

Short description:

WAGO's potentiometer signal conditioner records resistance signals (e.g., from potentiometers) and converts them into a standard analog signal. The device is supplied with 24 VDC (nominal voltage). It is set via DIP switch or push/slide switch.

Features:

- PC configuration interface
- Calibrated measurement range switching
- Automatic maximum value identification for the connected potentiometer

Notes

Safety Information	Input and output must be safely isolated from any hazardous live parts!
Note	<p>Use shielded signal cables! Only use shielded signal cables for analog input and output signals. This ensures the device maintains its specified accuracy and immunity to interference, even when external disturbances affect the signal cable. Additional setting options via the WAGO Interface Configuration Software</p>

Technical data

Configuration		Input	
Configuration options	DIP switch WAGO Interface Configuration Software Push/slide switch	Input signal type	Potentiometer Resistance
Input (resistors)		Output (analog)	
Input range (resistor)	0 ... 100 kΩ	Output signal type	Current Voltage
Input range (potentiometer)	0 ... 100 kΩ	Output signal (voltage)	0 ... 5 V 1 ... 5 V 0 ... 10 V 2 ... 10 V
Potentiometer supply voltage (max.)	2.5 V	Output signal (current)	0 ... 10 mA 2 ... 10 mA 0 ... 20 mA 4 ... 20 mA
Measurement span (min.)	100 Ω	Load impedance (voltage output)	≥ 2 kΩ
		Load impedance (current output)	≤ 600 Ω
Output (digital)		Signal Processing	
Switching voltage (DO) max.	Supply voltage applied	Step response (typ.)	32 ms
Continuous current (DO) max.	100 mA (no internal restriction)		
Number of switching thresholds (DO)	2 (adjustable switching points)		

Measurement Error

Transmission error (typ.)	≤ 0.1 % of upper-range value
Temperature coefficient	≤ 0.01 %/K

Power Supply

Power supply type	24 VDC (SELV)
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 50 mA (+ I_{D0})
Power consumption (max.)	4 W
Power loss (max.) $P_{1(max)}$	0.9 W

Safety and protection

Rated Voltage	300 V
Overvoltage category	II
Pollution degree	2
Protection type	IP20

Test voltage

Test voltage (input/output/supply)	2 kVAC; 50 Hz; 1 min
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Insulation coordination

Insulation type (input/analog output/supply)	Functional insulation
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Connection Data

Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 14 AWG
Fine-stranded conductor	0.34 ... 2.5 mm ² / 22 ... 14 AWG
Strip length	9 ... 10 mm / 0.35 ... 0.39 inches

Physical data

Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches

Mechanical data

Mounting type	DIN-35 rail
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Material data

Insulation material (main housing)	Polyamide (PA66)
Flammability class per UL94	V0
Fire load	0.418 MJ
Weight	36.6 g

Environmental requirements

Ambient temperature (operation)	-25 ... +70 °C
Ambient temperature (storage)	-40 ... +85 °C
Temperature range of connection cable	≥ (T _{ambient} + 9 K)
Relative humidity	5 ... 95 % (no condensation permissible)
Operating altitude (max.)	2000 m

Standards and Specifications

Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4
Standards/specifications	DNV EN 61010-1

Commercial data

Product Group	6 (INTERFACE ELECTRONIC)
PU (SPU)	1 pcs
Packaging type	Bag
Country of origin	DE
GTIN	4050821480761
Customs tariff number	85437090300

Product Classification

UNSPSC	32101513
eCl@ss 10.0	27-21-01-20
eCl@ss 9.0	27-21-01-20
ETIM 9.0	EC002653
ETIM 10.0	EC002653
ECCN	NO US CLASSIFICATION

Environmental Product Compliance

CAS-No.	1303-86-2 1317-36-8 7439-92-1 79-94-7 80-05-7
REACH Candidate List Substance	2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol 4,4'-isopropylidenediphenol Diboron trioxide Lead Lead monoxide
RoHS Compliance Status	Compliant,With Exemption
RoHS Exemption	6(c) 7(a) 7(c)-I 7(c)-II
SCIP notification number (Bulgaria)	852b910c-257c-472c-a61b-3693d1584e48
SCIP notification number (Czech Republic)	ca15a22b-2053-43e4-b99b-5ae3cefb73bd

Approvals / Certificates

General approvals

Declarations of conformity and manufacturer's declarations



Approval	Standard	Certificate Name
EAC GZO Almaty Standart	TP TC 020/2011	EAC CoC 03081

Approval	Standard	Certificate Name
EU-Declaration of Confor- mity WAGO GmbH & Co. KG	-	-
UK-Declaration of Confor- mity WAGO GmbH & Co. KG	-	-

Approvals for marine applications



Approval	Standard	Certificate Name
BV Bureau Veritas S.A.	Rules for class. of Steel Ships	40179_B0

Approvals for hazardous areas



Approval	Standard	Certificate Name
ATEX TUEV Nord Cert GmbH	EN 60079-0	TUEV14ATEX112692X (II 3G Ex ec IIC T4 Gc)
CCC CNEX	CNCA-C23-01	2020312310000210 (Ex ec IIC T4 Gc)
IECEx TUEV Nord Cert GmbH	-	IECEX TUN14.0030X
UKEx WAGO GmbH & Co. KG	EN 60079-0	WAGO22UKEX004X
UL Underwriters Laboratories Inc. (HAZARDOUS LOCATIONS)	ANSI/ISA 12.12.01	E198726

