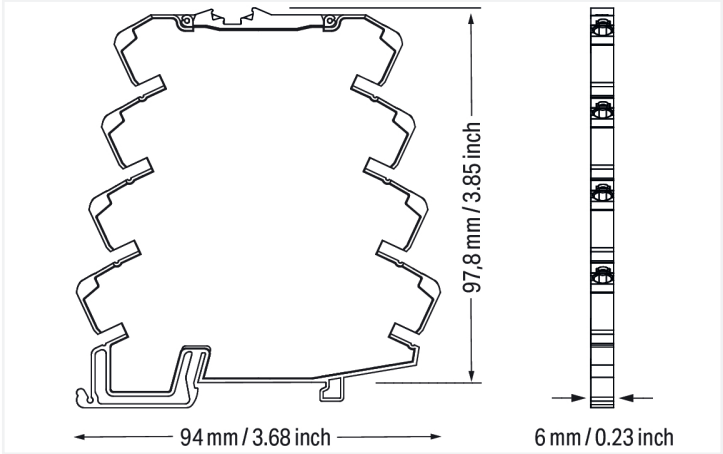
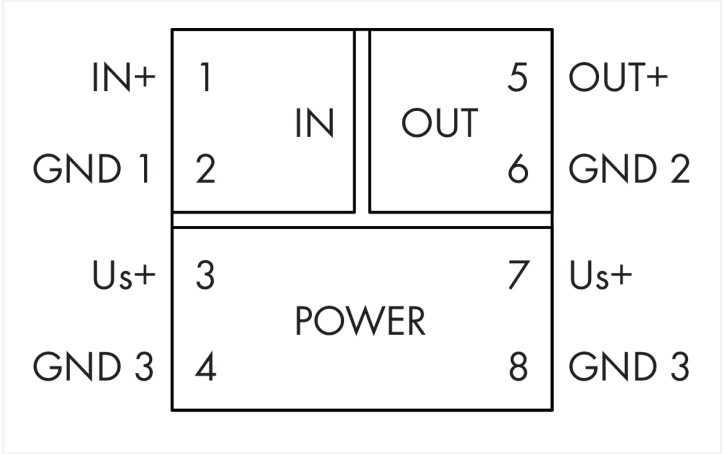


Data Sheet | Item Number: 857-414

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

<https://www.wago.com/857-414>



Short description:

WAGO's 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 2.5 kV test voltage

| Notes              |                                                                                                                                                                                                                                                               |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Safety Information | Input and output must be safely isolated from any hazardous live parts!                                                                                                                                                                                       |
| Note               | The 3 (Us+), 7 (Us+), 4 (GND 3) and 8 (GND 3) connections are internally commoned.<br>Current carrying capacity between 3/4 and 7/8 connections: 1 A (max.)                                                                                                   |
|                    | <b>Use shielded signal cables!</b><br>Only use shielded signal cables for analog input and output signals.<br>This ensures the device maintains its specified accuracy and immunity to interference, even when external disturbances affect the signal cable. |

| Technical data                   |                |
|----------------------------------|----------------|
| Configuration                    |                |
| Configuration options            | Pre-configured |
| Input                            |                |
| Input signal type                | Voltage        |
| Input signal (voltage)           | 0 ... 10 V     |
| Input resistance (voltage input) | ≥ 100 kΩ       |
| Input voltage (max.)             | 30 V           |



| Output (analog)                 |             |
|---------------------------------|-------------|
| Output signal type              | Current     |
| Output signal (current)         | 4 ... 20 mA |
| Load impedance (current output) | ≤ 600 Ω     |

| Measurement error         |                              |
|---------------------------|------------------------------|
| Transmission error (typ.) | ≤ 0.1 % of upper-range value |
| Temperature coefficient   | ≤ 0.01 %/K                   |

| Operating data      |         |
|---------------------|---------|
| Current consumption | ≤ 40 mA |

| Safety and protection |       |                                    |                      |
|-----------------------|-------|------------------------------------|----------------------|
| Rated Voltage         | 300 V | Test voltage                       |                      |
| Protection type       | IP20  | 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                          | 0.363 MJ         |
| Weight                             | 35.5 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 <sub>ambient</sub> + 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<br>UL 508 |

