

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



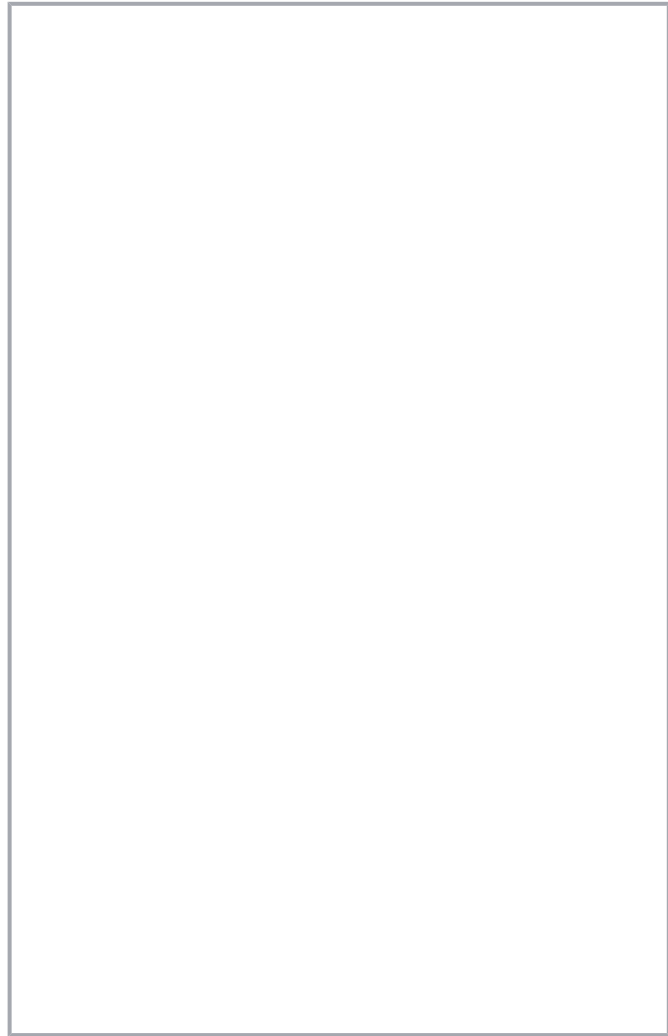
www.wago.com/2857-401



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

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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

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- 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
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)	$\leq 50 \Omega$
Input resistance (voltage input)	$\geq 1 \text{ M}\Omega$
Input current (max.)	± 120 mA
Input voltage (max.)	± 250 V

Input (digital)

Hold signal	$11.8 \text{ V} \dots U_S$
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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 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)	$0 \dots 60 \text{ s}$ (via software)
Setting range (frequency generator)	$0.3 \dots 100 \text{ Hz}$

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	$\leq 0.01 \%/K$

Power supply

Power supply type	24 VDC
Nominal supply voltage U_S	DC 24 V
Supply voltage range	$\pm 30 \%$
Current consumption at nominal supply voltage	$\leq 70 \text{ mA}$ (+ I_{DO})

Safety and protection

Protection type	IP20
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Test voltage

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

Connection technology	Push-in CAGE CLAMP®
WAGO connector	<i>picoMAX</i> ® 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 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
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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

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

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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
Recupel Type	
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	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

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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

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

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 mm ² ; gray www.wago.com/857-304

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
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

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**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

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

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

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

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**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**Testing and measuring**

Testing accessories

Item no.: 735-500WAGO Test pin; 1 mm Ø; 30 V AC / 60 V DC; CAT0; 1 A; 6 mm uninsulated; Test lead for soldering up to 0,5mm²www.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**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**Terminal blocks**

Supply module

Item no.: 857-979

Supply and through module

www.wago.com/857-979**Downloads****Documentation****Manual**

WAGO Isolating Amplifiers

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Instruction Leaflet

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2.2 MB

Engineering-Software

Configuration and Commissioning Software

WAGO Interface Configuration Software G2 SMALL

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The full setup only includes the WAGO Interface Configuration Software G2.

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WAGO Interface Configuration Software G2 FULL

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The full setup, in addition to the WAGO Interface Configuration Software G2, includes the installation for the Microsoft .NET Framework.

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Runtime Software

Firmware

2857-0401, Trennverstärker

V 03

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CAD/CAE-Data

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Environmental Product Compliance

Compliance Search

Environmental Product Compliance 2857-401

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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

Configuring



Configuration via DIP switch



Configuration via WAGO Interface
Configuration Software



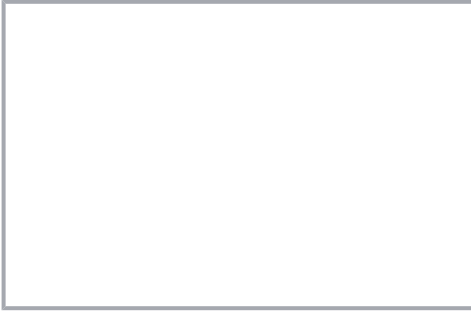
Configuration via WAGO Interface
Configuration App



Configuration via WAGO Configuration Display

Conductor termination

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Pluggable connection technology



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

Security



Lock-out seal option

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