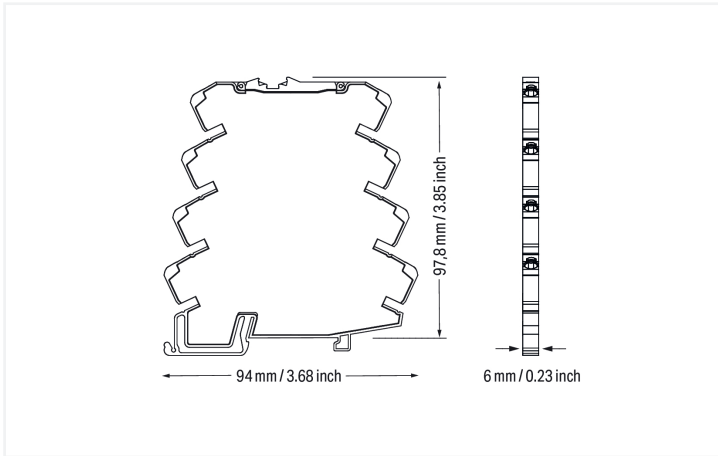
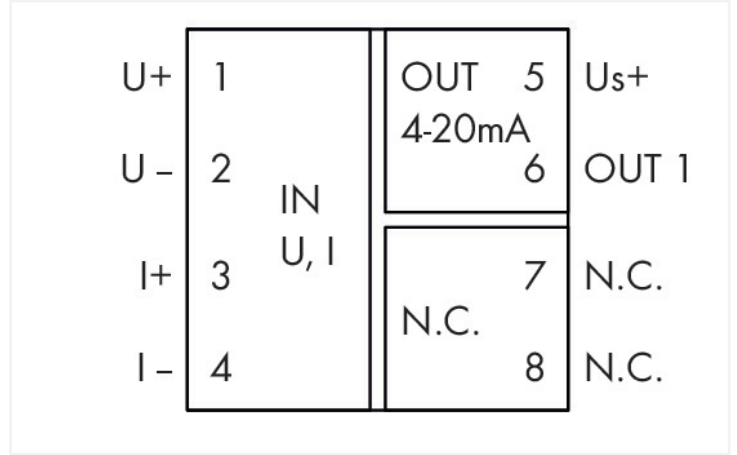
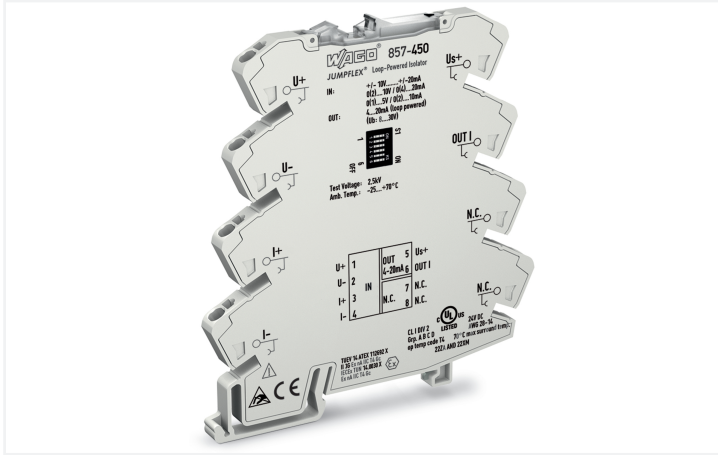


Data Sheet | Item Number: 857-450

Loop-powered isolation amplifier; Bipolar current and voltage input signal; Current output signal; Configuration via DIP switch; Power supply via output; 6 mm module width; 2,50 mm²



<https://www.wago.com/857-450>



857-450
DIP Switch Adjustability

= ON Default

DIP switch (6 positions)					Input Signal	Output Signal	Max. Operating Frequency
1	2	3	4	5		6	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	4 ... 20 mA	4 ... 20 mA	100 Hz
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0 ... 20 mA		30 Hz
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	±20 mA		
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	2 ... 10 mA		
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0 ... 10 mA		
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	±10 mA		
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0 ... 5 mA		
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	±5 mA		
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0 ... 20 V		
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	±20 V		
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	2 ... 10 V		
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0 ... 10 V		
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	±10 V		
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1 ... 5 V		
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0 ... 5 V		
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	±5 V		
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	±5 V		
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0 ... 2 V		
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	±2 V		
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0 ... 1 V		
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	±1 V		

Short description:

WAGO's loop-powered isolator converts, amplifies, filters and electrically isolates standard unipolar/bipolar analog signals.

Features:

- No additional supply voltage required
- Zero/span adjustment
- Standard unipolar/bipolar analog signals at input
- Calibrated measurement range switching
- Switchable limit frequency
- 3-way electrical isolation with 2.5 kV test voltage

Technical data

Configuration

Configuration options DIP switch

Input

Input signal type Voltage
Current

Input

Input signal (voltage)	±1 V 0 ... 1 V ±2 V 0 ... 2 V ±5 V 0 ... 5 V 1 ... 5 V ±10 V 0 ... 10 V 2 ... 10 V ±20 V 0 ... 20 V
Input signal (current)	±5 mA 0 ... 5 mA ±10 mA 0 ... 10 mA 2 ... 10 mA ±20 mA 0 ... 20 mA 4 ... 20 mA
Input resistance (current input)	≤ 50 Ω
Input resistance (voltage input)	≥ 1 MΩ
Input current (max.)	50 mA
Input voltage (max.)	30 V
Zero/span adjustment	±5 % of upper range value

Signal Processing

Limit frequency	100 Hz / 30 Hz (configurable via DIP switch)
Step response (typ.)	3.5 ms

Power Supply

Power supply type	Loop-powered (via output)
Supply voltage	8 ... 30 VDC (Power is derived from the output circuit.)