| Commercial data       |                          |
|-----------------------|--------------------------|
| Product Group         | 6 (INTERFACE ELECTRONIC) |
| PU (SPU)              | 1 pcs                    |
| Packaging type        | Bag                      |
| Country of origin     | DE                       |
| GTIN                  | 4045454609863            |
| 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 8.0               | EC002653             |
| ECCN                   | NO US CLASSIFICATION |

| Environmental Product Compliance          |                                                                                                 |
|-------------------------------------------|-------------------------------------------------------------------------------------------------|
| CAS-No.                                   | 1303-86-2<br>1317-36-8<br>7439-92-1<br>75980-60-8                                               |
| REACH Candidate List Substance            | Diboron trioxide<br>Lead<br>Lead monoxide<br>Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)- |
| RoHS Compliance Status                    | Compliant,With Exemption                                                                        |
| RoHS Exemption                            | 6(c)<br>7(a)<br>7(c)-I<br>7(c)-II                                                               |
| SCIP notification number (Austria)        | ee0f7499-85aa-4ad6-b4e4-f5ee04e550d1                                                            |
| SCIP notification number (Belgium)        | d1965de1-863d-4785-992f-75acc6b3516e                                                            |
| SCIP notification number (Bulgaria)       | 2d2bea65-4b3e-4e3c-8dd4-2e96cfdbf0ba                                                            |
| SCIP notification number (Czech Republic) | 4533b34f-dd11-4414-8f1e-e4b95dcf8c4a                                                            |
| SCIP notification number (Denmark)        | b2977381-317e-46af-8c7a-d6025e2303ea                                                            |



| Environmental Product Compliance       |                                      |
|----------------------------------------|--------------------------------------|
| SCIP notification number (Finland)     | e2c94759-0892-4253-bdb9-3bda2c3d237d |
| SCIP notification number (France)      | 10081c24-d42a-48b7-9033-7a2c32922d7f |
| SCIP notification number (Germany)     | 4529de71-b650-4e0a-91d8-38a9ca0b8821 |
| SCIP notification number (Hungary)     | bc1ca59a-c040-45d8-b2f4-8b8a932479f9 |
| SCIP notification number (Italy)       | 171a7562-eeb8-4681-9cfb-c198f40895f7 |
| SCIP notification number (Netherlands) | a733b0bd-2ddb-4678-abe3-33e1b582ba42 |
| SCIP notification number (Poland)      | 4344dacc-72be-4947-96d7-250e67cd947a |
| SCIP notification number (Romania)     | 9257b894-50f0-4313-957e-8bc854054435 |
| SCIP notification number (Sweden)      | f8e7ff6a-6d51-4780-88b0-6f3882c13d57 |

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

| Approvals for marine applications                                                  |                                 |                   |
|------------------------------------------------------------------------------------|---------------------------------|-------------------|
|  |                                 |                   |
| Approval                                                                           | Standard                        | Certificate Name  |
| BV<br>Bureau Veritas S.A.                                                          | Rules for class. of Steel Ships | 40179_B0          |
| DNV<br>DNV Germany GmbH                                                            | DNV-CG-0339, Aug. 2021          | TAA00001D1        |
| PRS<br>Polski Rejestr Statków                                                      | -                               | TE/1098/880590/23 |

| Approvals for hazardous areas                                                        |                   |                                           |
|--------------------------------------------------------------------------------------|-------------------|-------------------------------------------|
|  |                   |                                           |
| Approval                                                                             | Standard          | Certificate Name                          |
| ATEX<br>TUEV Nord Cert GmbH                                                          | EN 60079-0        | TUEV14ATEX112692X (II 3G Ex ec IIC T4 Gc) |
| CCC<br>CNEX                                                                          | CNCA-C23-01       | 2020312310000210 (Ex ec IIC T4 Gc)        |
| IECEx<br>TUEV Nord Cert GmbH                                                         | -                 | IECEX TUN14.0030X                         |
| UKEx<br>WAGO GmbH & Co. KG                                                           | EN 60079-0        | WAGO22UKEX004X                            |
| UL<br>Underwriters Laboratories Inc. (HAZARDOUS LOCATIONS)                           | ANSI/ISA 12.12.01 | E198726                                   |

