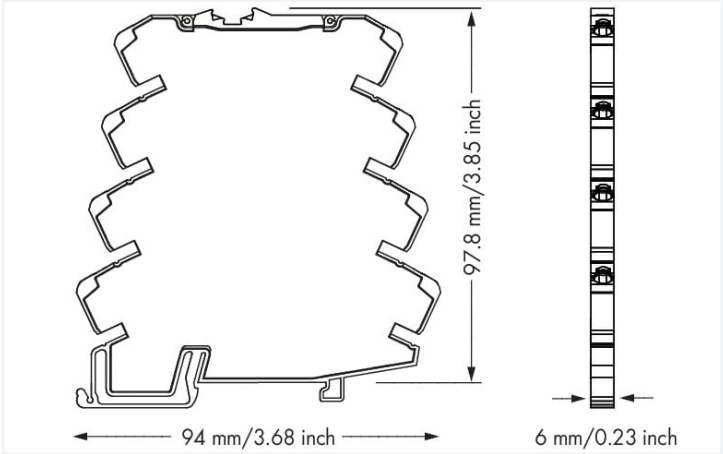
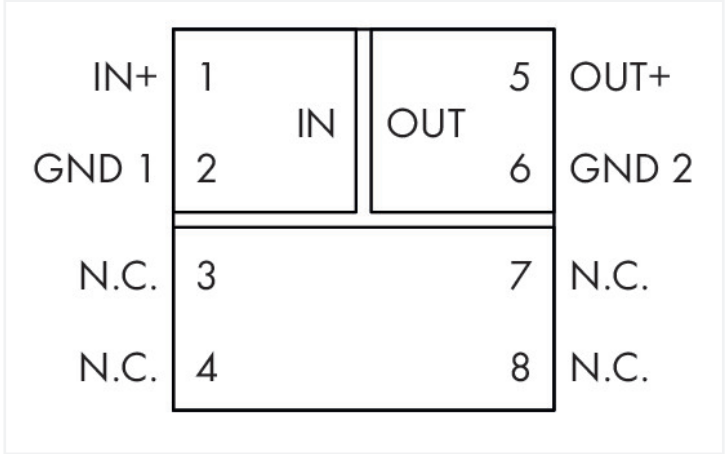
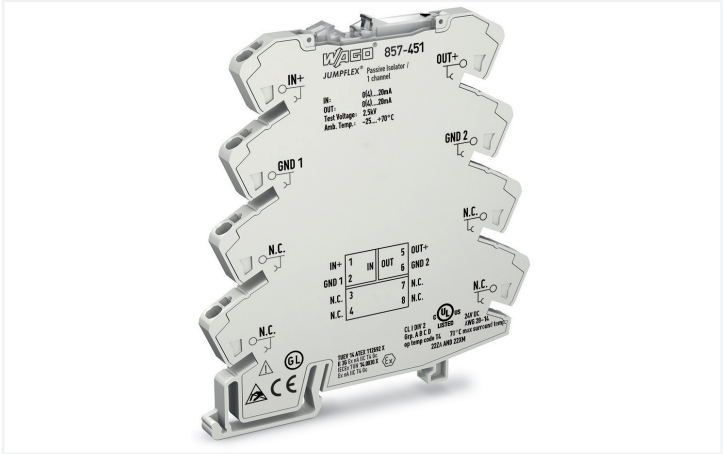


Data Sheet | Item Number: 857-451

Passive isolator, 1-channel; Current input signal; Current output signal; Power via input; 6 mm module width; 2,50 mm²

<https://www.wago.com/857-451>



Dimensions in mm

Short description:

WAGO's passive isolator (1-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 lines! Only use shielded signal lines for analog input and output signals. Only then can you ensure that the accuracy and interference immunity specified for the device can be achieved, even in the presence of interference acting on 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 signal type	Current
Output signal (current)	0 ... 20 mA; 4 ... 20 mA
Load impedance (current output)	≤ 600 ΩTemperature range restrictions may occur.

Output (voltage tap)	
Voltage drop	≤ 2.5 V at 20 mA (output)

Signal processing	
Limit frequency	100 Hz
Step response (typ.)	3.5 ms

Measurement error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
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)	AC 3 kV; 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	
Fire load	0.598 MJ
Weight	34.2 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 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)
eCl@ss 10.0	27-21-01-20
eCl@ss 9.0	27-21-01-20
ETIM 8.0	EC002653
ETIM 7.0	EC002653
PU (SPU)	1 pcs
Packaging type	Bag
Country of origin	DE
GTIN	4045454471323
Customs tariff number	85437090300

Environmental Product Compliance	
RoHS Compliance Status	Compliant, No Exemption

Approvals / Certificates											
General approvals		Declarations of conformity and manufacturer's declarations									
											
Approval	Standard	Certificate Name									
EAC Brjansker Zertifizierungs- stelle	TP TC 020/2011	EAC_Certificate_RU_C- DE.AM02.B.00115_19									
UL Underwriters Laboratories Inc. (ORDINARY LOCATI- ONS)	UL 508	E175199 Sec.4									
		<table><tr><th>Approval</th><th>Standard</th><th>Certificate Name</th></tr><tr><td>EU-Declaration of Confor- mity WAGO GmbH & Co. KG</td><td>-</td><td>-</td></tr><tr><td>UK-Declaration of Confor- mity WAGO GmbH & Co. KG</td><td>-</td><td>-</td></tr></table>	Approval	Standard	Certificate Name	EU-Declaration of Confor- mity WAGO GmbH & Co. KG	-	-	UK-Declaration of Confor- mity WAGO GmbH & Co. KG	-	-
Approval	Standard	Certificate Name									
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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
DNV DNV Germany GmbH	DNV-CG-0339, Aug. 2021	TAA00001D1
PRS Polski Rejestr Statków	-	TE/2186/880590/18

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)
EAC Brjansker Zertifizierungsstelle	TP TC 012/2011	EAC RU C-DE.AM02. B.00144/19 (2 Ex nA IIC T4 Gc X)
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 857-451

Documentation

Manual
WAGO Isolating Amplifiers

Bid Text			
857-451	20.02.2019	docx 16.26 KB	
857-451	19.02.2019	xml 4.81 KB	

Instruction Leaflet			
CCC Ex (Additional information)	26.04.2023	pdf 140.99 KB	
Messumformer und Trennverstärker	V 2.0.0 07.07.2021	pdf 2484.96 KB	

CAD/CAE-Data

CAD data
2D/3D Models 857-451

CAE data
EPLAN Data Portal 857-451
WSCAD Universe 857-451
ZUKEN Portal 857-451



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
			
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; signal 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



1.1.3.1 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; blue	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
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1.1.5 Power supply

1.1.5.1 Power supply unit



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 module



Item No.: 857-979
Supply and through module

1.1.6.2 Through terminal block



Item No.: 857-979
Supply and through module

1.1.7 Tool

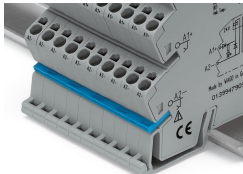
1.1.7.1 Operating tool



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.