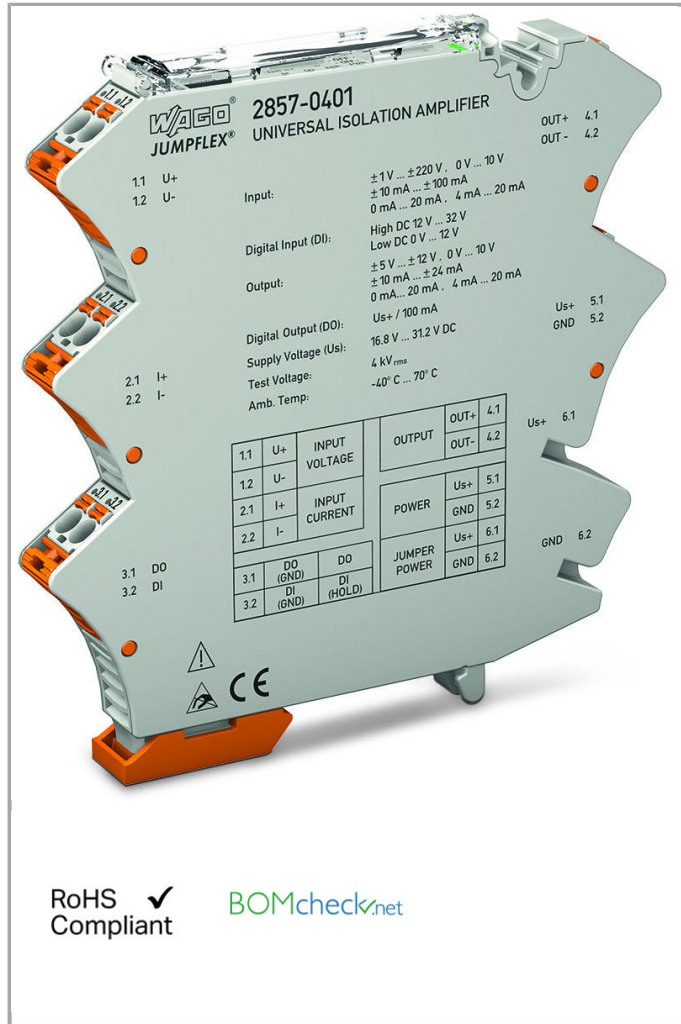


Data sheet | Item number: 2857-401

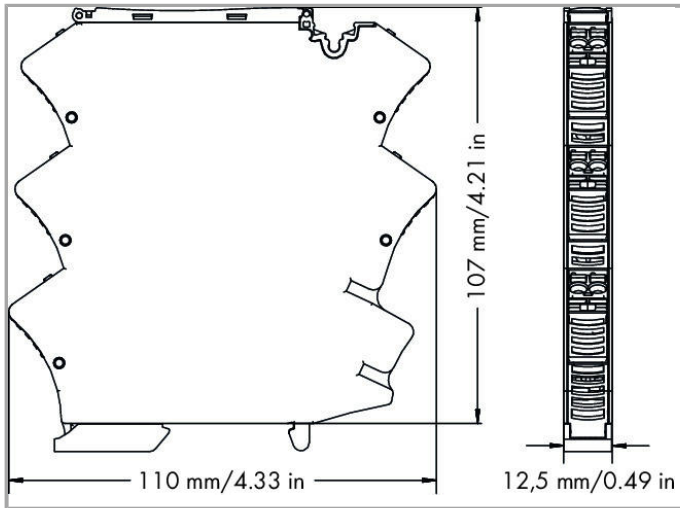
Isolation amplifier; Bipolar current and voltage input signal; Bipolar current and voltage output signal; Digital output; Supply voltage: 24 VDC; 12.5 mm module width



www.wago.com/2857-401



1.1	U+	INPUT 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 / 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				Digital Output (DO)			
Output		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	●	●	DO U 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:

The Isolation Amplifier converts, amplifies, filters and electrically isolates analog signals.