| Downloads                                |                                                                                     |
|------------------------------------------|-------------------------------------------------------------------------------------|
| Environmental Product Compliance         |                                                                                     |
| Compliance Search                        |                                                                                     |
| Environmental Product Compliance 857-414 |  |



| Documentation |            |                  |  |                                                                                    |
|---------------|------------|------------------|--|------------------------------------------------------------------------------------|
| Bid Text      |            |                  |  | Instruction Leaflet                                                                |
| 857-414       | 18.07.2019 | xml<br>5.24 KB   |  | CCC Ex (Additional information)<br>26.04.2023<br>pdf<br>140.99 KB<br>              |
| 857-414       | 18.07.2019 | docx<br>18.26 KB |  | Messumformer und Trennverstärker<br>V 1.2.1<br>21.01.2020<br>pdf<br>1589.43 KB<br> |
| 857-414       | 18.07.2019 | pdf<br>72.39 KB  |  |                                                                                    |

| CAD/CAE-Data             |                               |
|--------------------------|-------------------------------|
| CAD data                 | CAE data                      |
| 2D/3D Models 857-414<br> | EPLAN Data Portal 857-414<br> |
|                          | WSCAD Universe 857-414<br>    |
|                          | ZUKEN Portal 857-414<br>      |

| 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                                              |
|                                                                         |
| <a href="#">Item No.: 857-980</a><br>Interface adapter; 16-pole; analog |

| 1.1.3 Jumper                                                                                    |                                                                                               |                                                                                             |                                                                                              |
|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| 1.1.3.1 Jumper                                                                                  |                                                                                               |                                                                                             |                                                                                              |
|                                                                                                 |                                                                                               |                                                                                             |                                                                                              |
| <a href="#">Item No.: 281-482</a><br>Jumper; 2-way; insulated; gray                             | <a href="#">Item No.: 859-410/000-006</a><br>Jumper; for jumper slot; 10-way; insulated; blue | <a href="#">Item No.: 859-410</a><br>Jumper; for jumper slot; 10-way; insulated; light gray | <a href="#">Item No.: 859-410/000-005</a><br>Jumper; for jumper slot; 10-way; insulated; red |
|                                                                                                 |                                                                                               |                                                                                             |                                                                                              |
| <a href="#">Item No.: 859-410/000-029</a><br>Jumper; for jumper slot; 10-way; insulated; yellow | <a href="#">Item No.: 859-402/000-006</a><br>Jumper; for jumper slot; 2-way; insulated; blue  | <a href="#">Item No.: 859-402</a><br>Jumper; for jumper slot; 2-way; insulated; light gray  | <a href="#">Item No.: 859-402/000-005</a><br>Jumper; for jumper slot; 2-way; insulated; red  |



