Jumper; for jumper slot; 6-way; insulated; red

Item No.: 859-406/000-029
Jumper; for jumper slot; 6-way; insulated; yellow

Item No.: 859-407/000-006
Jumper; for jumper slot; 7-way; insulated; blue

Item No.: 859-407
Jumper; for jumper slot; 7-way; insulated; light gray

Item No.: 859-407/000-005
Jumper; for jumper slot; 7-way; insulated; red

Item No.: 859-407/000-029
Jumper; for jumper slot; 7-way; insulated; yellow

Item No.: 859-408/000-006
Jumper; for jumper slot; 8-way; insulated; blue

Item No.: 859-408
Jumper; for jumper slot; 8-way; insulated; light gray

Item No.: 859-408/000-005
Jumper; for jumper slot; 8-way; insulated; red

Item No.: 859-408/000-029
Jumper; for jumper slot; 8-way; insulated; yellow

Item No.: 859-409/000-006
Jumper; for jumper slot; 9-way; insulated; blue

Item No.: 859-409
Jumper; for jumper slot; 9-way; insulated; light gray

Item No.: 859-409/000-005
Jumper; for jumper slot; 9-way; insulated; red

Item No.: 859-409/000-029
Jumper; for jumper slot; 9-way; insulated; yellow

1.1.5 Marking

1.1.5.1 Marker

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

1.1.5.2 Marking strip

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

1.1.6 Power supply

1.1.6.1 Power Supply

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

1.1.7 Power tap

1.1.7.1 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

 Continued on next page

1.1.8 Relay module

1.1.8.1 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

1.1.9 Screwless end stop

1.1.9.1 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

1.1.10 Terminal blocks

1.1.10.1 Supply module

Item No.: 857-979
Supply and through module

1.1.10.2 Through terminal block

Item No.: 857-979
Supply and through module

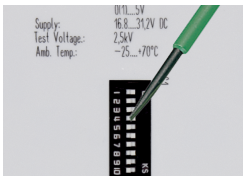
1.1.11 Tool

1.1.11.1 Operating tool

Item No.: 210-720
Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; multicoloured

Installation Notes

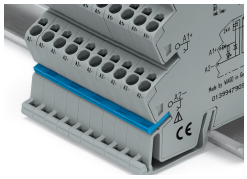
Configuring



Configuration via DIP switch

Configuration via WAGO Interface Configuration Software

Commoning



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