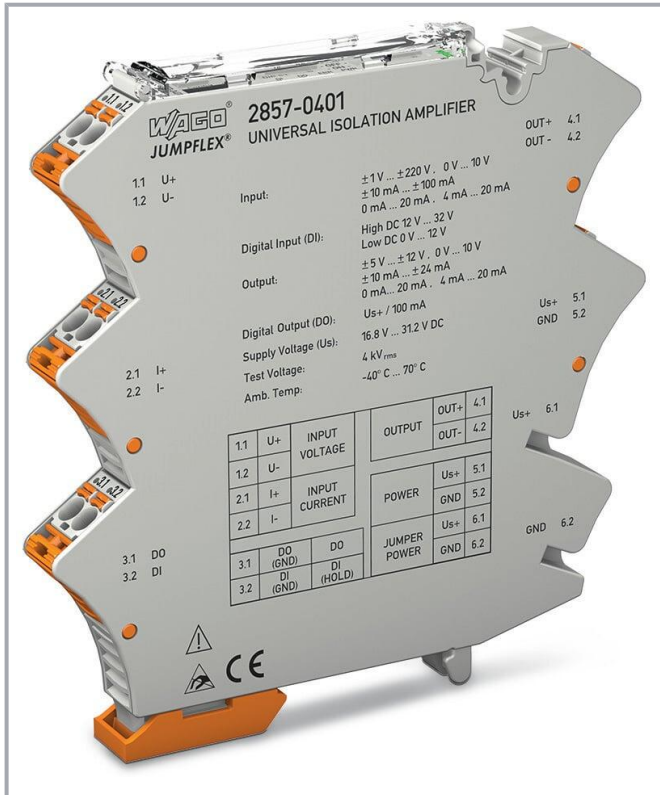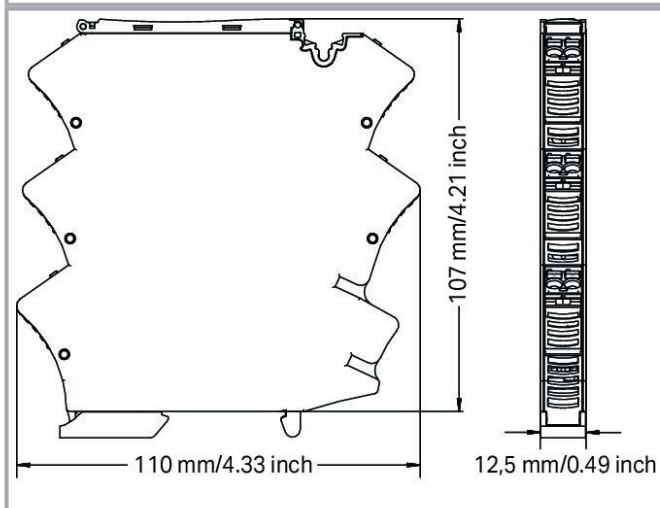# Data sheet | Item number: 2857-401

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

www.wago.com/2857-401

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

107 mm/4.21 inch

110 mm/4.33 inch

12,5 mm/0.49 inch

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   **DIP Switch S2**

	Output					Output		
9	Signal	10	Polarity	1	2	Range / mA	Range / V
	Current		Unipolar			0 … 20	0 … 10
●	Voltage	●	Bipolar *	●		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 Us 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

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

Item description

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
- Input/output response simulation via configuration display
- Safe 3-way isolation with 4 kV test voltage per EN 61140

Data

Notes

Note

- This product is supplied with 24 VDC, which can be commoned 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 1 A is not exceeded.
- Additional setting options via WAGO Interface Configuration Software or WAGO Interface Configuration App

Technical data

Configuration

Configuration options	DIP switch
	WAGO Interface Configuration Software
	WAGO Interface Configuration App
	WAGO Configuration Display

Input

Input signal type	Voltage (DC)
	Current (DC)
	Voltage
	Current

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

Do you have any questions about our products?
We are always happy to take your call at +49 (571) 887-44222.

