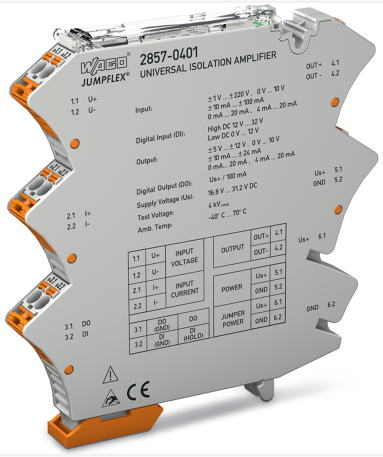
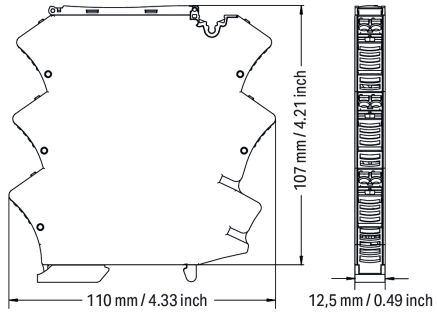
Data Sheet | Item Number: 2857-401

Isolation amplifier; Bipolar current and voltage input signal; Bipolar current and voltage output signal; Digital output; Supply voltage: 24 VDC; 12.5 mm module width

https://www.wago.com/2857-401



1.1	U+	INPUT VOLTAGE	OUTPUT	OUT+	4.1
1.2	U–			OUT–	4.2
2.1	I+	INPUT CURRENT	POWER	Us+	5.1
2.2	I–			GND	5.2
3.1	DO (GND)	DO	JUMPER POWER	Us+	6.1
3.2	DI (GND)	DI (HOLD)		GND	6.2



2857-401

DIP Switch Adjustability

● = ON Default

DIP Switch S1

Input													
1	Signal	2	Polarity	3	4	5	Range / mA	Range / V	6	Inverted Characteristic	7	8	Limit Frequency
	Current		Unipolar				0 … 20	0 … 10		Not inverted			10 kHz
●	Voltage	●	Bipolar *	●			0 … 1	0 … 1	●	Inverted	●		5 kHz
					●		0 … 5	0 … 5				●	100 Hz
				●	●		0 … 10	1 … 5			●	●	30 Hz
						●	2 … 10	2 … 10					
				●		●	4 … 20	0 … 30					
					●	●	0 … 50	0 … 100					
				●	●	●	0 … 100	0 … 220					

DIP Switch S1

Output			
9	Signal	10	Polarity
	Current		Unipolar
●	Voltage	●	Bipolar *

DIP Switch S2

Output			
1	2	Range / mA	Range / V
		0 … 20	0 … 10
●		4 … 20	2 … 10
	●	0 … 10	0 … 5
●	●	2 … 10	1 … 5

DIP Switch S2

Output				Digital Output (DO)	
3	4	Measuring Range Underflow	Measuring Range Overflow	5	6
		Lower limit of output range -5% **	Upper limit of output range +2.5% **		Off
●		Lower limit of output range	Upper limit of output range +2.5%	●	DO U_s switching
	●	Lower limit of output range	Upper limit of output range		● DO GND switching
●	●	Lower limit of output range -5%	Upper limit of output range +5%	●	● Off

* Bipolar only applies to ranges starting with 0.
** acc. to NAMUR NE 43

Short description:

WAGO's signal conditioner converts, amplifies, filters, and electrically isolates analog signals.

Features:

- Analog unipolar/bipolar signals at both input and output
- Digital signal output reacts to configured measurement range limits (configurable on/off switching delay and threshold value switch function with up to two threshold values).
- Digital HOLD input freezes the output signal.
- Clipping capability for analog signal limitation to output end values
- Adjustable software/hardware filter
- Safe 3-way isolation with 3 kV test voltage

Notes

Safety information 2	Adjacent devices of the same type are devices of the same design (series) that are arranged next to one another on the DIN-rail with the same orientation. An end stop (249-116) must be fitted to devices of other types for compliance with the reinforced insulation requirements.
Note	This product is powered by 24 VDC, which can be bridged using lateral push-in type jumper bars: (6.1) U_S+ (BR) and (6.2) GND 2 (BR). With this variant, it is necessary to ensure that the maximum permissible total current of 6 A is not exceeded. Additional setting options via the WAGO Interface Configuration Software

Technical data

Configuration

Configuration options	DIP switch WAGO Interface Configuration Software

Input

Input signal type	Voltage (DC) Current (DC)
Input signal (voltage)	±1 V 0 … 1 V ±5 V 0 … 5 V 1 … 5 V ±10 V 0 … 10 V 2 … 10 V ±30 V 0 … 30 V ±100 V 0 … 100 V ±200 V 0 … 220 V
Input signal (current)	±1 mA 0 … 1 mA ±10 mA 0 … 10 mA 2 … 10 mA ±20 mA 0 … 20 mA 4 … 20 mA ±100 mA 0 … 100 mA
Input resistance (current input)	≤ 50 Ω
Input resistance (voltage input)	≥ 1 MΩ
Input current (max.)	±120 mA
Input voltage (max.)	±250 V

Input (digital)

Hold signal	11.8 V … U_S
Input resistance	> 3 kΩ

Output (analog)

Output signal type	Voltage Current
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)	≥ 1 kΩ
Load impedance (current output)	≤ 600 Ω

Continued on next page

Output (digital)

Switching voltage (DO) max.	Applied supply voltage - 0.3 V
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)
Setting range (frequency generator)	0.3 … 100 Hz

Signal Processing

Limit frequency	10 kHz / 5 kHz / 100 Hz / 30 Hz (configurable via DIP switch or software)
Software filter (adjustable)	Moving average value (filter level: 30)
Step response (typ.)	1 ms

Measurement Error

Transmission error (typ.)	≤ 0.1 % of upper-range 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	≤ 70 mA (+ I_{DO})

Safety and protection

Rated Voltage	300 V
Protection type	IP20

Test voltage

Test voltage (input/output/supply)	3 kVAC; 50 Hz; 1 min

Insulation coordination

Overvoltage category	II
Pollution degree	2
Insulation type (input/analog output/supply)	Reinforced insulation (safe isolation)
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)
Safety information 2	Adjacent devices of the same type are devices of the same design (series) that are arranged next to one another on the DIN-rail with the same orientation. An end stop (249-116) must be fitted to devices of other types for compliance with the reinforced insulation requirements.

