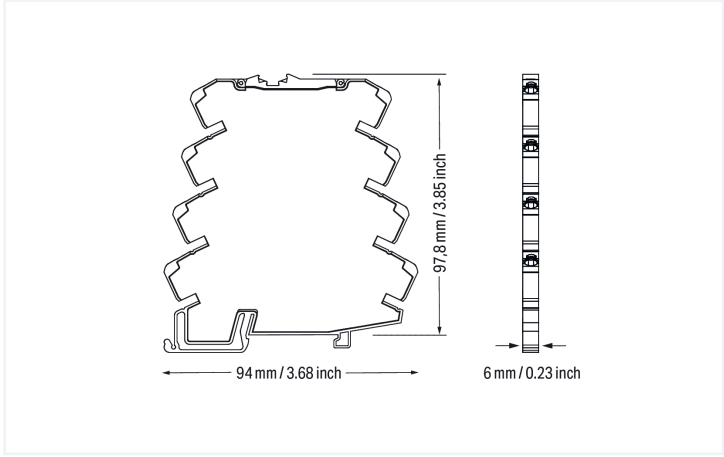
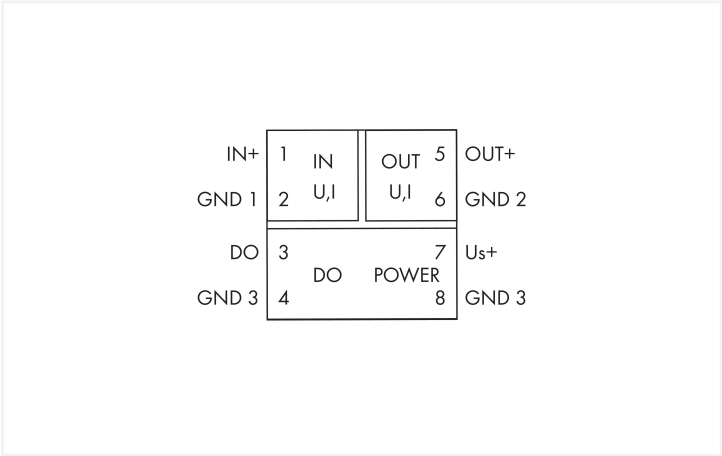
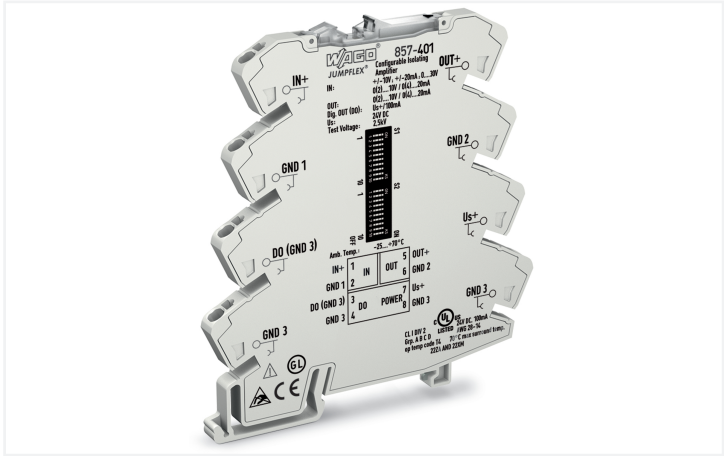


Data Sheet | Item Number: 857-401

Isolation amplifier; Current and voltage input signal; Current and voltage output signal; Digital output; Supply voltage: 24 VDC; 6 mm module width; 2,50 mm²

<https://www.wago.com/857-401>



857-401
DIP Switch Adjustability

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Short description:

This configurable signal conditioner converts, amplifies, filters and electrically isolates standard analog signals.

Digital switching output (DO):

The digital switching output (DO) allows signaling of a message. Two switching behaviors can be selected for the edge:

GND switching: For all values below the lower threshold or above the upper threshold, the digital output switches to "GND."

U_s switching: For all values below the lower threshold or above the upper threshold, the digital output (DO) matches the supply voltage level.

The preset switching thresholds are 0% and 100% of the input measurement range. These thresholds can be adjusted via the PC configuration interface. The switching threshold hysteresis is 5 mV/5 µA.

Features:

- PC configuration interface
 - Calibrated measurement range switching
 - Analog unipolar and bipolar standard signals at the input
 - Clipping capability
- for analog signal limitation to output end values
- 3-way electrical isolation with 2.5 kV test voltage



Notes	
Safety Information	Input and output must be safely isolated from any hazardous live parts!
Note	Additional setting options via the WAGO Interface Configuration Software Terminals 4 (GND 3) and 8 (GND 3) are internally bridged. Current carrying capacity between terminals 4 and 8: max: 1 A Use shielded signal cables! Only use shielded signal cables for analog input and output signals. This ensures the device maintains its specified accuracy and immunity to interference, even when external disturbances affect the signal cable. Use in residential areas is only permitted in conjunction with a power supply that meets the residential area criteria according to EN 61000-6-3.

