

Data sheet | Item number: 2857-550

Current signal conditioner; Current input signal; Current and voltage output signal; Digital and relay output; Configuration via software; Supply voltage: 24 VDC; 22.5 mm module width



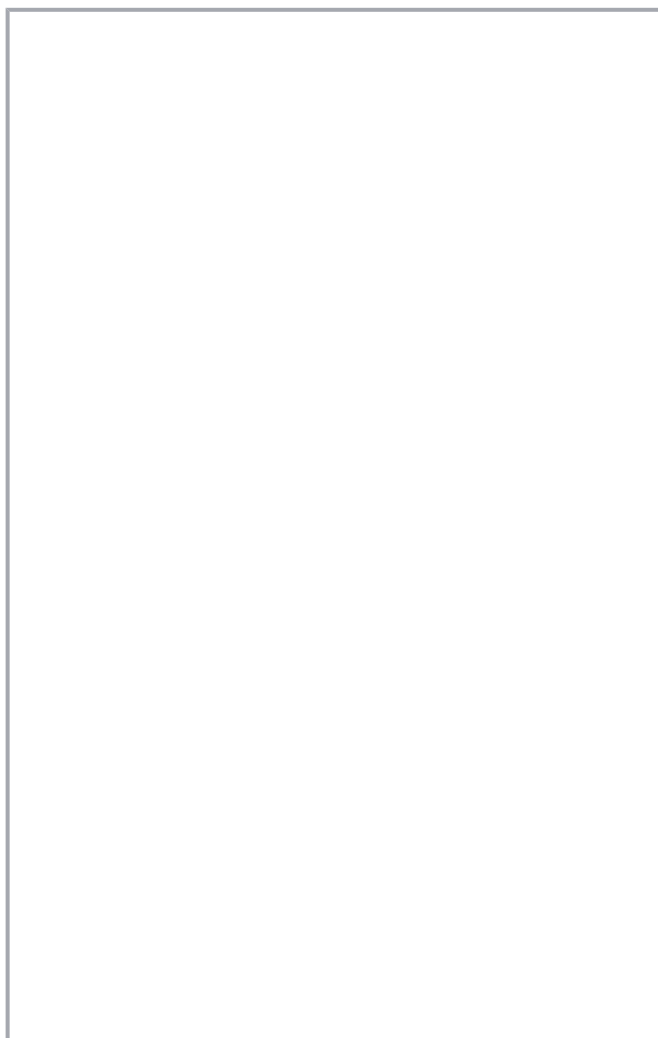
www.wago.com/2857-550



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

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Item description

Short description:

WAGO's current signal conditioner measures AC/DC currents up to 100 A, while converting the measured current into an analog standard signal at the output.

Features:

- Both digital signal output and relay with changeover contact react to configured measurement range limits (on/off switching delay and threshold value switch function can be configured with up to two threshold values).
- Clipping capability for analog signal limitation to output end values
- Adjustable software filter
- Input/output response simulation via configuration display
- Safe 3-way isolation with 3 kV test voltage per EN 61010-1

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Data Notes

- Note
- This product is supplied with 24 VDC, which can be commoned using lateral push-in type jumper bars: (6.1) U_S^+ (BR) and (6.2) GND 2 (BR). With this variant, it is necessary to ensure that the maximum permissible total current of 2 A is not exceeded.
 - Additional setting options via WAGO Interface Configuration Software or WAGO Configuration Display

Technical data

Configuration

| | |
|-----------------------|---|
| Configuration options | DIP switch WAGO Interface Configuration Software WAGO Interface Configuration App WAGO Configuration Display |
|-----------------------|---|

Input

| | |
|------------------------|---------------------------------|
| Input signal type | Current |
| Input signal (current) | AC 0.5 ... 100 A DC \pm 100 A |
| Frequency range | 15 ... 1000 Hz |
| Input current (max.) | 100 A AC/DC |
| Response threshold | 500 mA (AC); 250 mA (DC) |
| Resolution (current) | 10 mA 10 mA |

Output (analog)

| | |
|---------------------------------|--|
| Output signal type | Current Voltage |
| Output signal (voltage) | \pm 5 V; 0 ... 5 V; 1 ... 5 V; \pm 10 V; 0 ... 10 V; 2 ... 10 V |
| Output signal (current) | \pm 10 mA; 0 ... 10 mA; 2 ... 10 mA; \pm 20 mA; 0 ... 20 mA; 4 ... 20 mA |
| Load impedance (voltage output) | \geq 1 k Ω |
| Load impedance (current output) | \leq 600 Ω |

