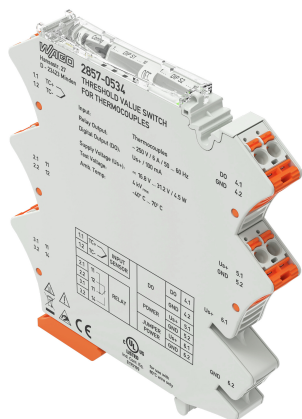


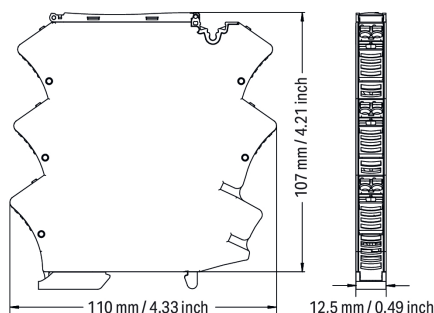
**Data Sheet | Item Number: 2857-534**

Threshold value switches; Thermocouples; 1 make contact; Digital output; Configuration via software; Supply voltage: 24 VDC; 12.5 mm module width

<https://www.wago.com/2857-534>



|     |     |                                                                                     |                 |        |       |     |     |
|-----|-----|-------------------------------------------------------------------------------------|-----------------|--------|-------|-----|-----|
| 1.1 | TC+ |  | INPUT<br>SENSOR | DO     | DO    | 4.1 |     |
| 1.2 | TC- |                                                                                     |                 |        | GND   | 4.2 |     |
| 2.1 | 11  |  | RELAY           |        | POWER | Us+ | 5.1 |
| 2.2 | 12  |                                                                                     |                 |        | GND   | 5.2 |     |
| 3.1 | 11  |                                                                                     |                 | JUMPER | Us+   | 6.1 |     |
| 3.2 | 14  |                                                                                     |                 | POWER  | GND   | 6.2 |     |

[illegible]

**Short description:**

WAGO's thermocouple threshold value switch for TC sensors monitors and reports signals of up to two switching thresholds.

### 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).
- Adjustable software filter
- Safe three-way isolation with 4 kV test voltage per EN 61010-1

## Notes

### Note

This product is powered by 24 VDC, which can be bridged using lateral push-in type jumper bars: (6.1) U<sub>5</sub>+ (BR) and (6.2) GND 2 (BR). With this variant, it is necessary to ensure that the maximum permissible total current of 6 A is not exceeded.

Additional setting options via the WAGO Interface Configuration Software

## Technical data

## Configuration

|                       |                                                     |
|-----------------------|-----------------------------------------------------|
| Configuration options | DIP switch<br>WAGO Interface Configuration Software |
|-----------------------|-----------------------------------------------------|

### Input

|                   |            |
|-------------------|------------|
| Input signal type | TC sensors |
|-------------------|------------|

**Input (TC sensors)**

|                                    |                                                                                        |
|------------------------------------|----------------------------------------------------------------------------------------|
| Sensor types (TC)                  | Type J<br>Type K<br>Type E<br>Type N<br>Type R<br>Type S<br>Type T<br>Type B<br>Type C |
| Temperature measurement range (TC) | -210 ... 1200 °C (Type J)<br>-200 ... 1372 °C (Type K)                                 |
| Cold junction compensation         | ON/OFF (default: ON)                                                                   |
| Cold junction error                | 3 K (typ. 2 K )                                                                        |

### Output (relay)

|                                                |                           |
|------------------------------------------------|---------------------------|
| Number of changeover/switchover contacts       | 1                         |
| Contact material (relay)                       | AgNi + Au                 |
| Switching Voltage, Max.                        | 250 VAC                   |
| Dielectric strength (open contact) (AC, 1 min) | 1 kVrms                   |
| 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) |
| Continuous current (max.)                      | 6 A                       |

## Measurement Error

|                           |            |
|---------------------------|------------|
| Transmission error (max.) | ± 1 K      |
| Temperature coefficient   | ≤ 0.01 %/K |

**Output (digital)**

|                                        |                                  |
|----------------------------------------|----------------------------------|
| Switching voltage (DO) max.            | Applied supply voltage - 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)        |

## Signal Processing

|                              |                                                                                  |
|------------------------------|----------------------------------------------------------------------------------|
| Software filter (adjustable) | Moving average value (filter level: 30)                                          |
| Hysteresis                   | Adjustable via DIP switch or software                                            |
| Step response (typ.)         | 60 ms (cold junction compensation off)<br>360 ms (cold junction compensation on) |