Features:

- Analog unipolar/bipolar signals at input/output
- A digital signal output reacts to configured measuring range limits (switching ON/OFF delay and threshold value switch function configurable with up to two threshold values).
- A digital HOLD input freezes the output signal.
- Clipping capability provides 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

Note:

Additional setting options via interface configuration software or interface configuration app

Data

Technical Data

Configuration

Configuration options

DIP switches
Interface configuration software
Interface configuration app
Configuration display

Input

Input signal type	Voltage Current
Input signal voltage	$\pm 1 \text{ V}$; $0 \dots 1 \text{ V}$; $\pm 5 \text{ V}$
Input signal, current	$\pm 1 \text{ mA}$; $0 \dots 1 \text{ mA}$; $\pm 10 \text{ mA}$
Input resistance (input/voltage)	$\geq 1 \text{ M}\Omega$
Max. input current	$\pm 120 \text{ mA}$
Max. input voltage	$\pm 250 \text{ V}$

Input – Digital

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

Output

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 (output/voltage)	$\geq 1 \text{ k}\Omega$
Load impedance (output/current)	$\leq 600 \Omega$

Output – Digital

Max. switching voltage (DO)	Supply voltage applied: -0.3 V
Max. continuous current (DO)	100 mA (no internal restriction)
Number of switching thresholds (DO)	1 or 2 (adjustable)
Configurable rise/fall delay time (DO)	$0 \dots 60 \text{ s}$ (via software)

Signal processing

Max. operating frequency	10 kHz / 5 kHz / 100 Hz / 30 Hz (configurable via DIP switch or software)
Software filter; adjustable	moving mean value (filtering 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

Power supply

Type of power supply	24 VDC
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Nominal supply voltage U_S	DC 24 V
Supply voltage range	$\pm 30\%$
Current consumption at supply voltage	$\leq 70\text{ mA (+ } I_{D0})$

Safety and protection:

Test voltage (input/output/supply)	AC 4 kV; 50 Hz; 1 min
Protection class	IP20

Connection data

Connection technology	Push-in CAGE CLAMP®
WAGO terminal	picoMAX® 5.0
Solid conductor	0.2 ... 2.5 mm ² / 24 ... 12 AWG
Fine-stranded conductor	0.2 ... 2.5 mm ² / 24 ... 12 AWG
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch

Geometrical Data

Width	12.5 mm / 0.492 inch
Height from upper-edge of DIN-35 rail	107 mm / 4.213 inch
Depth	110 mm / 4.331 inch

Mechanical data

Type of mounting	DIN-35 rail
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Material Data

Fire load	1.681 MJ
Weight	85.859 g

Environmental Requirements

Surrounding air (operating) temperature	-40 ... 70 °C
Surrounding air (storage) temperature	-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)
Country of origin	DE
GTIN	4050821676966
Customs Tariff No.	85437090300

Compatible products

Jumper















Item no.: 281-482 Comb-style jumper bar; insulated; 2-way; IN = IN terminal block	www.wago.com/281-482
Item no.: 859-402 Push-in type jumper bar; 2-way; Nominal current 18 A; insulated	www.wago.com/859-402
Item no.: 859-402/000-005 Push-in type jumper bar; 2-way; Nominal current 18 A; insulated	www.wago.com/859-402/000-005
Item no.: 859-402/000-006 Push-in type jumper bar; 2-way; Nominal current 18 A; insulated	www.wago.com/859-402/000-006
 Item no.: 859-402/000-029 Push-in type jumper bar; 2-way; Nominal current 18 A; insulated	www.wago.com/859-402/000-029
















power supply

Item no.: 787-2852 Switched-mode power supply; for JUMPFLEX® Signal Conditioners; 1-phase; 24 VDC output voltage; 1 A output current	www.wago.com/787-2852
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Marking accessories

Item no.: 2009-110 Marking strips; on reel; not stretchable; plain; snap-on type	www.wago.com/2009-110
Item no.: 2009-115 WMB-Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type	www.wago.com/2009-115
Item no.: 2009-115/000-002 WMB-Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type	www.wago.com/2009-115/000-002
Item no.: 2009-115/000-006 WMB-Inline; for smartPRINTER; on reel; stretchable 5 - 5.2 mm; plain; snap-on type	www.wago.com/2009-115/000-006

