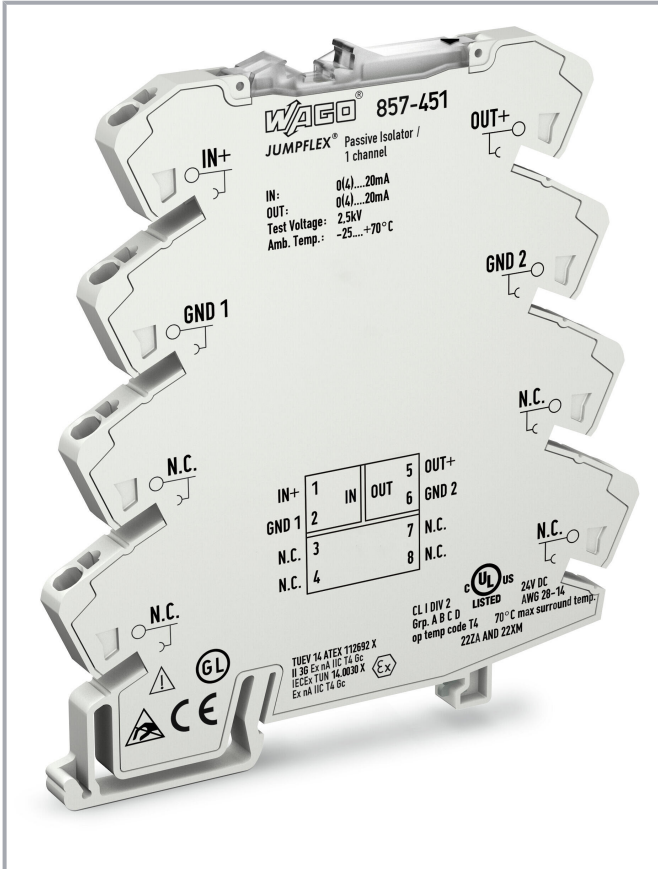


Data sheet | Item number: 857-451

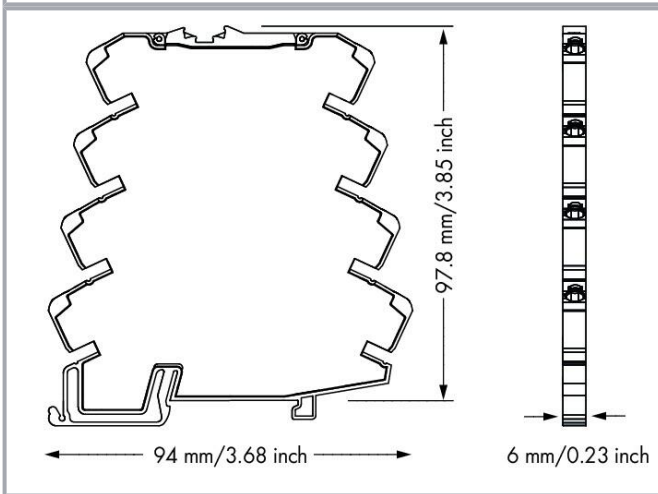
Passive isolator, 1-channel; Current input signal; Current output signal;
Power via input; 6 mm module width; 2,50 mm²



www.wago.com/857-451



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



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

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Do you have any questions about our products?
We are always happy to take your call at +49 (571) 887-44222.



Item description

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

Data

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

Configuration options	Pre-configured
-----------------------	----------------

Input

Input signal type	Current Current
Input signal (current)	0 ... 20 mA; 4 ... 20 mA
Voltage drop at input	≤ 2.5 V (at 20 mA (output))
Input current (max.)	40 mA
Input voltage (max.)	20 V
Response threshold	200 µA

Output (analog)

Output signal type	Current Current
Output signal (current)	0 ... 20 mA; 4 ... 20 mA

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



Load impedance (current output)	≤ 600 Ω	Temperature range restrictions may occur.
---------------------------------	---------	---

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

Supply

Power supply type	Passive (via input)
-------------------	---------------------

Safety and protection

Rated voltage	300 V
Measurement category per EN/UL 61010-2-030	CAT II (input)
Overvoltage category	II
Pollution degree	2
Protection type	IP20

Test voltage

Test voltage (input/output)	AC 3 kV; 50 Hz; 1 min
-----------------------------	-----------------------

Insulation parameters(UL)

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

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
Cable type	Shielded cable

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



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 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	$\geq (T_{\text{ambient}} + 15 \text{ K})$
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 EN 61010-1

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

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

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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

Logo	Approval	Additional Approval Text	Certificate name
	EAC Brjansker Zertifizierungsstelle	TP TC 020/2011	EAC_Certificate_RU_C-DE.AM02.B.00115_19

Declarations of conformity and manufacturer's declarations

Logo	Approval	Additional Approval Text	Certificate name
	EU-Declaration of Conformity WAGO GmbH & Co. KG	-	-
	UK-Declaration of Conformity WAGO GmbH & Co. KG	-	-

Approvals for marine applications

Logo	Approval	Additional Approval Text	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