Downloads

Environmental Product Compliance

Compliance Search
Environmental Product Compliance 857-809 ↓

Documentation

Manual
WAGO Signal Conditioners with Special Functions ↓

Bid Text			
857-809	19.02.2019	xml 5.97 KB	↓
857-809	20.02.2019	docx 17.66 KB	↓

Instruction Leaflet

CCC Ex (Additional information)	26.04.2023	pdf 140.99 KB	↓
Potipositionsmessumformer		pdf 2579.65 KB	↓

CAD/CAE-Data

CAD data
2D/3D Models 857-809 ↓

CAE data
EPLAN Data Portal 857-809 ↓
WSCAD Universe 857-809 ↓
ZUKEN Portal 857-809 ↓

1 Compatible Products

1.1 Optional Accessories

1.1.1 Cables and connectors

1.1.1.1 Communication cable



Item No.: 750-923/000-001
 Configuration cable; USB connector;
 Length: 5 m

1.1.3 Interface module

1.1.3.1 Interface adapters



Item No.: 857-980
 Interface adapter; 16-pole; analog

1.1.4 Jumper

1.1.4.1 Jumper



Item No.: 281-482
 Jumper; 2-way; insulated; gray



Item No.: 859-410/000-006
 Jumper; for jumper slot; 10-way; insulated; blue



Item No.: 859-410
 Jumper; for jumper slot; 10-way; insulated; light gray



Item No.: 859-410/000-005
 Jumper; for jumper slot; 10-way; insulated; red



Item No.: 859-410/000-029
 Jumper; for jumper slot; 10-way; insulated; yellow



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



Item No.: 859-403/000-006
 Jumper; for jumper slot; 3-way; insulated; blue



Item No.: 859-403
 Jumper; for jumper slot; 3-way; insulated; light gray



Item No.: 859-403/000-005
 Jumper; for jumper slot; 3-way; insulated; red



Item No.: 859-403/000-029
 Jumper; for jumper slot; 3-way; insulated; yellow



Item No.: 859-404/000-006
 Jumper; for jumper slot; 4-way; insulated; blue



Item No.: 859-404
 Jumper; for jumper slot; 4-way; insulated; light gray



Item No.: 859-404/000-005
 Jumper; for jumper slot; 4-way; insulated; red



Item No.: 859-404/000-029
 Jumper; for jumper slot; 4-way; insulated; yellow



Item No.: 859-405/000-006
 Jumper; for jumper slot; 5-way; insulated; blue



Item No.: 859-405
 Jumper; for jumper slot; 5-way; insulated; light gray



Item No.: 859-405/000-005
 Jumper; for jumper slot; 5-way; insulated; red



Item No.: 859-405/000-029
 Jumper; for jumper slot; 5-way; insulated; yellow



Item No.: 859-406/000-006
 Jumper; for jumper slot; 6-way; insulated; blue



Item No.: 859-406
 Jumper; for jumper slot; 6-way; insulated; light gray



Item No.: 859-406/000-005
 Jumper; for jumper slot; 6-way; insulated; red



Item No.: 859-406/000-029
 Jumper; for jumper slot; 6-way; insulated; yellow



Item No.: 859-407/000-006
 Jumper; for jumper slot; 7-way; insulated; blue



Item No.: 859-407
 Jumper; for jumper slot; 7-way; insulated; light gray



Item No.: 859-407/000-005
 Jumper; for jumper slot; 7-way; insulated; red

1.1.4.1 Jumper



Item No.: 859-407/000-029
 Jumper; for jumper slot; 7-way; insulated; yellow



Item No.: 859-408/000-006
 Jumper; for jumper slot; 8-way; insulated; blue



Item No.: 859-408
 Jumper; for jumper slot; 8-way; insulated; light gray



Item No.: 859-408/000-005
 Jumper; for jumper slot; 8-way; insulated; red



Item No.: 859-408/000-029
 Jumper; for jumper slot; 8-way; insulated; yellow



Item No.: 859-409/000-006
 Jumper; for jumper slot; 9-way; insulated; blue



Item No.: 859-409
 Jumper; for jumper slot; 9-way; insulated; light gray



Item No.: 859-409/000-005
 Jumper; for jumper slot; 9-way; insulated; red



Item No.: 859-409/000-029
 Jumper; for jumper slot; 9-way; insulated; yellow

1.1.5 Marking

1.1.5.1 Marker



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 marking; snap-on type; white



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



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

1.1.5.2 Marking strip



Item No.: 2009-110
 Marking strips; for Smart Printer; on reel; not stretchable; plain; snap-on type; white

1.1.6 Power supply

1.1.6.1 Power Supply



Item No.: 787-2852
 Switched-mode power supply; 1-phase; 24 VDC output voltage; 1 A output current

1.1.7 Relay module

1.1.7.1 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

1.1.8 Screwless end stop

1.1.8.1 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

1.1.9 Terminal blocks

1.1.9.1 Supply module



Item No.: 857-979

Supply and through module

1.1.9.2 Through terminal block



Item No.: 857-979

Supply and through module

1.1.10 Tool

1.1.10.1 Operating tool

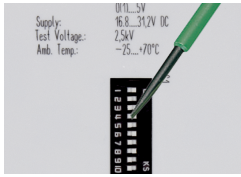


Item No.: 210-720

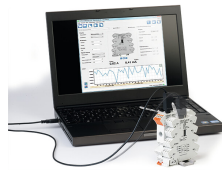
Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; multicoloured

Installation Notes

Configuring



Configuration via DIP switch

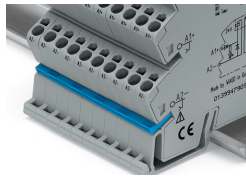


Configuration via WAGO Interface Configuration Software



Configuration via push/slide switch

Commoning



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