	<p>Item no.: 2009-115/000-007 WMB-Inline; for smartPRINTER; on reel; stretchable 5 - 5.2 mm; plain; snap-on type</p>	www.wago.com/2009-115/000-007
	<p>Item no.: 2009-115/000-012 WMB-Inline; for smartPRINTER; on reel; stretchable 5 - 5.2 mm; plain; snap-on type</p>	www.wago.com/2009-115/000-012
	<p>Item no.: 2009-115/000-017 WMB-Inline; for smartPRINTER; on reel; stretchable 5 - 5.2 mm; plain; snap-on type</p>	www.wago.com/2009-115/000-017
	<p>Item no.: 2009-115/000-023 WMB-Inline; for smartPRINTER; on reel; stretchable 5 - 5.2 mm; plain; snap-on type</p>	www.wago.com/2009-115/000-023
	<p>Item no.: 2009-115/000-024 WMB-Inline; for smartPRINTER; on reel; stretchable 5 - 5.2 mm; plain; snap-on type</p>	www.wago.com/2009-115/000-024
	<p>Item no.: 2009-141 Micro-WSB-Inline; auf Rolle; unbedruckt; aufrastbar</p>	www.wago.com/2009-141
	<p>Item no.: 793-501 WMB marking card; as card; not stretchable; plain; snap-on type</p>	www.wago.com/793-501
	<p>Item no.: 793-501/000-002 WMB marking card; as card; not stretchable; plain; snap-on type</p>	www.wago.com/793-501/000-002
	<p>Item no.: 793-501/000-005 WMB marking card; as card; not stretchable; plain; snap-on type</p>	www.wago.com/793-501/000-005
	<p>Item no.: 793-501/000-006 WMB marking card; as card; not stretchable; plain; snap-on type</p>	www.wago.com/793-501/000-006
	<p>Item no.: 793-501/000-007 WMB marking card; as card; not stretchable; plain; snap-on type</p>	www.wago.com/793-501/000-007
	<p>Item no.: 793-501/000-012 WMB marking card; as card; not stretchable; plain; snap-on type</p>	www.wago.com/793-501/000-012
	<p>Item no.: 793-501/000-017 WMB marking card; as card; not stretchable; plain; snap-on type</p>	www.wago.com/793-501/000-017
	<p>Item no.: 793-501/000-023 WMB marking card; as card; not stretchable; plain; snap-on type</p>	www.wago.com/793-501/000-023
	<p>Item no.: 793-501/000-024 WMB marking card; as card; not stretchable; plain; snap-on type</p>	www.wago.com/793-501/000-024

	<p>Item no.: 793-502 WMB marking card; as card; MARKED; 1 ... 10 (10x); not stretchable; Horizontal marking; snap-on type</p>	www.wago.com/793-502
	<p>Item no.: 793-502/000-002 WMB marking card; as card; MARKED; 1 ... 10 (10x); not stretchable; Horizontal marking; snap-on type</p>	www.wago.com/793-502/000-002
	<p>Item no.: 793-502/000-005 WMB marking card; as card; MARKED; 1 ... 10 (10x); not stretchable; Horizontal marking; snap-on type</p>	www.wago.com/793-502/000-005
	<p>Item no.: 793-502/000-006 WMB marking card; as card; MARKED; 1 ... 10 (10x); not stretchable; Horizontal marking; snap-on type</p>	www.wago.com/793-502/000-006
	<p>Item no.: 793-502/000-007 WMB marking card; as card; MARKED; 1 ... 10 (10x); not stretchable; Horizontal marking; snap-on type</p>	www.wago.com/793-502/000-007
	<p>Item no.: 793-502/000-012 WMB marking card; as card; MARKED; 1 ... 10 (10x); not stretchable; Horizontal marking; snap-on type</p>	www.wago.com/793-502/000-012
	<p>Item no.: 793-502/000-017 WMB marking card; as card; MARKED; 1 ... 10 (10x); not stretchable; Horizontal marking; snap-on type</p>	www.wago.com/793-502/000-017
	<p>Item no.: 793-502/000-023 WMB marking card; as card; MARKED; 1 ... 10 (10x); not stretchable; Horizontal marking; snap-on type</p>	www.wago.com/793-502/000-023
	<p>Item no.: 793-502/000-024 WMB marking card; as card; MARKED; 1 ... 10 (10x); not stretchable; Horizontal marking; snap-on type</p>	www.wago.com/793-502/000-024
	<p>Item no.: 793-503 WMB marking card; as card; MARKED; 11 ... 20 (10x); not stretchable; Horizontal marking; snap-on type</p>	www.wago.com/793-503
	<p>Item no.: 793-503/000-002 WMB marking card; as card; MARKED; 11 ... 20 (10x); not stretchable; Horizontal marking; snap-on type</p>	www.wago.com/793-503/000-002
	<p>Item no.: 793-503/000-005 WMB marking card; as card; MARKED; 11 ... 20 (10x); not stretchable; Horizontal marking; snap-on type</p>	www.wago.com/793-503/000-005
	<p>Item no.: 793-503/000-006 WMB marking card; as card; MARKED; 11 ... 20 (10x); not stretchable; Horizontal marking; snap-on type</p>	www.wago.com/793-503/000-006
	<p>Item no.: 793-503/000-007 WMB marking card; as card; MARKED; 11 ... 20 (10x); not stretchable; Horizontal marking; snap-on type</p>	www.wago.com/793-503/000-007
	<p>Item no.: 793-503/000-012 WMB marking card; as card; MARKED; 11 ... 20 (10x); not stretchable; Horizontal marking; snap-on type</p>	www.wago.com/793-503/000-012