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

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

Output (digital)

Switching voltage (DO) max.	Supply voltage (applied): −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

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

Supply

Power supply type	24 VDC
Nominal supply voltage U_S	DC 24 V
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 70 mA (+ I_{DO})

Safety and protection

Protection type	IP20

Test voltage

Test voltage (input/output/supply)	AC 4 kV; 50 Hz; 1 min

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

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Fire load	1.573 MJ
Weight	85.9 g

Environmental requirements

Ambient temperature (operation)	-40 … +70 °C
Ambient temperature (storage)	-40 … +85 °C

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

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 50121-3-2 EN 60664-1 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
PU (SPU)	1 pcs
Packaging type	bag
Country of origin	DE
GTIN	4050821676966
Customs tariff number	85437090300

Environmental Product Compliance

CAS-No.	131651-65-5 144317-44-2 220133-51-7 220689-12-3 25628-08-4 29420-49-3 375-73-5 503155-89-3 507453-86-3 68259-10-9
REACH Candidate List Substance	Perfluorobutane sulfonic acid (PFBS) and its salts
RoHS Compliance Status	Compliant,With Exemption
RoHS Exemption	7(a) 7(c)-I 7(c)-II
SCIP notification number (Austria)	8eea55dc-b68f-431d-8ad6-71ab4685f8b7
SCIP notification number (Belgium)	cf65c928-b2ea-4b3a-9b99-3229eef5e8e5
SCIP notification number (Bulgaria)	54c1dd6b-7733-4b35-aa2c-d8a6e507aed1

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

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
SCIP notification number (France)	7aa52ffe-9f09-44c5-a16e-15be89049f27
SCIP notification number (Germany)	b822b5ae-0257-4887-8a8b-2476207d28c9
SCIP notification number (Hungary)	f9e92535-69dc-449b-873d-f7eea3763dd6
SCIP notification number (Italy)	f22243c1-b45b-4045-9b6d-40040a0915a3
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

Logo	Approval	Additional Approval Text	Certificate name
	EAC Brjansker Zertifizierungsstelle	TP TC 020/2011	EAC_Certificate_RU_C-DE.AM02.B.00115_19

Optional accessories

Power supplies

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

Relay module

Relay module

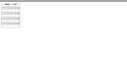|	Item no.: 857-304	
	Relay module; Nominal input voltage: 24 VDC; 1 changeover contact; Limiting continuous current: 6 A; Yellow status indicator; Module width: 6 mm; 2,50 mm²; gray	www.wago.com/857-304

Terminal blocks

Supply module

	Item no.: 857-979	
	Supply and through module	www.wago.com/857-979

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

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

WAGO GmbH & Co. KG
Hansastr. 27
32423 Minden
Phone: +49571 887-0 | Fax: +49571 887-169
Email: info.de@wago.com | Web: www.wago.com

Do you have any questions about our products?
We are always happy to take your call at +49 (571) 887-44222.

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
	Item no.: 2009-141 Micro-WSB-Inline; 2000 pieces on roll; plain; snap-on type; white	www.wago.com/2009-141

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
	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

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

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 |

Jumpers

Jumper

	Item no.: 281-482 Jumper; 2-way; insulated; gray	www.wago.com/281-482
	Item no.: 859-402/000-029 Jumper; for jumper slot; 2-way; insulated; yellow	www.wago.com/859-402 /000-029
	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

Testing and measuring

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 | www.wago.com/735-500 |

Communication

Bluetooth

| | Item no.: 750-921
Bluetooth® Adapter | www.wago.com/750-921 |

Configuration display

| | Item no.: 2857-900
Configuration display | www.wago.com/2857-900 |

Communication cable

| | Item no.: 750-923
Configuration cable; USB connector; Length: 2.5 m | www.wago.com/750-923 |
| | Item no.: 750-923/000-001
Configuration cable; USB connector; Length: 5 m | www.wago.com/750-923
/000-001 |

