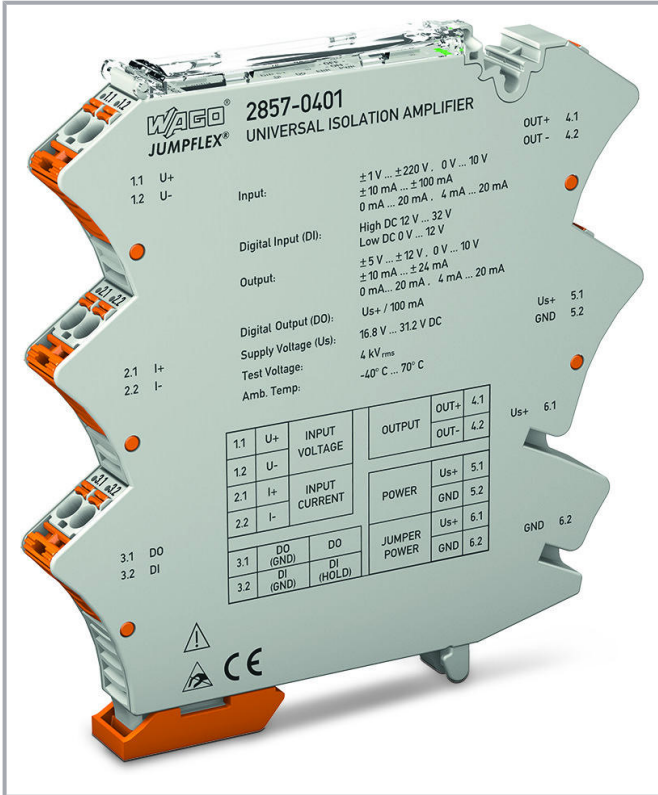


## Data sheet | Item number: 2857-401

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

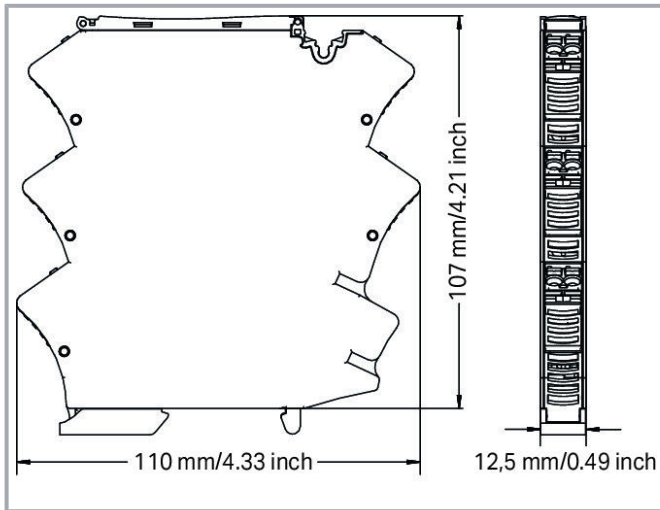
[www.wago.com/2857-401](http://www.wago.com/2857-401)



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

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2857-401  
DIP Switch Adjustability

● ON Default

DIP Switch S1											
Input											
1	2	Polarity	3	4	5	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	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				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 <sub>s</sub> 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

## Item description

### Short description:

This 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<sub>S</sub>+ (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

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

## Technical data

### Configuration

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

### Input

Input signal type	Voltage Current
Input signal (voltage)	$\pm 1\text{ V}$ ; $0 \dots 1\text{ V}$ ; $\pm 5\text{ V}$ ; $0 \dots 5\text{ V}$ ; $1 \dots 5\text{ V}$ ; $\pm 10\text{ V}$ ; $0 \dots 10\text{ V}$ ; $2 \dots 10\text{ V}$ ; $\pm 30\text{ V}$ ; $0 \dots 30\text{ V}$ ; $\pm 100\text{ V}$ ; $0 \dots 100\text{ V}$ ; $\pm 200\text{ V}$ ; $0 \dots 220\text{ V}$
Input signal (current)	$\pm 1\text{ mA}$ ; $0 \dots 1\text{ mA}$ ; $\pm 10\text{ mA}$ ; $0 \dots 10\text{ mA}$ ; $2 \dots 10\text{ mA}$ ; $\pm 20\text{ mA}$ ; $0 \dots 20\text{ mA}$ ; $4 \dots 20\text{ mA}$ ; $\pm 100\text{ mA}$ ; $0 \dots 100\text{ mA}$
Input resistance (current input)	$\leq 50\ \Omega$
Input resistance (voltage input)	$\geq 1\text{ M}\Omega$
Input current (max.)	$\pm 120\text{ mA}$
Input voltage (max.)	$\pm 250\text{ V}$