Item no.: 793-503/000-017

WMB marking card; as card; MARKED; 11 ... 20 (10x); not stretchable; Horizontal marking; snap-on type

www.wago.com/793-503/000-017



Item no.: 793-503/000-023

WMB marking card; as card; MARKED; 11 ... 20 (10x); not stretchable; Horizontal marking; snap-on type

www.wago.com/793-503/000-023



Item no.: 793-503/000-024

WMB marking card; as card; MARKED; 11 ... 20 (10x); not stretchable; Horizontal marking; snap-on type

www.wago.com/793-503/000-024



Item no.: 793-504

WMB marking card; as card; MARKED; 21 ... 30 (10x); not stretchable; Horizontal marking; snap-on type

www.wago.com/793-504



Item no.: 793-504/000-002

WMB marking card; as card; MARKED; 21 ... 30 (10x); not stretchable; Horizontal marking; snap-on type

www.wago.com/793-504/000-002



Item no.: 793-504/000-005

WMB marking card; as card; MARKED; 21 ... 30 (10x); not stretchable; Horizontal marking; snap-on type

www.wago.com/793-504/000-005



Item no.: 793-504/000-006

WMB marking card; as card; MARKED; 21 ... 30 (10x); not stretchable; Horizontal marking; snap-on type

www.wago.com/793-504/000-006



Item no.: 793-504/000-012

WMB marking card; as card; MARKED; 21 ... 30 (10x); not stretchable; Horizontal marking; snap-on type

www.wago.com/793-504/000-012



Item no.: 793-504/000-017

WMB marking card; as card; MARKED; 21 ... 30 (10x); not stretchable; Horizontal marking; snap-on type

www.wago.com/793-504/000-017



Item no.: 793-504/000-023

WMB marking card; as card; MARKED; 21 ... 30 (10x); not stretchable; Horizontal marking; snap-on type

www.wago.com/793-504/000-023



Item no.: 793-505

WMB marking card; as card; MARKED; 31 ... 40 (10x); not stretchable; Horizontal marking; snap-on type

www.wago.com/793-505



Item no.: 793-505/000-005

WMB marking card; as card; MARKED; 31 ... 40 (10x); not stretchable; Horizontal marking; snap-on type

www.wago.com/793-505/000-005



Item no.: 793-505/000-006

WMB marking card; as card; MARKED; 31 ... 40 (10x); not stretchable; Horizontal marking; snap-on type

www.wago.com/793-505/000-006



Item no.: 793-505/000-007

WMB marking card; as card; MARKED; 31 ... 40 (10x); not stretchable; Horizontal marking; snap-on type

www.wago.com/793-505/000-007


















Item no.: 793-505/000-012

WMB marking card; as card; MARKED; 31 ... 40 (10x); not stretchable; Horizontal marking; snap-on type

www.wago.com/793-505/000-012

Item no.: 793-506

	WMB marking card; as card; MARKED; 41 ... 50 (10x); not stretchable; Horizontal marking; snap-on type	www.wago.com/793-506
	Item no.: 793-506/000-005 WMB marking card; as card; MARKED; 41 ... 50 (10x); not stretchable; Horizontal marking; snap-on type	www.wago.com/793-506/000-005
	Item no.: 793-506/000-006 WMB marking card; as card; MARKED; 41 ... 50 (10x); not stretchable; Horizontal marking; snap-on type	www.wago.com/793-506/000-006
	Item no.: 793-506/000-012 WMB marking card; as card; MARKED; 41 ... 50 (10x); not stretchable; Horizontal marking; snap-on type	www.wago.com/793-506/000-012
	Item no.: 793-506/000-017 WMB marking card; as card; MARKED; 41 ... 50 (10x); not stretchable; Horizontal marking; snap-on type	www.wago.com/793-506/000-017
	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	www.wago.com/793-5501
	Item no.: 793-5501/000-002 WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type	www.wago.com/793-5501/000-002
	Item no.: 793-5501/000-005 WMB marking card; as card; stretchable 5 - 5.2 mm; plain; snap-on type	www.wago.com/793-5501/000-005
	Item no.: 793-5501/000-006 WMB marking card; as card; stretchable 5 - 5.2 mm; plain; snap-on type	www.wago.com/793-5501/000-006
	Item no.: 793-5501/000-007 WMB marking card; as card; stretchable 5 - 5.2 mm; plain; snap-on type	www.wago.com/793-5501/000-007
	Item no.: 793-5501/000-012 WMB marking card; as card; stretchable 5 - 5.2 mm; plain; snap-on type	www.wago.com/793-5501/000-012
	Item no.: 793-5501/000-014 WMB marking card; as card; stretchable 5 - 5.2 mm; plain; snap-on type	www.wago.com/793-5501/000-014
	Item no.: 793-5501/000-017 WMB marking card; as card; stretchable 5 - 5.2 mm; plain; snap-on type	www.wago.com/793-5501/000-017
	Item no.: 793-5501/000-023 WMB marking card; as card; stretchable 5 - 5.2 mm; plain; snap-on type	www.wago.com/793-5501/000-023
	Item no.: 793-5501/000-024 WMB marking card; as card; stretchable 5 - 5.2 mm; plain; snap-on type	www.wago.com/793-5501/000-024