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

Downloads
Documentation

Bid Text

2857-401 pdf - Datei	2019 Feb 20	pdf 83.0 kB	Download
2857-401 docx - Datei	2019 Feb 20	docx 17.9 kB	Download
2857-401 X81 - Datei	2019 Feb 19	xml 6.8 kB	Download

Instruction Leaflet

Messumformer, Universal-Trennverstärker		pdf 2.3 MB	Download

Additional Information

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

Engineering-Software

Configuration and Commissioning Software

WAGO Interface Configuration Software G2 SMALL The full setup only includes the WAGO Interface Configuration Software G2.	1.00.10.01 2022 Jan 20	exe 31.0 MB	Download
WAGO Interface Configuration Software G2 FULL The full setup, in addition to the WAGO Interface Configuration Software G2, includes the installation for the Microsoft .NET Framework.	1.00.10.01 2022 Jan 20	exe 114.9 MB	Download

Runtime Software

Firmware

2857-0401, Trennverstärker WAGO_FW2857-0401_IX03_H	V 03 2023 Apr 24	zip 498.1 kB	Download

---

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

CAD/CAE-Data

CAD data

2D/3D Models 2857-401		URL	Download

CAE data

EPLAN Data Portal 2857-401		URL	Download
WSCAD Universe 2857-401		URL	Download
ZUKEN Portal 2857-401		URL	Download

Environmental Product Compliance

Compliance Search

Environmental Product Compliance 2857-401		URL	Download

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

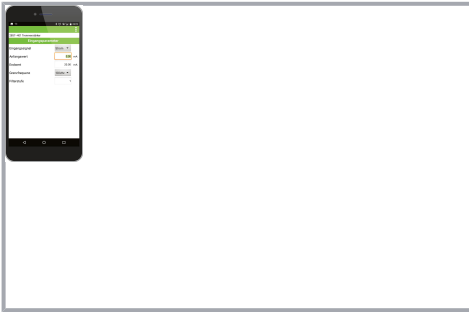## Installation Notes

Configuring

Configuration via DIP switch
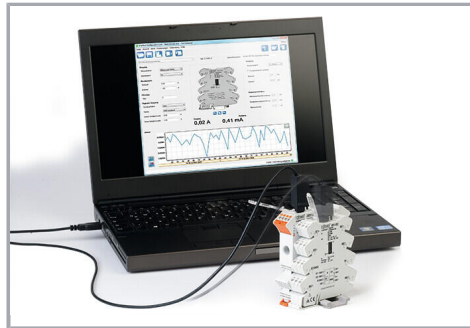
Configuration via WAGO Interface Configuration Software

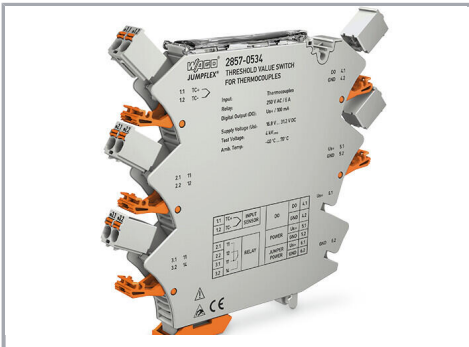Subject to changes. Please also observe the further product documentation!

Configuration via WAGO Interface
Configuration App

Configuration via WAGO Configuration Display
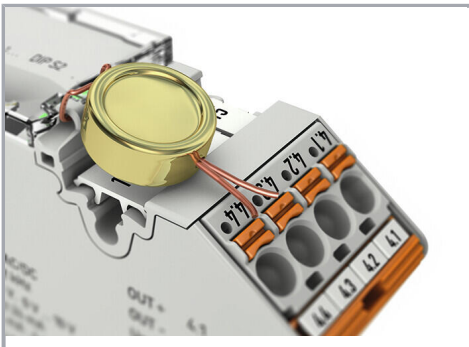
Conductor termination

Pluggable connection technology

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

Security

Lock-out seal option

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