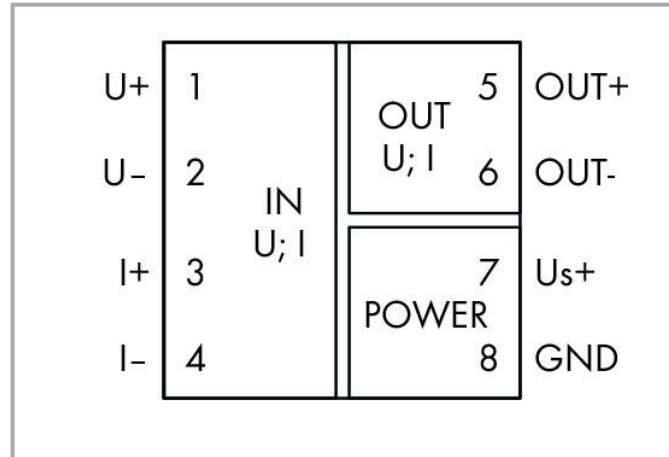


www.wago.com/857-409



857-009

DIP Switch Adjustability

☐ ON

☒ Default

DIP Switch S1 (4-fold)				DIP Switch S2 (6-fold)				Max. Operating Frequency
Input Signal				Output Signal				
1	2	3	4	1	2	3	4	
•	•		±20 mA		•		±20 mA	5 kHz
•	•		±10 mA		•		±10 mA	100 Hz
•	•		±10 V	•	•		±10 V	
•	•		±5 V	•	•	•	±5 V	
			0 ... 20 mA				0 ... 20 mA	
	•		4 ... 20 mA			•	4 ... 20 mA	
			0 ... 10 mA			•	0 ... 10 mA	
	•		2 ... 10 mA			•	2 ... 10 mA	
			0 ... 10 V	•	•		0 ... 10 V	
	•		2 ... 10 V	•	•	•	2 ... 10 V	
	•		0 ... 5 V	•	•	•	0 ... 5 V	
	•	•	1 ... 5 V	•	•	•	1 ... 5 V	

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Item description

Short description:

WAGO's bipolar signal conditioner converts standard unipolar/bipolar signals, as well as amplifies, filters and electrically isolates the bipolar standard analog signals.

Features:

- Overload protection of current input via resettable fuse
- Zero/span adjustment across the entire measurement range
- Calibrated measurement range switching
- Unipolar/bipolar standard analog signals at both input/output
- Switchable limit frequency

Data

Notes

Safety information	Input and output must be safely isolated from any hazardous live parts!
Note	Use shielded signal lines! Only use shielded signal lines for analog input and output signals. Only then can you ensure that the accuracy and interference immunity specified for the device can be achieved, even in the presence of interference acting on the signal cable. Use in the living area is only permitted in conjunction with a power supply that meets the criteria of the living area according to EN 61000-6-3.

Technical data

Configuration

Configuration options	DIP switch Potentiometer
-----------------------	-----------------------------

Input

Input signal type	Voltage Current
Input signal (voltage)	±5 V; 0 ... 5 V; 1 ... 5 V; ±10 V; 0 ... 10 V; 2 ... 10 V
Input signal (current)	±10 mA; 0 ... 10 mA; 2 ... 10 mA; ±20 mA; 0 ... 20 mA; 4 ... 20 mA
Input resistance (current input)	≤ 50 Ω

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

WAGO GmbH & Co. KG
Hansastr. 27
32423 Minden
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Input resistance (voltage input)	1 M Ω
Input current (max.)	50 mA
Input voltage (max.)	32 V
Zero/span adjustment	± 5 % of upper-range value

Output (analog)

Output signal type	Current Voltage
Output signal (voltage)	± 5 V; 0 ... 5 V; 1 ... 5 V; ± 10 V; 0 ... 10 V; 2 ... 10 V
Output signal (current)	± 10 mA; 0 ... 10 mA; 2 ... 10 mA; ± 20 mA; 0 ... 20 mA; 4 ... 20 mA
Load impedance (voltage output)	≥ 2 k Ω
Load impedance (current output)	≤ 600 Ω
Residual ripple	≤ 10 mV (rms)

Signal processing

Limit frequency	100 Hz / 5 kHz (configurable via DIP switch)
Step response (typ.)	3.5 ms (100 Hz); 68 μ s (5 kHz)

