

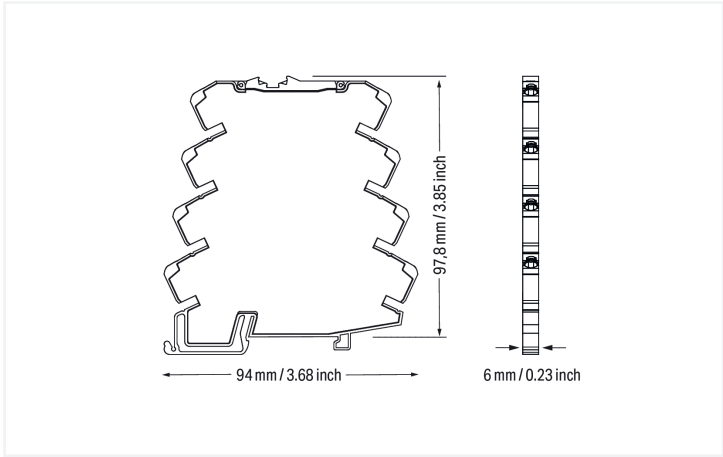
Data Sheet | Item Number: 857-452

Passive isolator, 2-channel; 2 x current input signal; 2 x current output signal; Power via input; 6 mm module width; 2,50 mm²

<https://www.wago.com/857-452>



IN 1+	1	IN 1	5	OUT 1+
GND 1	2		6	GND 2
IN 2+	3	IN 2	7	OUT 2+
GND 3	4		8	GND 4



Short description:

WAGO's passive isolator (2-channel) electrically isolates and filters 0(4) ... 20 mA standard analog signals, while drawing power for signal transmission from the input circuit. The connected sensor supplies the passive isolator with the required power to energize the connected load.

Features:

- No additional supply voltage required
- 3-way electrical isolation with 2.5 kV test voltage

Notes	
Safety Information	Outputs must not be left open!
Note	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.

Technical data

Configuration		Input	
Configuration options	Pre-configured	Input signal type	Current
		Input signal (current)	0 ... 20 mA 4 ... 20 mA
		Input current (max.)	40 mA
		Input voltage (max.)	20 V
		Response threshold	200 µA

Output (analog)		Output (voltage tap)	
Output signal type	Current	Voltage drop	≤ 2.5 V (at 20 mA at the output)
Output signal (current)	0 ... 20 mA 4 ... 20 mA		
Load impedance (current output)	≤ 600 Ω Temperature range restrictions may occur.		

Signal Processing		Measurement Error	
Limit frequency	100 Hz	Transmission error (typ.)	≤ 0.1 % of upper-range value
Step response (typ.)	3.5 ms	Load error	≤ 0.05 % of upper-range value; per 100 Ω load
		Temperature coefficient	≤ 0.01 %/K

Power Supply	
Power supply type	Passive (via input)

Safety and protection

Rated Voltage	300 V	Test voltage	
Measurement category per EN/UL 61010-2-030	CAT II (input)	Test voltage (input/output)	3 kVAC; 50 Hz; 1 min
Overvoltage category	II		
Pollution degree	2		
Protection type	IP20		

Insulation coordination (UL)	
Insulation type (input/analog output)	Reinforced insulation (safe isolation)

Connection Data

Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 ... 2.5 mm² / 28 ... 14 AWG
Fine-stranded conductor	0.34 ... 2.5 mm² / 22 ... 14 AWG
Strip length	9 ... 10 mm / 0.35 ... 0.39 inches
Cable type	Shielded cable



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

Material data		
Insulation material (main housing)		Polyamide (PA66)
Flammability class per UL94		V0
Fire load		0.495 MJ
Weight		38.9 g

Environmental requirements		
Ambient temperature (operation)		-25 ... +70 °C
Ambient temperature (storage)		-40 ... +85 °C
Temperature range of connection cable		≥ (T _{ambient} + 15 K)
Temperature range of the connection cable (UL)		70 °C
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 61000-6-3
Standards/specifications		EN 61010-1 DNV

Commercial data		
Product Group		6 (INTERFACE ELECTRONIC)
PU (SPU)		1 pcs
Packaging type		Bag
Country of origin		DE
GTIN		4045454471354
Customs tariff number		85437090300

Product Classification		
UNSPSC		39121008
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	
RoHS Compliance Status	Compliant, No Exemption

Approvals / Certificates

General approvals			Declarations of conformity and manufacturer's declarations		
					
Approval	Standard	Certificate Name	Approval	Standard	Certificate Name
EAC GZO Almaty Standart	TP TC 020/2011	EAC CoC 03081	EU-Declaration of Conformity WAGO GmbH & Co. KG	-	-
UL Underwriters Laboratories Inc. (ORDINARY LOCATIONS)	UL 508	E175199 Sec.4	UK-Declaration of Conformity WAGO GmbH & Co. KG	-	-

Approvals for marine applications			Approvals for hazardous areas		
					
Approval	Standard	Certificate Name	Approval	Standard	Certificate Name
BV Bureau Veritas S.A.	Rules for class. of Steel Ships	40179_CO	ATEX TUEV Nord Cert GmbH	EN 60079-0	TUEV14ATEX112692X (II 3G Ex ec IIC T4 Gc)
DNV DNV Germany GmbH	DNV-CG-0339,Aug.2021	TAA00001D1	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 857-452	

Documentation

Manual		Bid Text	
WAGO Isolating Amplifiers 		857-452	20.02.2019 docx17.66 KB
		857-452	19.02.2019 xml4.85 KB



Instruction Leaflet			
CCC Ex (Additional information)	26.04.2023	pdf 140.99 KB	
Messumformer und Trennverstärker	V 2.1.0 16.08.2022	pdf 2185.84 KB	

CAD/CAE-Data	
CAD data	CAE data
2D/3D Models 857-452 	EPLAN Data Portal 857-452
	WSCAD Universe 857-452
	ZUKEN Portal 857-452

1 Compatible Products
1.1 Optional Accessories
1.1.1 Installation
1.1.1.1 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

1.1.2 Interface module
1.1.2.1 Interface adapters
Item No.: 857-980 Interface adapter; 16-pole; analog

1.1.3 Jumper			
1.1.3.1 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



1.1.3.1 Jumper

 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
 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			

1.1.4 Marking

1.1.4.1 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			

1.1.4.2 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 Terminal blocks

1.1.6.1 Supply and through module



Item No.: 857-979
Supply and through module

1.1.7 Tool

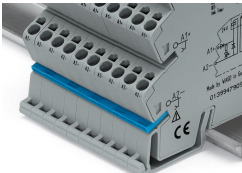
1.1.7.1 Operating tool



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

Installation Notes

Commoning



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