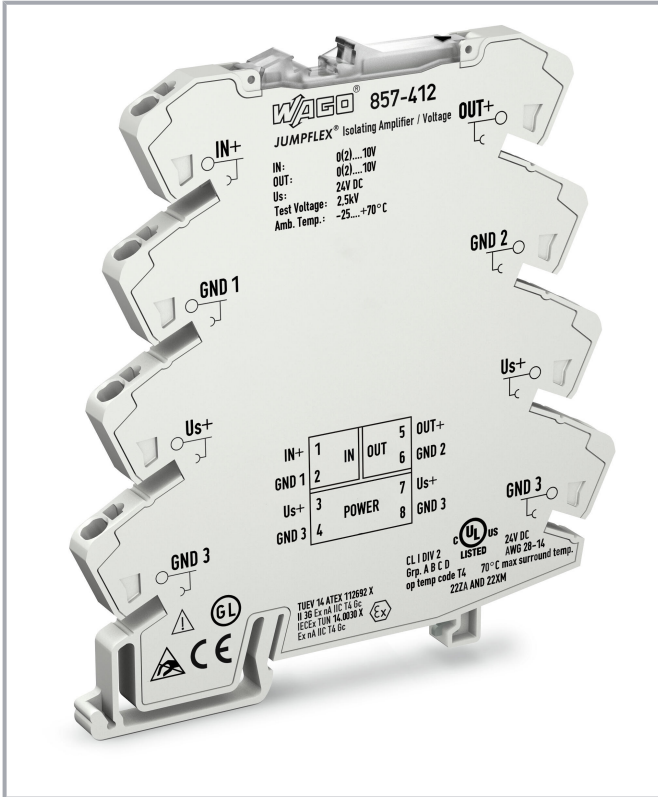


Data sheet | Item number: 857-412

Isolation amplifier; Voltage input signal; Voltage output signal; Supply voltage: 24 VDC; 6 mm module width; 2,50 mm²



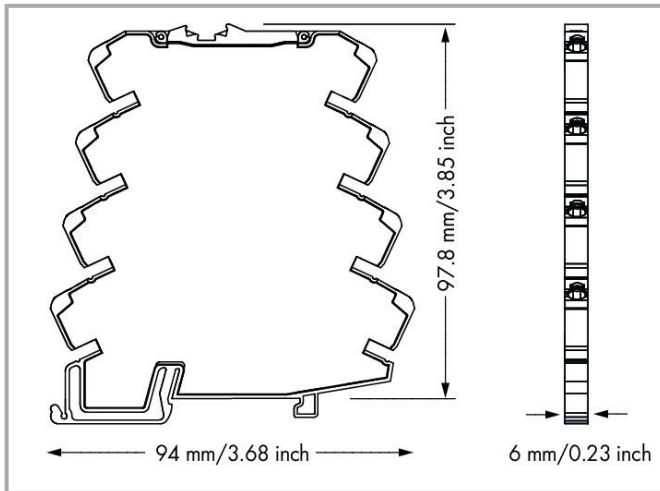
www.wago.com/857-412



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

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Item description

Short description:

This pre-configured signal conditioner converts, amplifies, filters and electrically isolates analog standard signals.

Features:

- Input/output: current or voltage signal
- Safe 3-way isolation with 2.5 kV test voltage per EN 61140

Data

Notes

Note	The 3 (Us+), 7 (Us+), 4 (GND 3) and 8 (GND 3) connections are internally commoned. Current carrying capacity between 3/4 and 7/8 connections: 1 A (max.)
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Technical data

Configuration

Configuration options	pre-configured pre-configured
-----------------------	----------------------------------

Input

Input signal type	Voltage
Input signal (voltage)	0 ... 10 V; 2 ... 10 V

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



Input resistance (voltage input)	$\geq 100 \text{ k}\Omega$
Input voltage (max.)	30 V

Output – analog

Output signal type	Voltage
Output signal (voltage)	0 ... 10 V; 2 ... 10 V
Load impedance (voltage output)	$\geq 2 \text{ k}\Omega$

Signal processing

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

Measurement error

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

Supply

Power supply type	24 VDC
Nominal supply voltage U_S	DC 24 V
Supply voltage range	$\pm 30 \%$
Power consumption at nominal supply voltage	$\leq 25 \text{ mA}$