Safety and protection

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

Output (analog)

Output signal type	Current
Output signal (current)	4 ... 20 mA
Load impedance (current output)	≤ 600 Ω

Measurement Error

Transmission error (typ.)	≤ 0.1 % of upper-range value
Temperature coefficient	≤ 0.01 %/K

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 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

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	0.363 MJ
Weight	37.9 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 61000-6-3

Commercial data

Product Group	6 (INTERFACE ELECTRONIC)
PU (SPU)	1 pcs
Packaging type	Bag
Country of origin	DE
GTIN	4045454828479
Customs tariff number	85437090300

Product Classification


UNSPSC	39121008
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.	1303-86-2 1317-36-8 7439-92-1
REACH Candidate List Substance	Diboron trioxide Lead Lead monoxide
RoHS Compliance Status	Compliant,With Exemption
RoHS Exemption	6(c) 7(a) 7(c)-I 7(c)-II
SCIP notification number (Austria)	e16f64f5-6ced-40e1-83dc-3485ebbaa281
SCIP notification number (Belgium)	fdb208e6-e00a-417a-9b1e-23385c79c3e7
SCIP notification number (Bulgaria)	71c2721c-96ec-483c-8d59-3298d2cadbe4
SCIP notification number (Czech Republic)	5c16d30b-bcb6-4c91-bbd3-2673166dad86
SCIP notification number (Denmark)	2231a6fe-a693-4d2b-a733-142cc7198e54
SCIP notification number (Finland)	371ca545-e559-439b-b2dd-4f01fa577e55
SCIP notification number (France)	fccbb7f1-dfa2-4b72-b77d-1a08dd836ab4
SCIP notification number (Germany)	29c84369-2afb-4dbd-9b11-2d5004b8865a
SCIP notification number (Hungary)	8a5d8371-ae0-49ae-8bce-d4531298978b
SCIP notification number (Italy)	1559b561-ca2e-4be9-a1ce-809f6fe13e83
SCIP notification number (Netherlands)	2d6da5de-e5f0-4b55-b880-8a97605296d3
SCIP notification number (Poland)	e605d2da-b4f1-4136-8fee-0882afb24ea4
SCIP notification number (Romania)	a6879cf5-7e37-44c6-86a2-fe89bbdf8182
SCIP notification number (Sweden)	45198689-2995-41e0-a972-5410394c26c8

Approvals / Certificates





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



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

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

Approvals for hazardous areas

Approval	Standard	Certificate Name
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 LOCA- TIONS)	ANSI/ISA 12.12.01	E198726

Downloads

Environmental Product Compliance

Compliance Search			
Environmental Product Compliance 857-450			

Documentation

Bid Text			
857-450	19.02.2019	xml 5.43 KB	
857-450	20.02.2019	docx 16.97 KB	

Instruction Leaflet			
CCC Ex (Additional information)	26.04.2023	pdf 140.99 KB	
Loop-Powered-Trennverstärker		pdf 1745.01 KB	

CAD/CAE-Data

CAD data	
2D/3D Models 857-450	

CAE data	
EPLAN Data Portal 857-450	
WSCAD Universe 857-450	
ZUKEN Portal 857-450	

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



[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

1.1.4 Marking


1.1.4.1 Marker

 <p>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</p>	 <p>Item No.: 793-502 WMB marking card; as card; MARKED; 1 ... 10 (10x); not stretchable; Horizontal marking; snap-on type; white</p>	 <p>Item No.: 793-566 WMB marking card; as card; MARKED; 1 ... 50 (2x); not stretchable; Horizontal marking; snap-on type; white</p>	 <p>Item No.: 793-503 WMB marking card; as card; MARKED; 11 ... 20 (10x); not stretchable; Horizontal marking; snap-on type; white</p>
 <p>Item No.: 793-504 WMB marking card; as card; MARKED; 21 ... 30 (10x); not stretchable; Horizontal marking; snap-on type; white</p>	 <p>Item No.: 793-505 WMB marking card; as card; MARKED; 31 ... 40 (10x); not stretchable; Horizontal marking; snap-on type; white</p>	 <p>Item No.: 793-506 WMB marking card; as card; MARKED; 41 ... 50 (10x); not stretchable; Horizontal marking; snap-on type; white</p>	 <p>Item No.: 793-501 WMB marking card; as card; not stretchable; plain; snap-on type; white</p>



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 module



Item No.: 857-979
Supply and through module

1.1.6.2 Through terminal block



Item No.: 857-979
Supply and through module

1.1.7 Tool

1.1.7.1 Operating tool

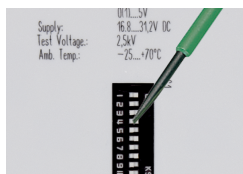


Item No.: 210-720

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

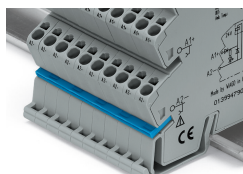
Installation Notes

Configuring



Configuration via DIP switch

Commoning



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