1.1.3.1 Jumper

|                                                                                                                                                                              |                                                                                                                                                                            |                                                                                                                                                                           |                                                                                                                                                                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <br><b>Item No.: 859-402/000-029</b><br>Jumper; for jumper slot; 2-way; insulated; yellow   | <br><b>Item No.: 859-403/000-006</b><br>Jumper; for jumper slot; 3-way; insulated; blue   | <br><b>Item No.: 859-403</b><br>Jumper; for jumper slot; 3-way; insulated; light gray   | <br><b>Item No.: 859-403/000-005</b><br>Jumper; for jumper slot; 3-way; insulated; red   |
| <br><b>Item No.: 859-403/000-029</b><br>Jumper; for jumper slot; 3-way; insulated; yellow   | <br><b>Item No.: 859-404/000-006</b><br>Jumper; for jumper slot; 4-way; insulated; blue   | <br><b>Item No.: 859-404</b><br>Jumper; for jumper slot; 4-way; insulated; light gray   | <br><b>Item No.: 859-404/000-005</b><br>Jumper; for jumper slot; 4-way; insulated; red   |
| <br><b>Item No.: 859-404/000-029</b><br>Jumper; for jumper slot; 4-way; insulated; yellow   | <br><b>Item No.: 859-405/000-006</b><br>Jumper; for jumper slot; 5-way; insulated; blue   | <br><b>Item No.: 859-405</b><br>Jumper; for jumper slot; 5-way; insulated; light gray   | <br><b>Item No.: 859-405/000-005</b><br>Jumper; for jumper slot; 5-way; insulated; red   |
| <br><b>Item No.: 859-405/000-029</b><br>Jumper; for jumper slot; 5-way; insulated; yellow   | <br><b>Item No.: 859-406/000-006</b><br>Jumper; for jumper slot; 6-way; insulated; blue   | <br><b>Item No.: 859-406</b><br>Jumper; for jumper slot; 6-way; insulated; light gray   | <br><b>Item No.: 859-406/000-005</b><br>Jumper; for jumper slot; 6-way; insulated; red   |
| <br><b>Item No.: 859-406/000-029</b><br>Jumper; for jumper slot; 6-way; insulated; yellow   | <br><b>Item No.: 859-407/000-006</b><br>Jumper; for jumper slot; 7-way; insulated; blue   | <br><b>Item No.: 859-407</b><br>Jumper; for jumper slot; 7-way; insulated; light gray   | <br><b>Item No.: 859-407/000-005</b><br>Jumper; for jumper slot; 7-way; insulated; red   |
| <br><b>Item No.: 859-407/000-029</b><br>Jumper; for jumper slot; 7-way; insulated; yellow   | <br><b>Item No.: 859-408/000-006</b><br>Jumper; for jumper slot; 8-way; insulated; blue   | <br><b>Item No.: 859-408</b><br>Jumper; for jumper slot; 8-way; insulated; light gray   | <br><b>Item No.: 859-408/000-005</b><br>Jumper; for jumper slot; 8-way; insulated; red   |
| <br><b>Item No.: 859-408/000-029</b><br>Jumper; for jumper slot; 8-way; insulated; yellow | <br><b>Item No.: 859-409/000-006</b><br>Jumper; for jumper slot; 9-way; insulated; blue | <br><b>Item No.: 859-409</b><br>Jumper; for jumper slot; 9-way; insulated; light gray | <br><b>Item No.: 859-409/000-005</b><br>Jumper; for jumper slot; 9-way; insulated; red |
| <br><b>Item No.: 859-409/000-029</b><br>Jumper; for jumper slot; 9-way; insulated; yellow |                                                                                                                                                                            |                                                                                                                                                                           |                                                                                                                                                                             |

1.1.4 Marking

1.1.4.1 Marker

|                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <br><b>Item No.: 793-5501</b><br>WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; white | <br><b>Item No.: 793-502</b><br>WMB marking card; as card; MARKED; 1 ... 10 (10x); not stretchable; Horizontal marking; snap-on type; white  | <br><b>Item No.: 793-566</b><br>WMB marking card; as card; MARKED; 1 ... 50 (2x); not stretchable; Horizontal marking; snap-on type; white   | <br><b>Item No.: 793-503</b><br>WMB marking card; as card; MARKED; 11 ... 20 (10x); not stretchable; Horizontal marking; snap-on type; white |
| <br><b>Item No.: 793-504</b><br>WMB marking card; as card; MARKED; 21 ... 30 (10x); not stretchable; Horizontal marking; snap-on type; white         | <br><b>Item No.: 793-505</b><br>WMB marking card; as card; MARKED; 31 ... 40 (10x); not stretchable; Horizontal marking; snap-on type; white | <br><b>Item No.: 793-506</b><br>WMB marking card; as card; MARKED; 41 ... 50 (10x); not stretchable; Horizontal marking; snap-on type; white | <br><b>Item No.: 793-501</b><br>WMB marking card; as card; not stretchable; plain; snap-on type; white                                       |
| <br><b>Item No.: 2009-115</b><br>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 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

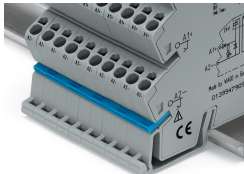
1.1.7.1 Operating tool



**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.