### Input – digital

Hold signal	$11.8\text{ V} \dots U_S$
-------------	---------------------------

### Output – analog

Output signal type	Voltage Current
Output signal (voltage)	$\pm 5\text{ V}$ ; $0 \dots 5\text{ V}$ ; $1 \dots 5\text{ V}$ ; $\pm 10\text{ V}$ ; $0 \dots 10\text{ V}$ ; $2 \dots 10\text{ V}$
Output signal (current)	$\pm 10\text{ mA}$ ; $0 \dots 10\text{ mA}$ ; $2 \dots 10\text{ mA}$ ; $\pm 20\text{ mA}$ ; $0 \dots 20\text{ mA}$ ; $4 \dots 20\text{ mA}$
Load impedance (voltage output)	$\geq 1\text{ k}\Omega$
Load impedance (current output)	$\leq 600\ \Omega$

### Output – digital

Switching voltage (DO) (max.)	Supply voltage (applied): $-0.3\text{ V}$
-------------------------------	---

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



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.)	$\leq 0.1$ % of upper-range value
Temperature coefficient	$\leq 0.01$ %/K

### Supply

Power supply type	24 VDC
Nominal supply voltage $U_S$	DC 24 V
Supply voltage range	$\pm 30$ %
Power consumption at nominal supply voltage	$\leq 70$ 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	<i>picoMAX</i> ® 5.0
Solid conductor	0.2 ... 2.5 mm <sup>2</sup> / 24 ... 12 AWG
Fine-stranded conductor	0.2 ... 2.5 mm <sup>2</sup> / 24 ... 12 AWG
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch

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



## Physical data

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

## Mechanical data

Mounting type	DIN-35 rail
---------------	-------------

## Material data

Fire load	1.391 MJ
Weight	85.9 g

## Environmental requirements

Surrounding air temperature (operation)	-40 ... 70 °C
Surrounding air temperature (storage)	-40 ... 85 °C

## 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 60664-1 EN 61373

## Commercial data

Product Group	6 (Interface Electronics)
PU (SPU)	1 Each
Packaging type	bag
Country of origin	DE
GTIN	4050821676966
Customs tariff number	85437090300

## Optional accessories

### Testing and measuring

Testing accessories	
---------------------	--

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



**Item no.: 735-500**

Test pin; 1 mm Ø; with solder connection for test wire

[www.wago.com/735-500](http://www.wago.com/735-500)

## 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](http://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](http://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](http://www.wago.com/249-197)

## Cables and pluggable connectors

### Communication cable



**Item no.: 750-923**

Configuration cable; USB connector; Length: 2.5 m

[www.wago.com/750-923](http://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](http://www.wago.com/750-923/000-001)

## Terminal blocks

### Through terminal block



**Item no.: 857-979**

Supply and through module

[www.wago.com/857-979](http://www.wago.com/857-979)

## Tool

### 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](http://www.wago.com/210-720)

## Power supplies

### Power supply



**Item no.: 787-2852**

Switched-mode power supply; 1-phase; 24 VDC output voltage; 1 A output current; -

[www.wago.com/787-2852](http://www.wago.com/787-2852)

## 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](http://www.wago.com/2009-110)

### Marker

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

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	<b>Item no.: 2009-115</b> WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white	<a href="http://www.wago.com/2009-115">www.wago.com/2009-115</a>
	<b>Item no.: 793-501</b> WMB marking card; as card; not stretchable; plain; snap-on type; white	<a href="http://www.wago.com/793-501">www.wago.com/793-501</a>
	<b>Item no.: 793-502</b> WMB marking card; as card; MARKED; 1 ... 10 (10x); not stretchable; Horizontal marking; snap-on type; white	<a href="http://www.wago.com/793-502">www.wago.com/793-502</a>
	<b>Item no.: 793-503</b> WMB marking card; as card; MARKED; 11 ... 20 (10x); not stretchable; Horizontal marking; snap-on type; white	<a href="http://www.wago.com/793-503">www.wago.com/793-503</a>
	<b>Item no.: 793-504</b> WMB marking card; as card; MARKED; 21 ... 30 (10x); not stretchable; Horizontal marking; snap-on type; white	<a href="http://www.wago.com/793-504">www.wago.com/793-504</a>
	<b>Item no.: 793-505</b> WMB marking card; as card; MARKED; 31 ... 40 (10x); not stretchable; Horizontal marking; snap-on type; white	<a href="http://www.wago.com/793-505">www.wago.com/793-505</a>
	<b>Item no.: 793-506</b> WMB marking card; as card; MARKED; 41 ... 50 (10x); not stretchable; Horizontal marking; snap-on type; white	<a href="http://www.wago.com/793-506">www.wago.com/793-506</a>
	<b>Item no.: 793-566</b> WMB marking card; as card; MARKED; 1 ... 50 (2x); not stretchable; Horizontal marking; snap-on type; white	<a href="http://www.wago.com/793-566">www.wago.com/793-566</a>
	<b>Item no.: 793-5501</b> WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; white	<a href="http://www.wago.com/793-5501">www.wago.com/793-5501</a>
	<b>Item no.: 2009-141</b> Micro-WSB-Inline; 2000 pieces on roll; plain; snap-on type; white	<a href="http://www.wago.com/2009-141">www.wago.com/2009-141</a>