## Power Supply

|                                               |                                |
|-----------------------------------------------|--------------------------------|
| Power supply type                             | 24 VDC                         |
| Nominal supply voltage $U_s$                  | 24 VDC                         |
| Supply voltage range                          | $\pm 30\%$                     |
| Current consumption at nominal supply voltage | $\leq 40\text{ mA (+ I}_{DO})$ |

## Safety and protection

|                                                                         |                                                                                                                                                                                                                                                                                  |
|-------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rated Voltage                                                           | 300 V                                                                                                                                                                                                                                                                            |
| Rated voltage of the measurement circuit connections per EN 61010-2-030 | 300 VAC                                                                                                                                                                                                                                                                          |
| Measurement category per EN/UL 61010-2-030                              | CAT II (input)                                                                                                                                                                                                                                                                   |
| Note on insulation parameters                                           | Temperature sensors must not be used in hazardous circuits unless the external temperature sensors used provide basic insulation in accordance with EN 61010-1 (300 VAC; Overvoltage Category II; Pollution Degree 2). The digital output (DO) operates at the supply potential. |
| Protection type                                                         | IP20                                                                                                                                                                                                                                                                             |

**Test voltage**

|                                               |                        |
|-----------------------------------------------|------------------------|
| Test voltage (input/relay output/supply)      | 4 kVAC; 60 Hz; 1 min   |
| Test voltage (input/service interface)        | 3 kVAC; 60 Hz; 1 min   |
| Test voltage (relay output/service interface) | 4 kVAC; 60 Hz; 1 min   |
| Test voltage (supply/service interface)       | 2.5 kVAC; 60 Hz; 1 min |

### Insulation coordination (UL)

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

### Connection Data

|                         |                                    |
|-------------------------|------------------------------------|
| Connection technology   | Push-in CAGE CLAMP®                |
| WAGO connector          | <i>picoMAX</i> ® 5.0               |
| Solid conductor         | 0.2 ... 2.5 mm² / 24 ... 12 AWG    |
| Fine-stranded conductor | 0.2 ... 2.5 mm² / 24 ... 12 AWG    |
| Strip length            | 9 ... 10 mm / 0.35 ... 0.39 inches |

### Physical data

|                                   |                        |
|-----------------------------------|------------------------|
| Width                             | 12.5 mm / 0.492 inches |
| Height                            | 110 mm / 4.331 inches  |
| Depth from upper-edge of DIN-rail | 107 mm / 4.213 inches  |

### Mechanical data

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

### Material data

|           |          |
|-----------|----------|
| Fire load | 1.116 MJ |
| Weight    | 63.7 g   |

### Environmental requirements

|                                                |                                 |
|------------------------------------------------|---------------------------------|
| Ambient temperature (operation)                | -40 ... +70 °C                  |
| Ambient temperature (storage)                  | -40 ... +85 °C                  |
| Temperature range of connection cable          | ≥ (T <sub>ambient</sub> + 10 K) |
| Temperature range of the 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 61010-1<br>EN 61373<br>EN 50121-3-2   |

| Commercial data       |               |
|-----------------------|---------------|
| PU (SPU)              | 1 pcs         |
| Packaging type        | Bag           |
| Country of origin     | DE            |
| GTIN                  | 4055143242318 |
| Customs tariff number | 90303370000   |

| Product Classification |                      |
|------------------------|----------------------|
| UNSPSC                 | 39122331             |
| eCl@ss 10.0            | 27-37-18-10          |
| eCl@ss 9.0             | 27-37-18-10          |
| ETIM 9.0               | EC001446             |
| ETIM 10.0              | EC001446             |
| ECCN                   | NO US CLASSIFICATION |

| Environmental Product Compliance          |                                                                                                                                                                                                           |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CAS-No.                                   | 1303-86-2<br>1317-36-8<br>7439-92-1<br>75980-60-8<br>79-94-7                                                                                                                                              |
| REACH Candidate List Substance            | 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol<br>Diboron trioxide<br>Lead<br>Lead monoxide<br>Perfluorobutane sulfonic acid (PFBS) and its salts<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)        | 601bb33b-84cc-4805-b720-81f12c38c72c                                                                                                                                                                      |
| SCIP notification number (Belgium)        | 131209b7-ac71-4ce7-9b2f-c117badec519                                                                                                                                                                      |
| SCIP notification number (Bulgaria)       | 7c391072-6a84-41c0-a488-1eed30619da2                                                                                                                                                                      |
| SCIP notification number (Czech Republic) | d1772c11-7a5d-49f4-8bb4-425bbedd445f                                                                                                                                                                      |
| SCIP notification number (Denmark)        | cfa32983-cc33-4189-b84e-a8b7c38e9bcd                                                                                                                                                                      |
| SCIP notification number (Finland)        | 5a251d21-3cd4-4150-8b9a-2dbe4ec1814c                                                                                                                                                                      |
| SCIP notification number (France)         | d428f471-7411-4cc1-9954-e2e708d38bac                                                                                                                                                                      |
| SCIP notification number (Germany)        | b09e21e7-8662-4ee1-ac5a-dcad6c89462f                                                                                                                                                                      |
| SCIP notification number (Hungary)        | 38a2a8e6-be31-466e-a297-d4ed34448198                                                                                                                                                                      |
| SCIP notification number (Italy)          | 76a372f1-e64e-48fc-aa2a-513cbdd7d1f7                                                                                                                                                                      |
| SCIP notification number (Netherlands)    | c7fe09a0-961d-444e-bccb-b777383080e3                                                                                                                                                                      |
| SCIP notification number (Poland)         | ef7bea4e-4cc5-4c67-a93e-8f9ee40db738                                                                                                                                                                      |
| SCIP notification number (Romania)        | 2fa777e0-ce5b-4d0f-9b8d-8e5b77843923                                                                                                                                                                      |
| SCIP notification number (Sweden)         | 6bc78593-b9a6-44e7-b529-4a5eada11443                                                                                                                                                                      |