Safety and protection

Protection type	IP20
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Test voltage

Test voltage (input/output/supply)	AC 2.5 kV; 50 Hz; 1 min
------------------------------------	-------------------------

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 inch

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



Physical data

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

Mechanical data

Mounting type	DIN-35 rail
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Material data

Fire load	0.585 MJ
Weight	35.6 g

Environmental requirements

Surrounding air temperature (operation)	-25 ... 70 °C
Surrounding air temperature (storage)	-40 ... 85 °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 61000-6-4

Commercial data

Product Group	6 (Interface Electronics)
PU (SPU)	1 Each
Packaging type	bag
Country of origin	DE
GTIN	4045454471309
Customs tariff number	85437090300

Approvals / Certificates




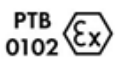

Ex-Approvals

Logo	Approval	Additional Approval Text	Certificate name
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 Ex nA IIC T4 Gc	CCCEX CQST/CNEX	CNCA-C23-01	2020312310000210 (Ex nA 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
	IECEX TUEV Nord Cert GmbH	EN 60079-0	TÜV_14_ATEX_112692_X
	UL Underwriters Laboratories Inc. (HAZARDOUS LOCATIONS)	ANSI/ISA 12.12.01	E198726

Ship Approvals

Logo	Approval	Additional Approval Text	Certificate name
	BV Bureau Veritas S.A.	Rules for class. of Steel Ships	40179_B0
	DNV GL Det Norske Veritas, Germanischer Lloyd	-	TAA00001D1
	NK Nippon Kaiji Kyokai	-	TA17255M
	PRS Polski Rejestr Statków	-	TE/2186 /880590/18

UL-Approvals

Logo	Approval	Additional Approval Text	Certificate name
	UL UL International Netherlands B.V. (ORDINARY)	UL 508	E175199 Sec.4

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



LOCATIONS)

Optional accessories

Interface module

Interface adapter

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

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 terminal block


Item no.: 857-979

Supply and through module

www.wago.com/857-979

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; 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

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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



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



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


	<p>Item no.: 859-403/000-005 Jumper; for jumper slot; 3-way; insulated; red</p>	<p>www.wago.com/859-403/000-005</p>
	<p>Item no.: 859-402/000-029 Jumper; for jumper slot; 2-way; insulated; yellow</p>	<p>www.wago.com/859-402/000-029</p>
	<p>Item no.: 859-403/000-029 Jumper; for jumper slot; 3-way; insulated; yellow</p>	<p>www.wago.com/859-403/000-029</p>
	<p>Item no.: 859-403/000-006 Jumper; for jumper slot; 3-way; insulated; blue</p>	<p>www.wago.com/859-403/000-006</p>
	<p>Item no.: 859-408/000-005 Jumper; for jumper slot; 8-way; insulated; red</p>	<p>www.wago.com/859-408/000-005</p>
	<p>Item no.: 859-408/000-029 Jumper; for jumper slot; 8-way; insulated; yellow</p>	<p>www.wago.com/859-408/000-029</p>
	<p>Item no.: 859-409 Jumper; for jumper slot; 9-way; insulated; light gray</p>	<p>www.wago.com/859-409</p>
	<p>Item no.: 859-408/000-006 Jumper; for jumper slot; 8-way; insulated; blue</p>	<p>www.wago.com/859-408/000-006</p>
	<p>Item no.: 859-403 Jumper; for jumper slot; 3-way; insulated; light gray</p>	<p>www.wago.com/859-403</p>
	<p>Item no.: 859-409/000-005 Jumper; for jumper slot; 9-way; insulated; red</p>	<p>www.wago.com/859-409/000-005</p>
	<p>Item no.: 859-404 Jumper; for jumper slot; 4-way; insulated; light gray</p>	<p>www.wago.com/859-404</p>
	<p>Item no.: 859-409/000-006 Jumper; for jumper slot; 9-way; insulated; blue</p>	<p>www.wago.com/859-409/000-006</p>
	<p>Item no.: 859-402/000-006 Jumper; for jumper slot; 2-way; insulated; blue</p>	<p>www.wago.com/859-402/000-006</p>
	<p>Item no.: 859-402 Jumper; for jumper slot; 2-way; insulated; light gray</p>	<p>www.wago.com/859-402</p>

