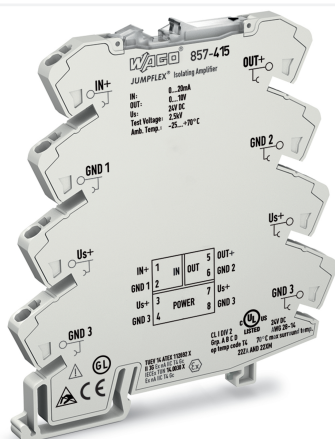


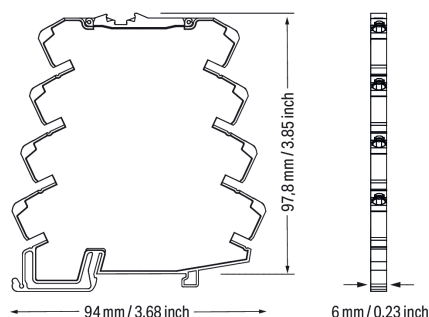
Data Sheet | Item Number: 857-415

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

<https://www.wago.com/857-415>



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



Short description:

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

Features:

- Input/output: current or voltage signal
- 3-way electrical isolation with 3 kV test voltage

Notes

Safety Information

Note

Input and output must be safely isolated from any hazardous live parts!

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.)

Use shielded signal cables!

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.

Configuration	
Configuration options	Pre-configured

Input	
Input signal type	Current

Input signal (current)	0 ... 20 mA
Input resistance (current input)	≤ 50 Ω
Input current (max.)	50 mA
Input voltage (max.)	30 V

Output (analog)	
Output signal type	Voltage
Output signal (voltage)	0 ... 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.)	≤ 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	$\pm 30\%$
Current consumption at nominal supply voltage	$\leq 20\text{ mA}$

Operating Data	
Current consumption	≤ 25 mA

Safety and protection			
Rated Voltage	300 V	Test voltage	
Protection type	IP20	Test voltage (input/output/supply)	3 kVAC; 50 Hz; 1 min

Test voltage	
Test voltage (input/output/supply)	3 kVAC; 50 Hz; 1 min

Insulation coordination	
Overvoltage category	II
Pollution degree	2
Insulation type (input IN 2.1/relay output)	Functional insulation
Insulation type (adjacent devices)	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



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		35.3 g

Environmental requirements		
Ambient temperature (operation)		-25 ... +70 °C
Ambient temperature (storage)		-40 ... +85 °C
Processing temperature		-25 ... +50 °C
Temperature range of connection cable		≥ (T _{ambient} + 25 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		EN 61010-1 UL 508

Commercial data		
Product Group		6 (INTERFACE ELECTRONIC)
PU (SPU)		1 pcs
Packaging type		Bag
Country of origin		DE
GTIN		4045454609856
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	
CAS-No.	1303-86-2 1317-36-8 7439-92-1 75980-60-8
REACH Candidate List Substance	Diboron trioxide Lead Lead monoxide Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-
RoHS Compliance Status	Compliant,With Exemption
RoHS Exemption	7(c)-I
SCIP notification number (Austria)	3c9cabd5-90f8-42e7-8350-1bb6848e0133
SCIP notification number (Belgium)	cc73672a-e836-49a2-bed0-fb6aecfffb3f
SCIP notification number (Bulgaria)	8d89263a-7cf3-4fe9-b924-da0b3923beee
SCIP notification number (Czech Republic)	4c591358-863e-48fe-b914-23ee16488f15
SCIP notification number (Denmark)	2a9a7cb4-7cb9-4e57-8fe7-5edb8cf6250a
SCIP notification number (Finland)	5062a881-9842-4214-a94d-534efc5c1361
SCIP notification number (France)	b3a28715-999a-4bc2-9483-4c8573b2c75f
SCIP notification number (Germany)	1de69947-98fc-4a79-b464-37ec3fc63c41
SCIP notification number (Hungary)	4b8fc2ed-e9cc-46d3-8413-8c2b3eda17e7
SCIP notification number (Italy)	4c73d12c-1944-4e52-8cc9-6c089b0d6e82
SCIP notification number (Netherlands)	3da05e53-2584-4ece-84e8-ce86de123173
SCIP notification number (Poland)	57a481c9-f1a1-4201-a4cd-107be2dff85b
SCIP notification number (Romania)	5bdce2ee-0474-46bc-889a-db540b8de9ac
SCIP notification number (Sweden)	c04444d2-395b-4026-875c-ca3b1fbbad05

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
UL Underwriters Laboratories Inc. (ORDINARY LOCATIONS)	UL 508	E175199 Sec.4
Approval	Standard	Certificate Name
EU-Declaration of Conformity WAGO GmbH & Co. KG	-	-
UK-Declaration of Conformity WAGO GmbH & Co. KG	-	-

Approvals for marine applications

		
Approval	Standard	Certificate Name
BV Bureau Veritas S.A.	Rules for class. of Steel Ships	40179_C0
DNV DNV Germany GmbH	DNV-CG-0339,Aug.2021	TAA00001D1

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 857-415

↓

Documentation

Bid Text

857-415	18.07.2019	xml 5.24 KB	↓
857-415	18.07.2019	docx 18.08 KB	↓
857-415	18.07.2019	pdf 72.36 KB	↓

Instruction Leaflet

CCC Ex (Additional information)	26.04.2023	pdf 140.99 KB	↓
Messumformer und Trennverstärker	V 2.0.0 16.08.2022	pdf 2190.51 KB	↓

CAD/CAE-Data

CAD data

2D/3D Models 857-415

↓

CAE data

EPLAN Data Portal 857-415

↓

WSCAD Universe 857-415

↓

ZUKEN Portal 857-415

↓

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

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Continued on next page

Downloaded from [Arrow.com](https://www.arrow.com)



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; 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

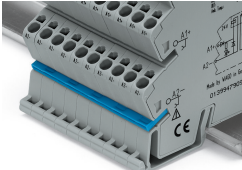
1.1.7.1 Operating tool



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 out-line allows use of a single in-line, push-in jumper.