Technical data			
Configuration		Input	
Configuration options	DIP switch WAGO Interface Configuration Software	Input signal type	Voltage (DC) Current (DC)
		Input signal (voltage)	±10 V 0 ... 30 V
		Input signal (current)	±20 mA
		Input resistance (current input)	≤ 200 Ω
		Input resistance (voltage input)	≥ 100 kΩ
		Input current (max.)	22 mA
		Input voltage (max.)	31 V
		Measurement span (min.)	1 V
		Measurement span (current) min.	2 mA
Output (analog)		Output (digital)	
Output signal type	Current Voltage	Switching voltage (DO) max.	Supply voltage applied
Output signal (voltage)	0 ... 5 V 1 ... 5 V 0 ... 10 V 2 ... 10 V	Continuous current (DO) max.	100 mA (no internal restriction)
Output signal (current)	0 ... 10 mA 2 ... 10 mA 0 ... 20 mA 4 ... 20 mA	Number of switching thresholds (DO)	2 (adjustable)
Load impedance (voltage output)	≥ 2 kΩ		
Load impedance (current output)	≤ 550 Ω		
Signal Processing		Measurement Error	
Step response (typ.)	8 ms	Transmission error (typ.)	≤ 0.1 % of upper-range value
		Temperature coefficient	≤ 0.01 %/K
Power Supply			
Power supply type	24 VDC (SELV)		
Nominal supply voltage U _S	24 VDC		
Supply voltage range	±30 %		
Current consumption at nominal supply voltage	≤ 40 mA (+ I _{DO})		



Safety and protection

Rated Voltage	300 V	Test voltage	
Protection type	IP20	Test voltage (input/output/supply)	2.5 kVAC; 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 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	0.536 MJ
Weight	37 g

Environmental requirements

Ambient temperature (operation)	-25 ... +70 °C (Individual arrangement; -25 ... +60 °C (block arrangement))
Ambient temperature (storage)	-40 ... +85 °C
Temperature range of connection cable	≥ (T _{ambient} + 10 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; EN 61326-1; EN 50121-3-2
EMC emission of interference	EN 61326-1
Standards/specifications	DNV EN 50121-3-2 EN 61000-6-4 EN 61010-2-201 EN 61373



Commercial data	
Product Group	6 (INTERFACE ELECTRONIC)
PU (SPU)	1 pcs
Packaging type	Bag
Country of origin	DE
GTIN	4045454828509
Customs tariff number	85437090300

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.	1303-86-2 1317-36-8 7439-92-1 75980-60-8 79-94-7 80-05-7
REACH Candidate List Substance	2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol 4,4'-isopropylidenediphenol Diboron trioxide Lead Lead monoxide 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)	aff0c6db-2e8d-40df-bb25-c0857553add0
SCIP notification number (Belgium)	e213ff0d-2609-4996-8776-552c3940adb5
SCIP notification number (Bulgaria)	fda52b6c-252d-4865-8b7b-006d61ae0362
SCIP notification number (Czech Republic)	9e6dc05b-8858-42d0-8506-d974c363c8eb
SCIP notification number (Denmark)	9c7f385a-1237-4d96-b43d-39905b245808
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SCIP notification number (Poland)	eb1f3c08-d52f-4472-9c0d-af6649be66e7
SCIP notification number (Romania)	009dc6d9-a76a-43d2-9b7b-afcfe2a2776
SCIP notification number (Sweden)	3d18b596-90fd-4b86-b283-23e0a76d6d35



Approvals / Certificates

General approvals



Approval	Standard	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

Approval	Standard	Certificate Name
EU-Declaration of Conformity WAGO GmbH & Co. KG	-	-
MFD for Railway WAGO GmbH & Co. KG	-	-
UK-Declaration of Conformity WAGO GmbH & Co. KG	-	-

Approvals for marine applications



Approval	Standard	Certificate Name
DNV DNV Germany GmbH	DNV-CG-0339,Aug.2021	TAA00001D1

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 857-401



Documentation

Manual
WAGO Isolating Amplifiers



Bid Text			
857-401	18.07.2019	xml 6.65 KB	↓
857-401	18.07.2019	docx 19.75 KB	↓
857-401	18.07.2019	pdf 76.23 KB	↓



Instruction Leaflet			
Signal Conditioners	V 2.0.0 24.01.2023	pdf 2162.69 KB	





CAD/CAE-Data	
CAD data 2D/3D Models 857-401 ↓	CAE data EPLAN Data Portal 857-401 ↓ WSCAD Universe 857-401 ↓ ZUKEN Portal 857-401 ↓

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

1.1.2 Communication
1.1.2.1 Communication cable



Item No.: 750-923
Configuration cable; USB connector; Length: 2.5 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



1.1.4.1 Jumper

 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 Relay module

1.1.7.1 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

1.1.8 Screwless end stop

1.1.8.1 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

1.1.9 Terminal blocks

1.1.9.1 Supply and through module



Item No.: 857-979
Supply and through module

1.1.10 Tool

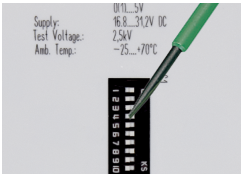
1.1.10.1 Operating tool



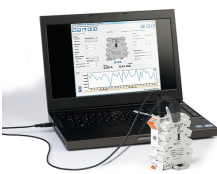
Item No.: 210-720
Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; multicoloured

Installation Notes

Configuring

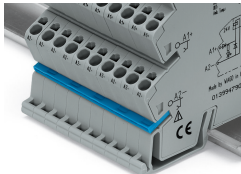


Configuration via DIP switch



Configuration via WAGO Interface Configuration Software

Commoning



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