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Output (digital)

| | |
|--|----------------------------------|
| Switching voltage (DO) max. | Supply voltage (applied): -0.3 V |
| Continuous current (DO) max. | 100 mA (no internal restriction) |
| Number of switching thresholds (DO) | 1 or 2 (adjustable) |
| Configurable rise/fall delay time (DO) | 0 ... 60 s (via software) |

Output (relay)

| | |
|--|---------------------------|
| Dielectric strength (open contact) (AC, 1 min) | 1 kV _{rms} |
| Number of changeover/switchover contacts | 1 |
| Contact material (relay) | AgNi + Au |
| Switching voltage (max.) | AC 250 V |
| Dielectric strength (open contact) (AC, 1 min) | 1 kV _{rms} |
| Pull-in time (typ.) | 8 ms |
| Drop-out time (typ.) | 4 ms |
| Bounce time (typ.) | 8 ms |
| Number of switching thresholds (relay) | 1 or 2 (adjustable) |
| Configurable rise/fall delay time (relay) | 0 ... 60 s (via software) |

Signal Processing

| | |
|------------------------------|--|
| Measurement method | True RMS measurement; Arithmetic mean value |
| Limit frequency | 3.3 kHz |
| Software filter (adjustable) | Moving average value (filter level: 30) |
| Step response (typ.) | 60 ms (DC; for software filter 3/default setting); 250 ms (AC) |

Measurement Error

| | |
|---------------------------|---------------------------------|
| Transmission error (max.) | ≤ 1 % (of the full scale value) |
| Temperature coefficient | ≤ 0.01 %/K |

Power supply

| | |
|---|------------------------------|
| Power supply type | 24 VDC |
| Nominal supply voltage U _S | DC 24 V |
| Supply voltage range | ±30 % |
| Current consumption at nominal supply voltage | ≤ 50 mA (+ I _{DO}) |

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



Safety and protection

| | |
|---|---|
| Rated voltage | 300 V |
| Rated voltage of the measurement circuit connections per EN 61010-2-030 | AC 300 V |
| Measurement category per EN/UL 61010-2-030 | CAT II (input) |
| Note on insulation parameters | The conductor carrying the measurement current must have at least basic insulation for the voltage used. The test voltage of the conductor carrying the measurement current must be at least 1390 V _{rms} AC or 1390 VDC. The digital output (DO) is at the potential of the supply. |
| Protection type | IP20 |

Test voltage

| | |
|--|-----------------------------|
| Test voltage (input/output/supply) | AC 3 kV; 50 Hz; 1 min |
| Test voltage (measurement circuit/relay output/supply/analog output) | 3 kVAC; 50 ... 60 Hz; 1 min |
| Test voltage (measurement circuit/relay output/supply/service interface) | 3 kVAC; 50 ... 60 Hz; 1 min |
| Test voltage (analog output/service interface) | 2 kVAC; 50 ... 60 Hz; 1 min |

Insulation coordination (UL)

| | |
|---|--|
| Overvoltage category | II |
| Pollution degree | 2 |
| Insulation type (measurement circuit/relay output, supply, analog output and service interface) | Double insulation (safe isolation) |
| Insulation type (analog output/service interface) | Basic insulation |
| Insulation type (relay output/supply/analog output and service interface) | Reinforced insulation (safe isolation) |

Connection data

| | |
|---------------------------------------|---|
| Connection technology | Push-in CAGE CLAMP® |
| WAGO connector | <i>picoMAX</i> ® 5.0 |
| Solid conductor | 0.2 ... 2.5 mm ² / 24 ... 12 AWG |
| Fine-stranded conductor | 0.2 ... 2.5 mm ² / 24 ... 12 AWG |
| Strip length | 9 ... 10 mm / 0.35 ... 0.39 inches |
| Feedthrough for measurement conductor | 9.5 mm Ø |

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Physical data

| | |
|-----------------------------------|------------------------|
| Width | 22.5 mm / 0.886 inches |
| Height | 105 mm / 4.134 inches |
| Depth from upper-edge of DIN-rail | 107 mm / 4.213 inches |

Mechanical Data

| | |
|---------------|-------------|
| Mounting type | DIN-35 rail |
|---------------|-------------|

Material Data

| | |
|-----------|----------|
| Fire load | 1.791 MJ |
| Weight | 102.8 g |

Environmental requirements

| | |
|--|--|
| Ambient temperature (operation) | -40 ... +70 °C |
| Ambient temperature (storage) | -40 ... +85 °C |
| Temperature range of connection cable | $\geq (T_{\text{ambient}} + 10 \text{ K})$ |
| Temperature range of connection cable (UL) | 80 °C |