**Jumpers**

Jumper		
	<b>Item no.: 281-482</b> Jumper; insulated; gray	<a href="http://www.wago.com/281-482">www.wago.com/281-482</a>
	<b>Item no.: 859-402/000-029</b> Jumper; for jumper slot; 2-way; insulated; yellow	<a href="http://www.wago.com/859-402/000-029">www.wago.com/859-402/000-029</a>
	<b>Item no.: 859-402/000-006</b> Jumper; for jumper slot; 2-way; insulated; blue	<a href="http://www.wago.com/859-402/000-006">www.wago.com/859-402/000-006</a>
	<b>Item no.: 859-402</b> Jumper; for jumper slot; 2-way; insulated; light gray	<a href="http://www.wago.com/859-402">www.wago.com/859-402</a>
		

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

Item no.: 859-402/000-005

Jumper; for jumper slot; 2-way; insulated; red

[www.wago.com/859-402/000-005](http://www.wago.com/859-402/000-005)

## Downloads

### Documentation

#### Bid Text

2857-401 pdf - Datei	2019. 2. 20.	pdf 83.0 kB	Download
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2857-401 X81 - Datei	2019. 2. 19.	xml 6.8 kB	Download
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2857-401 docx - Datei	2019. 2. 20.	docx 17.9 kB	Download
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#### Instruction Leaflet

Messumformer, Universal-Trennverstärker		pdf 2.3 MB	Download
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#### Additional Information

Disposal; Electrical and electronic equipment, Packaging	V 1.0.0	pdf 265.8 kB	Download
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## Engineering-Software

### Software for Interface-Products

WAGO Interface Configuration Software G2 SMALL	1.0.7.9	exe 30.0 MB	Download
The full setup only includes the WAGO Interface Configuration Software G2.	2021. 4. 8.		

WAGO Interface Configuration Software G2 FULL	1.0.7.9	exe 114.0 MB	Download
The full setup, in addition to the WAGO Interface Configuration Software G2, includes the installation for the Microsoft .NET Framework.	2021. 4. 8.		

## Runtime Software

### Firmware

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



Firmware: 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	02 2017. 5. 9.	zip 590.6 kB	Download
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## CAD/CAE-Data

### CAD data

2D/3D Models 2857-401	URL	Download
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### CAE data

EPLAN Data Portal 2857-401	URL	Download
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WSCAD Universe 2857-401	URL	Download
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ZUKEN Portal 2857-401	URL	Download
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## Environmental Product Compliance

### Compliance Search

Environmental Product Compliance 2857-401	URL	Download
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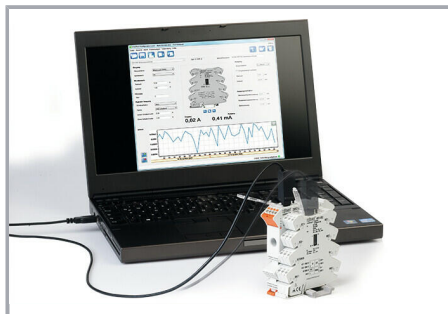
Isolation amplifier; Bipolar current and voltage input signal; Bipolar current and voltage output signal; Digital output; Supply voltage: 24 VDC; 12.5 mm module width

## Installation Notes

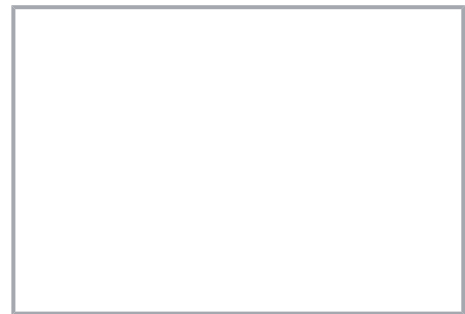
### Configuration



Configuration via DIP switch



Configuration via WAGO Interface  
Configuration Software



Configuration via WAGO Interface  
Configuration App

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



Configuration via WAGO Configuration Display

### Conductor termination

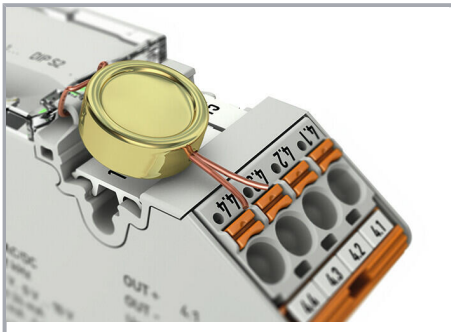


Pluggable connection technology



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

### Safety



Lock-out seal option

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