**Item no.: 793-566**

WMB marking card; as card; MARKED; 1 ... 50 (2x); not stretchable; Horizontal marking; snap-on type

www.wago.com/793-566**Item no.: 793-566/000-002**

WMB marking card; as card; MARKED; 1 ... 50 (2x); not stretchable; Horizontal marking; snap-on type

www.wago.com/793-566/000-002**Item no.: 793-566/000-005**

WMB marking card; as card; MARKED; 1 ... 50 (2x); not stretchable; Horizontal marking; snap-on type

www.wago.com/793-566/000-005**Item no.: 793-566/000-006**

WMB marking card; as card; MARKED; 1 ... 50 (2x); not stretchable; Horizontal marking; snap-on type

www.wago.com/793-566/000-006**Item no.: 793-566/000-007**

WMB marking card; as card; MARKED; 1 ... 50 (2x); not stretchable; Horizontal marking; snap-on type

www.wago.com/793-566/000-007**Item no.: 793-566/000-012**

WMB marking card; as card; MARKED; 1 ... 50 (2x); not stretchable; Horizontal marking; snap-on type

www.wago.com/793-566/000-012**Item no.: 793-566/000-017**

WMB marking card; as card; MARKED; 1 ... 50 (2x); not stretchable; Horizontal marking; snap-on type

www.wago.com/793-566/000-017**Item no.: 793-566/000-023**

WMB marking card; as card; MARKED; 1 ... 50 (2x); not stretchable; Horizontal marking; snap-on type

www.wago.com/793-566/000-023**Item no.: 793-566/000-024**

WMB marking card; as card; MARKED; 1 ... 50 (2x); not stretchable; Horizontal marking; snap-on type

www.wago.com/793-566/000-024**General accessories****Item no.: 2857-900**

Configuration display

www.wago.com/2857-900**Item no.: 750-921**

Bluetooth® Adapter

www.wago.com/750-921**Item no.: 750-923**

Configuration cable; USB connector

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**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

www.wago.com/857-304**Item no.: 857-979**

Supply and through module

www.wago.com/857-979**Test Accessories****Item no.: 735-500**

Test pin; with solder connection for test wire

www.wago.com/735-500



assembling

Item no.: 249-116 Screwless end stop; 6 mm wide	www.wago.com/249-116
Item no.: 249-117 Screwless end stop; 10 mm wide	www.wago.com/249-117
Item no.: 249-197 Screwless end stop; 14 mm wide	www.wago.com/249-197

tools

Item no.: 210-720 Operating tool with partially insulated shaft; Type 2, blade (3.5 x 0.5) mm	www.wago.com/210-720
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Downloads**Documentation****Instruction Leaflet**

JUMPFLEX® Signal Conditioner, Universal Isolation Amplifier, Data Sheet	10-feb-2014	pdf 2.3 MB	Download
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Additional Information

Disposal; Electrical and electronic equipment, Packaging	V 1.0.0 10-oct-2018	pdf 265.8 kB	Download
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Engineering-Software**Software for Interface-Products**

Interface Configuration Software SMALL The full setup only includes the WAGO Interface Configuration Software.	1.6.2.11 14-ene-2019	exe 47.1 MB	Download
Interface Configuration Software FULL The full setup, in addition to the WAGO Interface Configuration Software, includes the installation for the Microsoft .NET Framework.	1.6.2.11 14-ene-2019	exe 97.5 MB	Download

Runtime Software**Firmware**

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 09-may-2017	zip 293.4 kB	Download
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CAD/CAE - Smart Data**CAD data**



3D Download 2857-401

URL

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Subject to changes.

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Do you have any questions about our products?
We are always happy to take your call at {0}.