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




	<p>Item no.: 859-402/000-005 Jumper; for jumper slot; 2-way; insulated; red</p>	www.wago.com/859-402/000-005
	<p>Item no.: 859-406/000-006 Jumper; for jumper slot; 6-way; insulated; blue</p>	www.wago.com/859-406/000-006
	<p>Item no.: 859-406/000-029 Jumper; for jumper slot; 6-way; insulated; signal yellow</p>	www.wago.com/859-406/000-029
	<p>Item no.: 859-407/000-006 Jumper; for jumper slot; 7-way; insulated; blue</p>	www.wago.com/859-407/000-006
	<p>Item no.: 859-407/000-005 Jumper; for jumper slot; 7-way; insulated; red</p>	www.wago.com/859-407/000-005
	<p>Item no.: 859-407/000-029 Jumper; for jumper slot; 7-way; insulated; yellow</p>	www.wago.com/859-407/000-029
	<p>Item no.: 859-407 Jumper; for jumper slot; 7-way; insulated; light gray</p>	www.wago.com/859-407

Marking accessories

Marking strip

	<p>Item no.: 2009-110 Marking strips; for Smart Printer; on reel; not stretchable; plain; snap-on type; white</p>	www.wago.com/2009-110
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Marker

	<p>Item no.: 2009-115 WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white</p>	www.wago.com/2009-115
	<p>Item no.: 793-501 WMB marking card; as card; not stretchable; plain; snap-on type; white</p>	www.wago.com/793-501
	<p>Item no.: 793-502 WMB marking card; as card; MARKED; 1 ... 10 (10x); not stretchable; Horizontal marking; snap-on type; white</p>	www.wago.com/793-502
	<p>Item no.: 793-503 WMB marking card; as card; MARKED; 11 ... 20 (10x); not stretchable; Horizontal marking; snap-on type; white</p>	www.wago.com/793-503
	<p>Item no.: 793-504 WMB marking card; as card; MARKED; 21 ... 30 (10x); not stretchable; Horizontal marking; snap-on type; white</p>	www.wago.com/793-504
	<p>Item no.: 793-505 WMB marking card; as card; MARKED; 31 ... 40 (10x); not stretchable; Horizontal marking; snap-on type; white</p>	www.wago.com/793-505

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



white

Item no.: 793-506WMB marking card; as card; MARKED; 41 ... 50 (10x); not stretchable; Horizontal marking; snap-on type; www.wago.com/793-506
white**Item no.: 793-566**WMB marking card; as card; MARKED; 1 ... 50 (2x); not stretchable; Horizontal marking; snap-on type; www.wago.com/793-566
white**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

Item no.: 787-2852

Switched-mode power supply; 1-phase; 24 VDC output voltage; 1 A output current; -

www.wago.com/787-2852**Downloads****Documentation****Bid Text**

857-412 pdf - Datei	18-Jul-2019	pdf 74.2 kB	Download
857-412 docx - Datei	18-Jul-2019	docx 18.6 kB	Download
857-412 X81 - Datei	18-Jul-2019	xml 5.4 kB	Download

Instruction Leaflet

Messumformer und Trennverstärker 0(2)...10 V / 0(2)...10 V	V 1.2.1 21-Jan-2020	pdf 1.6 MB	Download
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Additional Information

Disposal; Electrical and electronic equipment, Packaging	V 1.0.0	pdf 265.8 kB	Download
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CAD/CAE-Data**CAD data**

2D/3D Models 857-412	URL	Download
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CAE data

EPLAN Data Portal 857-412	URL	Download
WSCAD Universe 857-412	URL	Download
ZUKEN Portal 857-412	URL	Download

Environmental Product Compliance

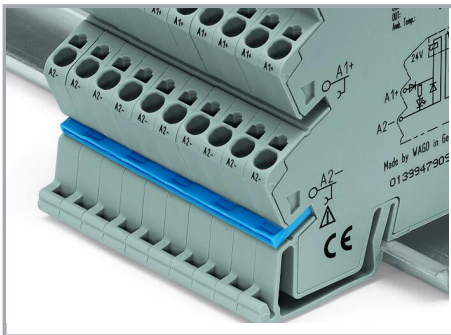
Compliance Search

Environmental Product Compliance 857-412	URL	Download
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Isolation amplifier; Voltage input signal; Voltage output signal; Supply voltage: 24 VDC; 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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