Measurement error

Transmission error (typ.)	≤ 0.1 % of upper-range value
Transmission error (max.)	≤ 0.2 % of upper-range value
Transmission error (under interference)	≤ 15 %
Temperature coefficient	≤ 0.01 %/K

Power supply

Power supply type	24 VDC (SELV)
Nominal supply voltage U_S	DC 24 V
Supply voltage range	± 30 %
Current consumption (default)	≤ 20 mA
Current consumption (max.)	≤ 40 mA

Safety and protection

Rated voltage	300 V
Protection type	IP20

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



Test voltage

Test voltage (input/output/supply)	AC 3 kV; 50 Hz; 1 min
------------------------------------	-----------------------

Insulation coordination

Overvoltage category	II
Pollution degree	2
Insulation type (input/analog output/supply)	Functional insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)

Connection data

Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 14 AWG
Fine-stranded conductor	0.34 ... 2.5 mm ² / 22 ... 14 AWG
Strip length	9 ... 10 mm / 0.35 ... 0.39 inches
Cable type	Shielded cable

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	Polyamide (PA66)
Flammability class per UL94	V0
Fire load	0.543 MJ
Weight	38.4 g

Environmental requirements

Ambient temperature (operation)	-25 ... +70 °C
Ambient temperature (storage)	-40 ... +85 °C
Processing temperature	-25 ... +50 °C

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

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Temperature range of connection cable	$\geq (T_{\text{ambient}} + 10 \text{ K})$
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
EMC emission of interference	EN 61000-6-3
Standards/specifications	EN 61010-1 EN 61373 DNV DNV EN 61373

Commercial data

Product Group	6 (INTERFACE ELECTRONIC)
eCl@ss 10.0	27-21-01-20
eCl@ss 9.0	27-21-01-20
ETIM 8.0	EC002653
ETIM 7.0	EC002653
Recupel Type	
ECCN	NO DATA
PU (SPU)	1 pcs
Packaging type	bag
Country of origin	DE
GTIN	4045454828493
Customs tariff number	85437090300

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 Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-
RoHS Compliance Status	Compliant, With Exemption
RoHS Exemption	6(c)

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

	7(a) 7(c)-I 7(c)-II
SCIP notification number (Austria)	3045ef60-f28a-43e4-9dba-b63435d5553d
SCIP notification number (Belgium)	8f1d744b-8731-4270-a640-73cf63782d7f
SCIP notification number (Bulgaria)	74cd0cd4-d3cc-4fa9-ac76-5a1ca5bb11a1
SCIP notification number (Czech Republic)	0689176b-e48c-48ed-859f-591c9a9bb606
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SCIP notification number (Poland)	62fe04e8-fd16-49c4-be93-f76f40eef9e0
SCIP notification number (Romania)	01c54ad8-3056-427f-8fc0-0b8e8c12d949
SCIP notification number (Sweden)	4527d706-aff0-40c4-95f8-d5d44d48a189

Approvals / Certificates

General approvals

Logo	Approval	Additional Approval Text	Certificate name
	EAC GZO Almaty Standart	TP TC 020/2011	EAC CoC 03081
	UL Underwriters Laboratories Inc. (ORDINARY LOCATIONS)	UL 508	E175199 Sec.4

Declarations of conformity and manufacturer's declarations

Logo	Approval	Additional Approval Text	Certificate name
	EU-Declaration of Conformity WAGO GmbH & Co. KG	-	-
	UK-Declaration of Conformity WAGO GmbH & Co. KG	-	-

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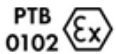
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Hansastr. 27
32423 Minden
Phone: +49571 887-0 | Fax: +49571 887-169
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Approvals for marine applications

Logo	Approval	Additional Approval Text	Certificate name
	BV Bureau Veritas S.A.	Rules for class. of Steel Ships	40179_B0
	DNV DNV Germany GmbH	DNV-CG-0339, Aug. 2021	TAA00001D1
	PRS Polski Rejestr Statków	-	TE/1098 /880590/23