| Approvals / Certificates                                                                                                                       |                |                                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------------------------------------------------|
| General approvals                                                                                                                              |                | Declarations of conformity and manufacturer's declarations |
| <div><div><div>EAC</div><div>EAC</div><div></div></div></div> |                |                                                            |
| Approval                                                                                                                                       | Standard       | Certificate Name                                           |
| EAC<br>GZO Almaty Standart                                                                                                                     | TP TC 020/2011 | EAC CoC 03083                                              |
| EAC<br>GZO Almaty Standart                                                                                                                     | TP TC 004/2011 | EAC CoC 03084                                              |
| UL<br>Underwriters Laboratories<br>Inc. (ORDINARY LOCA-<br>TIONS)                                                                              | UL 61010-2-201 | E175199                                                    |

| Downloads                                    |                                                                                   |
|----------------------------------------------|-----------------------------------------------------------------------------------|
| Environmental Product Compliance             |                                                                                   |
| Compliance Search                            |                                                                                   |
| Environmental Product<br>Compliance 2857-534 |  |

| Documentation                    |                                                                                     |          |            |                  |
|----------------------------------|-------------------------------------------------------------------------------------|----------|------------|------------------|
| Manual                           |                                                                                     | Bid Text |            |                  |
| WAGO Threshold Value<br>Switches |  | 2857-534 | 19.02.2019 | xml<br>6.39 KB   |
|                                  |                                                                                     | 2857-534 | 20.02.2019 | docx<br>18.68 KB |

| Instruction Leaflet                              |                       |                   |                                                                                     |
|--------------------------------------------------|-----------------------|-------------------|-------------------------------------------------------------------------------------|
| Signal Conditioner; TC<br>Threshold Value Switch | V 2.0.0<br>30.09.2020 | pdf<br>2788.18 KB |  |

| CAD/CAE-Data          |                               |
|-----------------------|-------------------------------|
| CAD data              | CAE data                      |
| 2D/3D Models 2857-534 | EPLAN Data Portal<br>2857-534 |
|                       | WSCAD Universe<br>2857-534    |
|                       | ZUKEN Portal 2857-534         |



1 Compatible Products

1.1 Optional Accessories

1.1.1 Communication

1.1.1.1 Communication cable



**Item No.: 750-923**  
Configuration cable; USB connector; Length: 2.5 m

**Item No.: 750-923/000-001**  
Configuration cable; USB connector; Length: 5 m

1.1.2 Installation

1.1.2.1 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

1.1.3 Jumper

1.1.3.1 Jumper



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

**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

1.1.4 Marking

1.1.4.1 Marker



**Item No.: 2009-141**  
Micro-USB-Inline; 2000 pieces on roll; plain; snap-on type; 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

**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 Relay module

1.1.6.1 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; gray

1.1.7 Terminal blocks

1.1.7.1 Supply and through module



**Item No.: 857-979**  
Supply and through module

1.1.8 Test and measurement

1.1.8.1 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<sup>2</sup>

### 1.1.9 Tool

#### 1.1.9.1 Operating tool



##### Item No.: 210-720

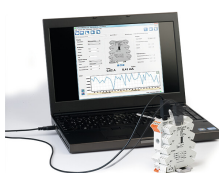
Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; multicoloured

## Installation Notes

### Configuring



Configuration via DIP switch



Configuration via WAGO Interface Configuration Software

## Conductor termination

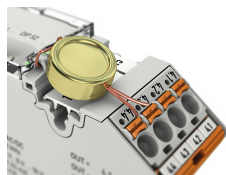


Pluggable connection technology



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

## Security



Lock-out seal option