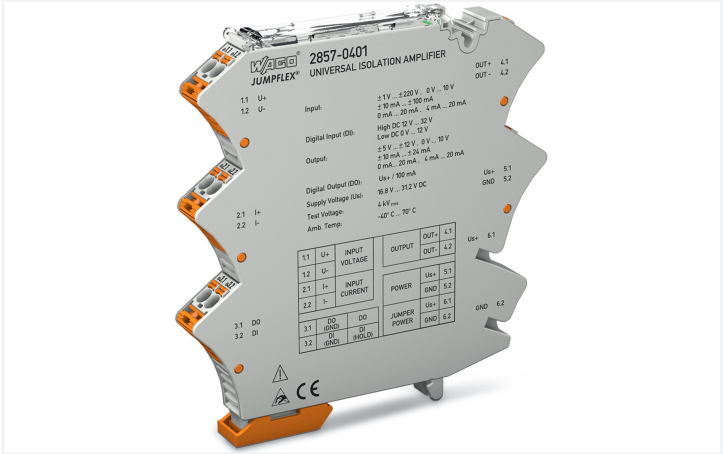


Data Sheet | Item Number: 2857-401

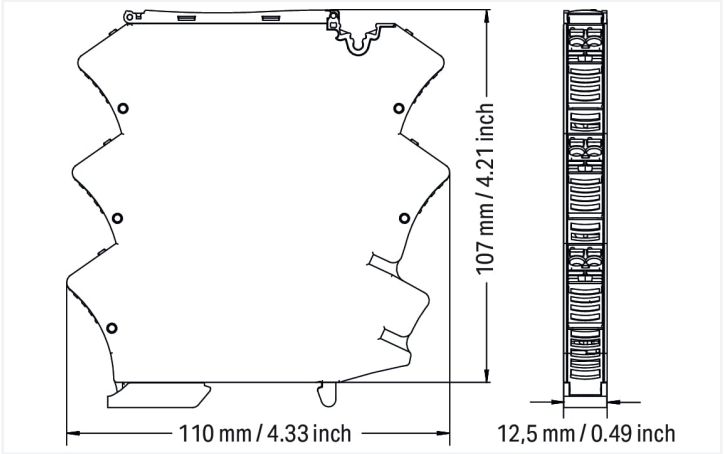
Isolation amplifier; Bipolar current and voltage input signal; Bipolar current and voltage output signal; Digital output; Supply voltage: 24 VDC; 12.5 mm module width

<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									
1	Signal	2	Polarity	3	4	5	Range / mA	Range / V	6
Current	Unipolar	Unipolar	Unipolar	Unipolar	Unipolar	Unipolar	0 ... 10	0 ... 10	Inverted Characteristic
• Voltage	• Bipolar *	•	•	•	•	•	0 ... 1	0 ... 1	• Not inverted
							0 ... 5	0 ... 5	• Inverted
							0 ... 10	1 ... 5	
							2 ... 10	2 ... 10	
							4 ... 20	0 ... 30	
							0 ... 50	0 ... 100	
							0 ... 100	0 ... 220	
DIP Switch S2									
9	Signal	10	Polarity	1	2	3	Range / mA	Range / V	
Current	Unipolar	Unipolar	Unipolar	Unipolar	Unipolar	Unipolar	0 ... 10	0 ... 10	
• Voltage	• Bipolar *	•	•	•	•	•	4 ... 20	2 ... 10	
							0 ... 10	0 ... 5	
							2 ... 10	1 ... 5	
DIP Switch S2									
3	4	Measuring Range Underflow	Measuring Range Overflow	5	6	Digital Output (DO)			
•	•	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 _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			



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 4 kV test voltage per EN 61140

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 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

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

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	
Protection type	IP20
Test voltage	
Test voltage (input/output/supply)	4 kVAC; 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	85.4 g

Environmental requirements	
Ambient temperature (operation)	-40 ... +70 °C
Ambient 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 EN 50121-3-2



Commercial data		
Product Group	6 (INTERFACE ELECTRONIC)	
eCl@ss 10.0	27-21-01-20	
eCl@ss 9.0	27-21-01-20	
ETIM 9.0	EC002653	
ETIM 8.0	EC002653	
PU (SPU)	1 pcs	
Packaging type	Bag	
Country of origin	DE	
GTIN	4050821676966	
Customs tariff number	85437090300	

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 Perfluorobutane sulfonic acid (PFBS) and its salts 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	
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	
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



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



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	↓

Instruction Leaflet			
Messumformer, Universal-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, Trennverstärker	V 03 24.04.2023	zip	486.45 KB	↓



1 Compatible Products

1.1 Optional Accessories

1.1.1 Communication

1.1.1.1 Bluetooth



[Item No.: 750-921](#)
Bluetooth® Adapter

1.1.1.2 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

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-USB-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 mar-
king; snap-on type; white



[Item No.: 793-566](#)
WMB marking card; as card; MARKED; 1 ...
50 (2x); not stretchable; Horizontal mar-
king; 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



1.1.4.1 Marker



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 module



Item No.: 857-979
Supply and through module

1.1.7.2 Through terminal block



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



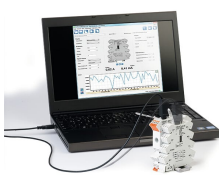
Item No.: 210-720
Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; multicoloured

Installation Notes

Configuring



Configuration via DIP switch



Configuration via WAGO Interface Configuration Software



Configuration via WAGO Interface Configuration App



Configuration via WAGO Configuration Display

Conductor termination

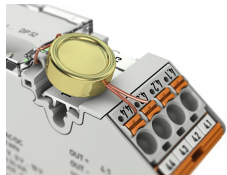


Pluggable connection technology



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

Security



Lock-out seal option