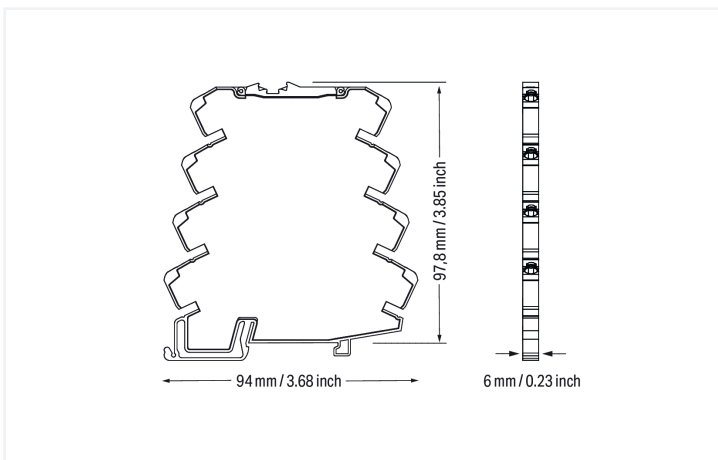
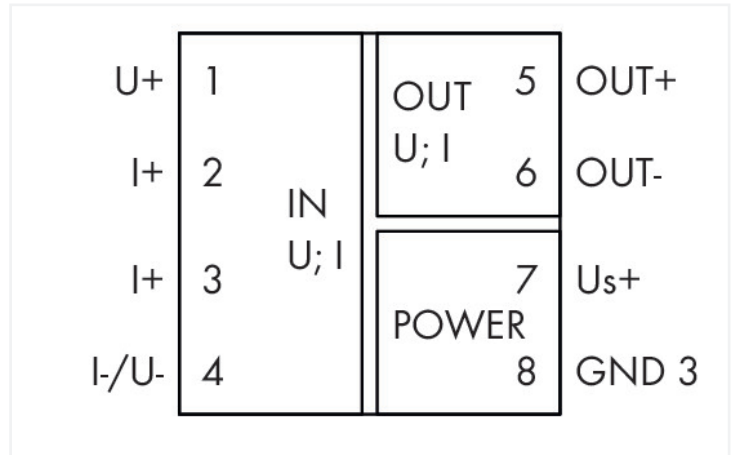
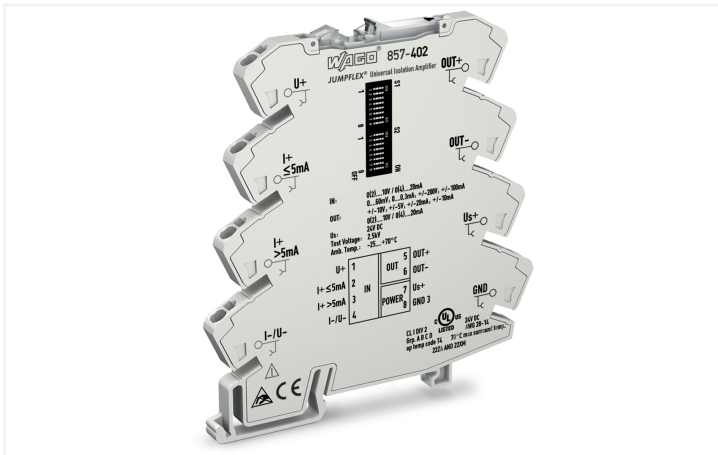


# Data Sheet | Item Number: 857-402

Isolation amplifier; Current and voltage input signal; Bipolar current and voltage output signal; Zero/span adjustment; Supply voltage: 24 VDC; 6 mm module width; 2,50 mm<sup>2</sup>

<https://www.wago.com/857-402>



857-402 DIP-Switch Adjustability									
DIP-Switch 1					DIP-Switch 2				
1	2	3	4	5	1	2	3	4	5
Input Signal Ranges	ZeroSpan Adjustment	Max. Operating Frequency	Clipping	Output Signal Ranges	Reverse	Clipping	Output Signal Ranges	Reverse	Clipping
0...80mV	Active	100 Hz	None	0...0.1mA	None	None	0...0.1mA	None	None
0...100mV				0.1...1mA			0.1...1mA		
0...150mV				0...5mA			0...5mA		
0...100mV				0...10mA			0...10mA		
0...150mV				0...20mA			0...20mA		
0...200mV				0...50mA			0...50mA		
0...500mV				0...100mA			0...100mA		
0...1000mV				0...200mA			0...200mA		
0...1V				0...500mA			0...500mA		
0...1.5V				0...1000mA			0...1000mA		
0...5V				0...100V			0...100V		
0...10V				0...200V			0...200V		
0...150V				0...1000V			0...1000V		
0...450V									
0...800V									
0...1000V									
0...1500V									
0...2000V									
0...3000V									
0...4000V									
0...5000V									
0...6000V									
0...7000V									
0...8000V									
0...9000V									
0...10000V									