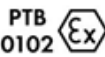





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Approvals for hazardous areas

Logo	Approval	Additional Approval Text	Certificate name
	ATEX TUEV Nord Cert GmbH	EN 60079-0	TÜV_14_ATEX_112692_X (II 3 G Ex nA 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	IEC 60079-0	IECEX_TUN_14.0030_X
	UKEx WAGO GmbH & Co. KG	EN 60079-0	WAGO22UKEX004X
	UL Underwriters Laboratories Inc. (HAZARDOUS LOCATIONS)	ANSI/ISA 12.12.01	E198726

Optional accessories

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

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



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

Interface module

Interface adapters



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

www.wago.com/857-980

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

Jumpers

Jumper



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

www.wago.com/859-408



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

www.wago.com/281-482



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

www.wago.com/859-404/000-005



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

www.wago.com/859-404/000-006



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

www.wago.com/859-405/000-005



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

www.wago.com/859-405/000-029



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

www.wago.com/859-405

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



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

www.wago.com/859-404/000-029



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

www.wago.com/859-406



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

www.wago.com/859-405/000-006



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

www.wago.com/859-406/000-005



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

www.wago.com/859-409/000-029



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

www.wago.com/859-410/000-005



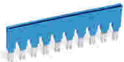
Item no.: 859-410/000-029
Jumper; for jumper slot; 10-way; insulated; yellow

www.wago.com/859-410/000-029



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

www.wago.com/859-410



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

www.wago.com/859-410/000-006



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

www.wago.com/859-403/000-005



Item no.: 859-402/000-029
Jumper; for jumper slot; 2-way; insulated; yellow

www.wago.com/859-402/000-029



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

www.wago.com/859-403/000-029



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















www.wago.com/859-403/000-006



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

www.wago.com/859-408/000-005

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

	Item no.: 859-408/000-029 Jumper; for jumper slot; 8-way; insulated; yellow	www.wago.com/859-408/000-029
	Item no.: 859-409 Jumper; for jumper slot; 9-way; insulated; light gray	www.wago.com/859-409
	Item no.: 859-408/000-006 Jumper; for jumper slot; 8-way; insulated; blue	www.wago.com/859-408/000-006
	Item no.: 859-403 Jumper; for jumper slot; 3-way; insulated; light gray	www.wago.com/859-403
	Item no.: 859-409/000-005 Jumper; for jumper slot; 9-way; insulated; red	www.wago.com/859-409/000-005
	Item no.: 859-404 Jumper; for jumper slot; 4-way; insulated; light gray	www.wago.com/859-404
	Item no.: 859-409/000-006 Jumper; for jumper slot; 9-way; insulated; blue	www.wago.com/859-409/000-006
	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
	Item no.: 859-406/000-006 Jumper; for jumper slot; 6-way; insulated; blue	www.wago.com/859-406/000-006
	Item no.: 859-406/000-029 Jumper; for jumper slot; 6-way; insulated; signal yellow	www.wago.com/859-406/000-029
	Item no.: 859-407/000-006 Jumper; for jumper slot; 7-way; insulated; blue	www.wago.com/859-407/000-006
	Item no.: 859-407/000-005 Jumper; for jumper slot; 7-way; insulated; red	www.wago.com/859-407/000-005

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



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

www.wago.com/859-407/000-029



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

www.wago.com/859-407

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



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

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

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



Downloads

Documentation

Bid Text

857-451 docx - Datei	2019 Feb 20	docx 16.7 kB	Download
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857-451 X81 - Datei	2019 Feb 19	xml 4.9 kB	Download
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Instruction Leaflet

CCC Ex (Additional information) 857-***	2023 Apr 26	pdf 144.4 kB	Download
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Messumformer und Trennverstärker Passivtrenner 1-kanalig / 2-kanalig	V 2.0.0 2021 Jul 7	pdf 2.5 MB	Download
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Additional Information

Disposal and Recycling Electrical and electronic equipment, Batteries, Packaging	V 1.1.0 2022 Aug 18	pdf 2.2 MB	Download
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CAD/CAE-Data

CAE data

EPLAN Data Portal 857-451		URL	Download
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WSCAD Universe 857-451		URL	Download
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ZUKEN Portal 857-451		URL	Download
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CAD data

2D/3D Models 857-451		URL	Download
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Environmental Product Compliance

Compliance Search

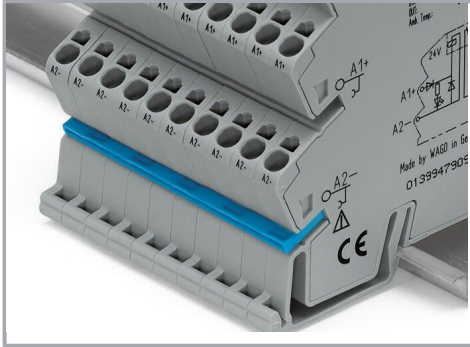
Environmental Product Compliance 857-451		URL	Download
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Subject to changes. Please also observe the further product documentation!

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

Installation Notes

Commoning



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

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