Standards and specifications

| | |
|------------------------------|--|
| Conformity marking | CE |
| EMC immunity to interference | EN 61000-6-2; EN 61326-2-3; EN 50121-3-2 |
| EMC emission of interference | EN 61000-6-4; EN 61326-2-3; EN 50121-3-2 |
| Standards/specifications | EN 50121-3-2 EN 61010-1 EN 61373 |

Commercial data

| | |
|-------------------|--------------------------|
| Product Group | 6 (INTERFACE ELECTRONIC) |
| eCl@ss 10.0 | 27-21-01-23 |
| eCl@ss 9.0 | 27-21-01-23 |
| ETIM 8.0 | EC002475 |
| ETIM 7.0 | EC002475 |
| Recupel Type | |
| PU (SPU) | 1 pcs |
| Packaging type | bag |
| Country of origin | DE |

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| | |
|-----------------------|---------------|
| GTIN | 4050821676997 |
| Customs tariff number | 85437090300 |

Environmental Product Compliance

| | |
|---|---|
| CAS-No. | 1303-86-2 1317-36-8 7439-92-1 75980-60-8 79-94-7 |
| REACH Candidate List Substance | 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol Diboron trioxide Lead Lead monoxide Perfluorobutane sulfonic acid (PFBS) and its salts Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)- |
| RoHS Compliance Status | Compliant,With Exemption |
| RoHS Exemption | 6(c) 7(a) 7(c)-I 7(c)-II |
| SCIP notification number (Austria) | a9da4d7e-c362-48c9-b365-16c96b3e1576 |
| SCIP notification number (Belgium) | 4903aab4-ec9d-422a-b0b2-73c8b611cfcd |
| SCIP notification number (Bulgaria) | 722fa4c0-c880-415e-8c2a-dd365342643d |
| SCIP notification number (Czech Republic) | aa9f0fda-b2e1-4639-b6fb-061687397b29 |
| SCIP notification number (Denmark) | e9c7dbc7-1077-47de-a91a-bc7b222707ed |
| SCIP notification number (Finland) | f90327c8-eee8-4ea0-ad4e-55438db00e5f |
| SCIP notification number (France) | 89eb3d4b-04a5-4aee-ba79-125fca3d022f |
| SCIP notification number (Germany) | 61796aa8-692d-4b07-b95e-a4e98c7cad2f |
| SCIP notification number (Hungary) | ad4fafc5-8aaa-4d10-a4d5-3846aa90e8a4 |
| SCIP notification number (Italy) | 8890fdc6-2a54-4720-a239-1e68e0fe8c12 |
| SCIP notification number (Netherlands) | 604da37d-2e98-4406-945e-8a36338b1f40 |
| SCIP notification number (Poland) | dff5a515-3b9b-4b48-8f82-f04002ca852b |
| SCIP notification number (Romania) | 681d533f-f33c-4c20-9062-7107db671054 |
| SCIP notification number (Sweden) | e2864b11-4440-44bc-835b-1dc8cf6550e0 |

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 |

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| | | |
|--|----------------|---------------------------------|
| EAC Brjansker Zertifizierungsstelle | TP TC 004/2011 | EAC RU C-DE.AM02.B. 00122/19 |
| UL Underwriters Laboratories Inc. (ORDINARY LOCATIONS) | UL 61010-2-201 | E175199 |

Declarations of conformity and manufacturer's declarations

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

Optional accessories

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 |

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 |

Testing and measuring

| Testing accessories | | |
|---|--|--|
| Item no.: 735-500 WAGO Test pin; 1 mm Ø; 30 V AC / 60 V DC; CAT0; 1 A; 6 mm uninsulated; Test lead for soldering up to 0,5mm ² | | www.wago.com/735-500 |

Communication

| Bluetooth | | |
|---|--|--|
| Item no.: 750-921 Bluetooth® Adapter | | www.wago.com/750-921 |
| Configuration display | | |
| Item no.: 2857-900 Configuration display | | www.wago.com/2857-900 |
| Communication cable | | |
| Item no.: 750-923 Configuration cable; USB connector; Length: 2.5 m | | www.wago.com/750-923 |
| Item no.: 750-923/000-001 Configuration cable; USB connector; Length: 5 m | | www.wago.com/750-923/000-001 |

Jumpers

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Jumper

| | |
|---|--|
| Item no.: 281-482 Jumper; 2-way; insulated; gray | www.wago.com/281-482 |
| Item no.: 859-402/000-029 Jumper; for jumper slot; 2-way; insulated; yellow | www.wago.com/859-402/000-029 |
| 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 |