Approvals for hazardous areas

Logo	Approval	Additional Approval Text	Certificate name
	ATEX TUEV Nord Cert GmbH	EN 60079-0	TUEV14ATEX112692X (II 3G Ex ec IIC T4 Gc)
	CCC CNEX	CNCA-C23-01	2020312310000210 (Ex ec IIC T4 Gc)
	IECEx TUEV Nord Cert GmbH	-	IECEX TUN14.0030X
	UKEx WAGO GmbH & Co. KG	EN 60079-0	WAGO22UKEX004X
	UL Underwriters Laboratories Inc. (HAZARDOUS LOCATIONS)	ANSI/ISA 12.12.01	E198726

Optional accessories

Power supplies

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Power supply unit

**Item no.: 787-2852**

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

www.wago.com/787-2852

Interface module

Interface adapters

**Item no.: 857-980**

Interface adapter; 16-pole; analog

www.wago.com/857-980

Marking accessories

Marking strip

**Item no.: 2009-110**

Marking strips; for Smart Printer; on reel; not stretchable; plain; snap-on type; white

www.wago.com/2009-110

Marker

**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.: 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.: 793-566**

WMB marking card; as card; MARKED; 1 ... 50 (2x); not stretchable; Horizontal marking; snap-on type; white

www.wago.com/793-566**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

Terminal blocks

Supply module

**Item no.: 857-979**

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Supply and through module

www.wago.com/857-979

Jumpers

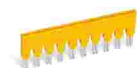
Jumper

	Item no.: 859-408 Jumper; for jumper slot; 8-way; insulated; light gray	www.wago.com/859-408
	Item no.: 281-482 Jumper; 2-way; insulated; gray	www.wago.com/281-482
	Item no.: 859-404/000-005 Jumper; for jumper slot; 4-way; insulated; red	www.wago.com/859-404/000-005
	Item no.: 859-404/000-006 Jumper; for jumper slot; 4-way; insulated; blue	www.wago.com/859-404/000-006
	Item no.: 859-405/000-005 Jumper; for jumper slot; 5-way; insulated; red	www.wago.com/859-405/000-005
	Item no.: 859-405/000-029 Jumper; for jumper slot; 5-way; insulated; yellow	www.wago.com/859-405/000-029
	Item no.: 859-405 Jumper; for jumper slot; 5-way; insulated; light gray	www.wago.com/859-405
	Item no.: 859-404/000-029 Jumper; for jumper slot; 4-way; insulated; yellow	www.wago.com/859-404/000-029
	Item no.: 859-405/000-006 Jumper; for jumper slot; 5-way; insulated; blue	www.wago.com/859-405/000-006
	Item no.: 859-406/000-005 Jumper; for jumper slot; 6-way; insulated; red	www.wago.com/859-406/000-005
	Item no.: 859-409/000-029 Jumper; for jumper slot; 9-way; insulated; yellow	www.wago.com/859-409/000-029
	Item no.: 859-410/000-005 Jumper; for jumper slot; 10-way; insulated; red	www.wago.com/859-410/000-005

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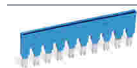
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**Item no.: 859-410/000-029**

Jumper; for jumper slot; 10-way; insulated; yellow

www.wago.com/859-410/000-029**Item no.: 859-410**

Jumper; for jumper slot; 10-way; insulated; light gray

www.wago.com/859-410**Item no.: 859-410/000-006**

Jumper; for jumper slot; 10-way; insulated; blue

www.wago.com/859-410/000-006**Item no.: 859-403/000-005**

Jumper; for jumper slot; 3-way; insulated; red

www.wago.com/859-403/000-005**Item no.: 859-402/000-029**

Jumper; for jumper slot; 2-way; insulated; yellow

www.wago.com/859-402/000-029**Item no.: 859-403/000-029**

Jumper; for jumper slot; 3-way; insulated; yellow

www.wago.com/859-403/000-029**Item no.: 859-403/000-006**

Jumper; for jumper slot; 3-way; insulated; blue

www.wago.com/859-403/000-006**Item no.: 859-408/000-005**

Jumper; for jumper slot; 8-way; insulated; red

www.wago.com/859-408/000-005**Item no.: 859-408/000-029**

Jumper; for jumper slot; 8-way; insulated; yellow

www.wago.com/859-408/000-029**Item no.: 859-409**

Jumper; for jumper slot; 9-way; insulated; light gray

www.wago.com/859-409**Item no.: 859-408/000-006**

Jumper; for jumper slot; 8-way; insulated; blue

www.wago.com/859-408/000-006**Item no.: 859-403**

Jumper; for jumper slot; 3-way; insulated; light gray

www.wago.com/859-403**Item no.: 859-409/000-005**

Jumper; for jumper slot; 9-way; insulated; red

www.wago.com/859-409/000-005**Item no.: 859-404**

Jumper; for jumper slot; 4-way; insulated; light gray

www.wago.com/859-404

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

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Item no.: 859-409/000-006

Jumper; for jumper slot; 9-way; insulated; blue

www.wago.com/859-409/000-006**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**