## Short description:

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

## Features:

- Overload protection of current input via resettable fuse
- Zero/span adjustment across the entire measurement range (via push/slide switch)
- Calibrated measurement range switching for all 456 signals
- Unipolar/bipolar standard analog signals at both input/output
- Switchable limit frequency
- Clipping capability for analog signal limitation to output end values
- 3-way electrical isolation with 2.5 kV test voltage

## Technical data

### Configuration

Configuration options	DIP switch Push/slide switch
-----------------------	---------------------------------

### Input

Input signal type	Voltage Current
-------------------	--------------------

### Input

Input signal (voltage)	$\pm 60$ mV 0 ... 60 mV $\pm 100$ mV 0 ... 100 mV $\pm 150$ mV 0 ... 150 mV $\pm 300$ mV 0 ... 300 mV $\pm 500$ mV 0 ... 500 mV $\pm 1$ V 0 ... 1 V $\pm 5$ V 0 ... 5 V 1 ... 5 V $\pm 10$ V 0 ... 10 V 2 ... 10 V $\pm 100$ V 0 ... 100 V $\pm 200$ V 0 ... 200 V
------------------------	---

Input signal (current)	$\pm 0.3$ mA 0 ... 0.3 mA $\pm 1$ mA 0 ... 1 mA $\pm 5$ mA 0 ... 5 mA $\pm 10$ mA 0 ... 10 mA 2 ... 10 mA $\pm 20$ mA 0 ... 20 mA 4 ... 20 mA $\pm 50$ mA 0 ... 50 mA $\pm 100$ mA 0 ... 100 mA
------------------------	--

Input resistance (current input)	$10 \Omega$ ( $\geq 5$ mA) $100 \Omega$ ( $\leq 5$ mA)
----------------------------------	---

Input resistance (voltage input)	1 M $\Omega$
----------------------------------	--------------

Zero/span adjustment	adjustable via push/slide switch
----------------------	----------------------------------

### Output (analog)

Output signal type	Current Voltage
--------------------	--------------------

Output signal (voltage)	$\pm 5$ V 0 ... 5 V 1 ... 5 V $\pm 10$ V 0 ... 10 V 2 ... 10 V
-------------------------	---

Output signal (current)	$\pm 10$ mA 0 ... 10 mA 2 ... 10 mA $\pm 20$ mA 0 ... 20 mA 4 ... 20 mA
-------------------------	--

Load impedance (voltage output)	$\geq 2$ k $\Omega$
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Load impedance (current output)	$\leq 600 \Omega$
---------------------------------	-------------------

### Signal Processing

Limit frequency	100 Hz / 5 kHz (configurable via DIP switch)
Step response (typ.)	3.5 ms (100 Hz) 100 $\mu$ s (5 kHz)

### Measurement Error

Transmission error (typ.)	$\leq 0.08$ % of upper-range value
Temperature coefficient	$\leq 0.01$ %/K

### Power Supply

Power supply type	24 VDC
Nominal supply voltage $U_S$	24 VDC
Supply voltage range	$\pm 30$ %
Current consumption at nominal supply voltage	$\leq 40$ mA

### Safety and protection

Protection type	IP20
-----------------	------

### Test voltage

Test voltage (input/output/supply)	2.5 kVAC; 50 Hz; 1 min
------------------------------------	------------------------

### Connection Data

Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 ... 2.5 mm <sup>2</sup> / 28 ... 14 AWG
Fine-stranded conductor	0.34 ... 2.5 mm <sup>2</sup> / 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	0.598 MJ
Weight	38.4 g

### Environmental requirements

Ambient temperature (operation)	-25 ... +70 °C
Ambient temperature (storage)	-40 ... +85 °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
EMC emission of interference	EN 61000-6-4