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 | |

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



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

Item no.: 2009-141

Micro-WSB-Inline; 2000 pieces on roll; plain; snap-on type; white

www.wago.com/2009-141

Terminal blocks

Supply module

Item no.: 857-979

Supply and through module

www.wago.com/857-979

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

Relay module

Relay module

Item no.: 857-304

Relay module; Nominal input voltage: 24 VDC; 1 changeover contact; Limiting continuous current: 6 A; Yellow status indicator; Module width: 6 mm; 2,50 mm²; gray www.wago.com/857-304

Downloads**Documentation****Manual**

WAGO Current and Voltage Signal Conditioners and Power Measurement Modules

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Instruction Leaflet

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| | | | |
|--|-------------------------|---------------|----------|
| Current Signal Conditioner AC/DC 100 A | V 2.0.0 2020 年9月30 日 | pdf 2.9 MB | Download |
|--|-------------------------|---------------|----------|

Additional Information

| | | | |
|---|-------------------------|---------------|----------|
| Disposal and Recycling Electrical and electronic equipment, Batteries, Packaging | V 1.1.0 2022 年8月18 日 | pdf 2.2 MB | Download |
|---|-------------------------|---------------|----------|

Engineering-Software

Configuration and Commissioning Software

| | | | |
|---|----------------------------|-----------------|----------|
| WAGO Interface Configuration Software G2 FULL The full setup, in addition to the WAGO Interface Configuration Software G2, includes the installation for the Microsoft .NET Framework. | 1.00.10.01 2022 年1月20 日 | exe 114.9 MB | Download |
|---|----------------------------|-----------------|----------|

| | | | |
|--|----------------------------|----------------|----------|
| WAGO Interface Configuration Software G2 SMALL The full setup only includes the WAGO Interface Configuration Software G2. | 1.00.10.01 2022 年1月20 日 | exe 31.0 MB | Download |
|--|----------------------------|----------------|----------|

Runtime Software

Firmware

| | | | |
|---|---------------------|-----------------|----------|
| 2857-0550, Strommessumformer WAGO_FW2857-0550_IX04_H | V 04 2022 年3月1 日 | zip 596.6 kB | Download |
|---|---------------------|-----------------|----------|

CAD/CAE-Data

CAD data

| | | |
|-----------------------|-----|----------|
| 2D/3D Models 2857-550 | URL | Download |
|-----------------------|-----|----------|

CAE data

| | | |
|----------------------------|-----|----------|
| EPLAN Data Portal 2857-550 | URL | Download |
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| WSCAD Universe 2857-550 | URL | Download |
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| ZUKEN Portal 2857-550 | URL | Download |
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Environmental Product Compliance

Compliance Search

Environmental Product Compliance 2857-550

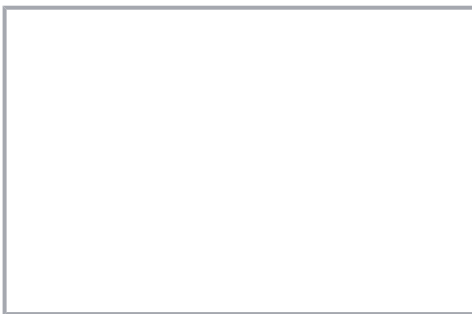
URL

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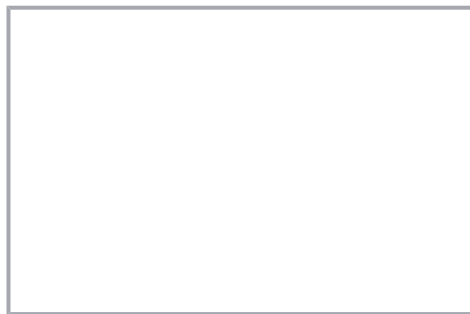
Current signal conditioner; Current input signal; Current and voltage output signal;
Digital and relay output; Configuration via software; Supply voltage: 24 VDC; 22.5 mm
module width

Installation Notes

Configuring



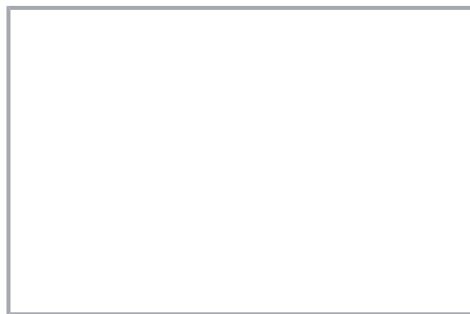
Configuration via DIP switch



Configuration via WAGO Interface
Configuration Software



Configuration via WAGO Interface
Configuration App



Configuration via WAGO Configuration Display

Conductor termination

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



Pluggable connection technology



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

Security



Lock-out seal option

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