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**Item no.: 859-406/000-006**

Jumper; for jumper slot; 6-way; insulated; blue

www.wago.com/859-406/000-006**Item no.: 859-406/000-029**

Jumper; for jumper slot; 6-way; insulated; signal yellow

www.wago.com/859-406/000-029**Item no.: 859-407/000-006**

Jumper; for jumper slot; 7-way; insulated; blue

www.wago.com/859-407/000-006**Item no.: 859-407/000-005**

Jumper; for jumper slot; 7-way; insulated; red

www.wago.com/859-407/000-005**Item no.: 859-407/000-029**

Jumper; for jumper slot; 7-way; insulated; yellow

www.wago.com/859-407/000-029**Item no.: 859-407**

Jumper; for jumper slot; 7-way; insulated; light gray

www.wago.com/859-407**Mounting**

Mounting accessories

**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

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

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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

Tool

Operating 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

Downloads
Documentation

Manual

WAGO Isolating Amplifiers	URL	Download
HTML		

Bid Text

857-409	18 июл. 2019 г.	xml	Download
X81 - Datei		6.3 kB	
857-409	18 июл. 2019 г.	docx	Download
docx - Datei		18.9 kB	
857-409	18 июл. 2019 г.	pdf	Download
pdf - Datei		76.6 kB	

Instruction Leaflet

CCC Ex (Additional information)	26 апр. 2023 г.	pdf	Download
857-***		144.4 kB	
Trennverstärker; bipolares Strom- und Spannungseingangssignal; bipolares Strom- und Spannungsausgangssignal	V 2.1.0	pdf	Download
Zero-/Span-Abgleich; Konfiguration per DIP Schalter; Versorgungsspannung DC 24 V	7 апр. 2022 г.	2.2 MB	

Additional Information

Disposal and Recycling	V 1.1.0	pdf	Download
Electrical and electronic equipment, Batteries, Packaging	18 авг. 2022 г.	2.2 MB	

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CAD/CAE-Data

CAD data

2D/3D Models 857-409	URL	Download
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CAE data

EPLAN Data Portal 857-409	URL	Download
ZUKEN Portal 857-409	URL	Download
WSCAD Universe 857-409	URL	Download

Asset Administration Shell

Asset Administration Shell 857-409	URL	Download
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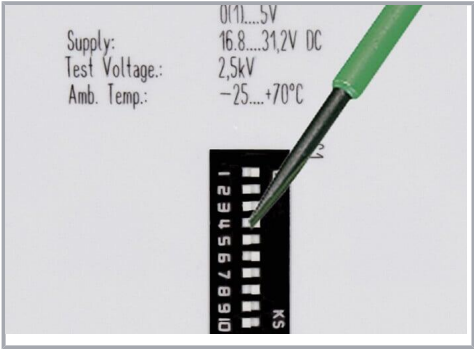
Environmental Product Compliance

Compliance Search

Environmental Product Compliance 857-409	URL	Download
Isolation amplifier; Bipolar current and voltage input signal; Bipolar current and voltage output signal; Zero/span adjustment; Configuration via DIP switch; Supply voltage: 24 VDC; 6 mm module width; 2,50 mm ²		

Installation Notes

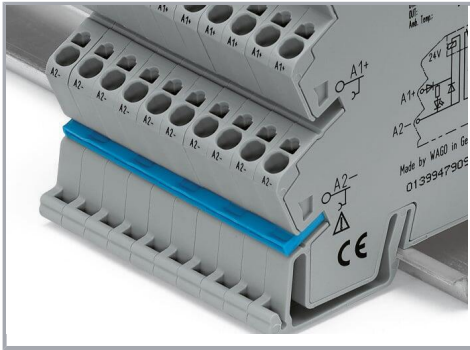
Configuring



Configuration via DIP switch

Commoning

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



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

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

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