### Commercial data

Product Group	6 (INTERFACE ELECTRONIC)
PU (SPU)	1 pcs
Packaging type	Bag
Country of origin	DE
GTIN	4050821099772
Customs tariff number	85437090300
End of Sale	2020-12-31
End of Production	2021-01-05
End of Delivery	2021-01-15
End of Service and Repair	2022-12-31

Product Classification	
UNSPSC	32101502
eCl@ss 10.0	27-21-01-20
eCl@ss 9.0	27-21-01-20
ETIM 9.0	EC002653
ETIM 10.0	EC002653
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)	7c1afd18-ec9f-445f-89e5-2cf8aee46324
SCIP notification number (Belgium)	1c4fd152-a24e-4953-96a9-cccb572085ea
SCIP notification number (Bulgaria)	5029fa79-5c8f-4625-8e02-572e2ceaa02f
SCIP notification number (Czech Republic)	7c44fd98-4a2a-44c5-bd3e-2d4f9c0ff9bc
SCIP notification number (Denmark)	a7fdb0a6-0fcb-4822-9ee5-6ed89c172248
SCIP notification number (Finland)	43a84fd9-4bbd-4a6c-bd04-a20b3f54a5d3
SCIP notification number (France)	d8cc2984-14b7-4b28-9094-12a453f5fbc5
SCIP notification number (Germany)	ab2b4551-fd12-4d0f-aeb0-3635c231f4f6
SCIP notification number (Hungary)	e946114a-c0e5-46e5-aa8a-47b2d61d243b
SCIP notification number (Italy)	c31b2c36-621d-43e2-95b7-ae6ed86d6463
SCIP notification number (Netherlands)	3b7c9966-02fe-4950-b941-aa69cb9a2782
SCIP notification number (Poland)	c33eab76-c36f-4773-8d6e-98d8ae65fee5
SCIP notification number (Romania)	adfe6f20-d011-4059-aefd-e82f1d5e6e9e
SCIP notification number (Sweden)	5507d526-041f-496d-a3ec-4e2ab74057ea

**Approvals / Certificates**

**General approvals**      **Declarations of conformity and manufacturer's declarations**



Approval	Standard	Certificate Name
UL Underwriters Laboratories Inc. (ORDINARY LOCATIONS)	UL 508	E175199 Sec.4

Approval	Standard	Certificate Name
EU-Declaration of Conformity WAGO GmbH & Co. KG	-	-

Approvals for hazardous areas



Approval	Standard	Certificate Name
UL Underwriters Laboratories Inc. (HAZARDOUS LOCATIONS)	ANSI/ISA 12.12.01	E198726

Downloads

Environmental Product Compliance

Compliance Search

Environmental Product Compliance 857-402	↓
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Documentation

Bid Text			
857-402	18.07.2019	xml 6.82 KB	↓
857-402	18.07.2019	docx 18.71 KB	↓
857-402	18.07.2019	pdf 75.55 KB	↓

Instruction Leaflet		
Messumformer und Trennverstärker	pdf 1747.71 KB	↓

CAD/CAE-Data

CAD data
2D/3D Models 857-402

CAE data
EPLAN Data Portal 857-402
WSCAD Universe 857-402
ZUKEN Portal 857-402

**1 Compatible Products**

**1.1 Optional Accessories**

**1.1.1 Installation**

**1.1.1.1 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

**1.1.2 Interface module**

**1.1.2.1 Interface adapters**



**Item No.: 857-980**

Interface adapter; 16-pole; analog

**1.1.3 Jumper**

**1.1.3.1 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

1.1.3.1 Jumper



**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; blue

**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

1.1.4 Marking

1.1.4.1 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

1.1.4.2 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 Terminal blocks

### 1.1.6.1 Supply and through module



Item No.: 857-979

Supply and through module

## 1.1.7 Tool

### 1.1.7.1 Operating tool

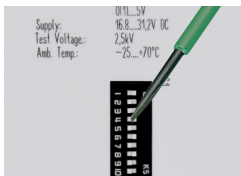


Item No.: 210-720

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

## Installation Notes

### Configuring

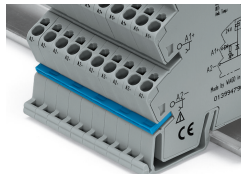


Configuration via DIP switch



Configuration via push/slide switch

### Commoning



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