Connection Data

Connection technology	Push-in CAGE CLAMP®
WAGO connector	*picoMAX*® 5.0
Solid conductor	0.2 … 2.5 mm² / 24 … 12 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 12 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches

Physical data

Width	12.5 mm / 0.492 inches
Height	110 mm / 4.331 inches
Depth from upper-edge of DIN-rail	107 mm / 4.213 inches

Continued on next page

Mechanical data

Mounting type	DIN-35 rail

Material data

Fire load	1.111 MJ
Weight	85.2 g

Environmental requirements

Ambient temperature (operation)	-40 … +70 °C (Individual arrangement; -40 … +50 °C (block arrangement))
Ambient temperature (storage)	-40 … +85 °C
Temperature range of connection cable	≥ ($T_{ambient}$ + 50 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 61326-2-3; EN 50121-3-2
EMC emission of interference	EN 61000-6-4; EN 61326-2-3; EN 50121-3-2
Standards/specifications	EN 61010-2-201 EN 61373 EN 50121-3-2

Commercial data

Product Group	6 (INTERFACE ELECTRONIC)
PU (SPU)	1 pcs
Packaging type	Bag
Country of origin	DE
GTIN	4050821676966
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.	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)	8eea55dc-b68f-431d-8ad6-71ab4685f8b7

Continued on next page

Environmental Product Compliance

SCIP notification number (Belgium)	cf65c928-b2ea-4b3a-9b99-3229eef5e8e5
SCIP notification number (Bulgaria)	54c1dd6b-7733-4b35-aa2c-d8a6e507aed1
SCIP notification number (Czech Republic)	b108bfe2-9898-4c87-ac03-4b07a6ae954b
SCIP notification number (Denmark)	5c819246-3d20-4f9e-a125-75caf6a910bd
SCIP notification number (Finland)	f21f8be5-efc4-4fe2-9317-1552603d7eb4
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SCIP notification number (Germany)	b822b5ae-0257-4887-8a8b-2476207d28c9
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SCIP notification number (Netherlands)	3021d9c8-bb88-47d3-96b3-e0cf0f1775f0
SCIP notification number (Poland)	2681b81f-35e4-41ce-afc5-8e2ecbb312b4
SCIP notification number (Romania)	f9b8acf4-0d8d-48ce-9dd8-5079f9c063df
SCIP notification number (Sweden)	67b47a6d-1ea9-4395-a0db-912d3f2342c2

Approvals / Certificates

General approvals

Approval	Standard	Certificate Name
EAC GZO Almaty Standart	TP TC 020/2011	EAC CoC 03083

Declarations of conformity and manufacturer's declarations

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

Downloads

Environmental Product Compliance

Compliance Search

Environmental Product Compliance 2857-401

Documentation

Manual

WAGO Isolating Amplifiers

Bid Text

2857-401	20.02.2019	docx 17.46 KB
2857-401	19.02.2019	xml 6.62 KB
2857-401	20.02.2019	pdf 81.07 KB

Continued on next page

Instruction Leaflet		
Messumformer, Univer-sal-Trennverstärker	pdf 2273.28 KB	

CAD/CAE-Data

CAD data
2D/3D Models 2857-401

CAE data
EPLAN Data Portal 2857-401
WSCAD Universe 2857-401
ZUKEN Portal 2857-401

Runtime Software

Firmware		
2857-0401, Trennver-stärker	V 03 24.04.2023	zip 486.45 KB

1 Compatible Products

1.1 Optional Accessories

1.1.1 Communication

1.1.1.1 Communication cable



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



Item No.: 750-923/000-001
Configuration cable; USB connector; Length: 5 m

1.1.2 Installation

1.1.2.1 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

Continued on next page

1.1.3 Jumper

1.1.3.1 Jumper



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



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

1.1.4 Marking

1.1.4.1 Marker



Item No.: 2009-141
Micro-WSB-Inline; 2000 pieces on roll; plain; snap-on type; white

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 Relay module

1.1.6.1 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

1.1.7 Terminal blocks

1.1.7.1 Supply and through module



Item No.: 857-979
Supply and through module

1.1.8 Test and measurement

1.1.8.1 Testing accessories



Item No.: 735-500
WAGO Test pin; 1 mm Ø; 30 V AC / 60 V DC; CAT0; 1 A; 6 mm uninsulated; Test lead for soldering up to 0,5mm²

1.1.9 Tool

1.1.9.1 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

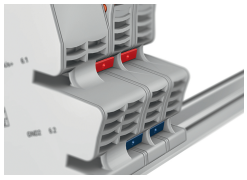


Configuration via WAGO Interface Configuration Software

Conductor termination

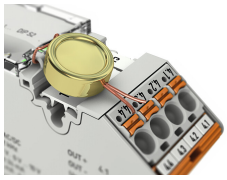


Pluggable connection technology



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

Security



Lock-out seal option