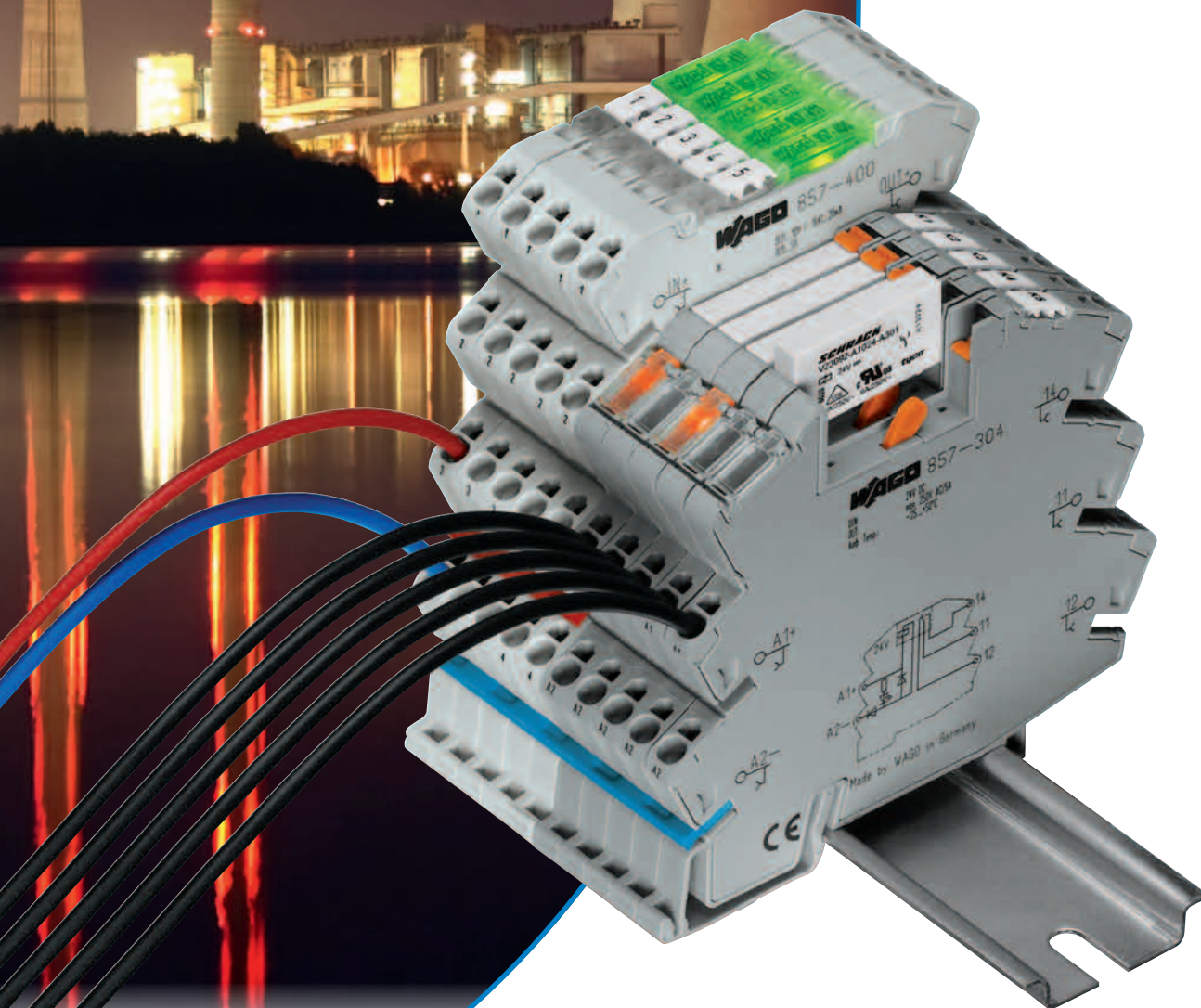


# JUMPFLEX® – 857 Series

One Profile, Many Possibilities



**WAGO**®  
INNOVATIVE CONNECTIONS

# JUMPFLEX® – 857 Series

**A Complete Product Line is Available, Bringing Each Signal into Shape.**

Perfectly pairing a housing with electronics is key to a highly successful device. This is exactly what WAGO has achieved with the new 857 Series Transducers / Relay and Optocouplers Modules.

Isolation amplifier /  
Passive isolator

Repeater power supply /  
Signal splitter

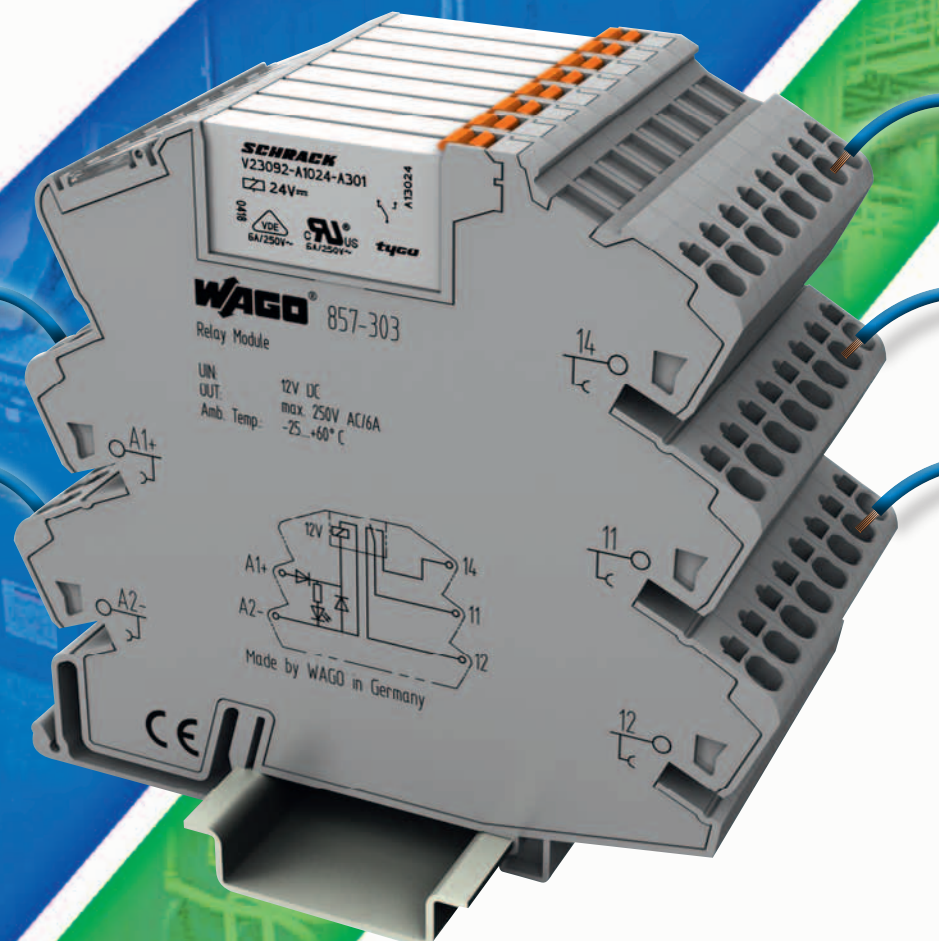
Frequency transducer

Current transducer AC/DC

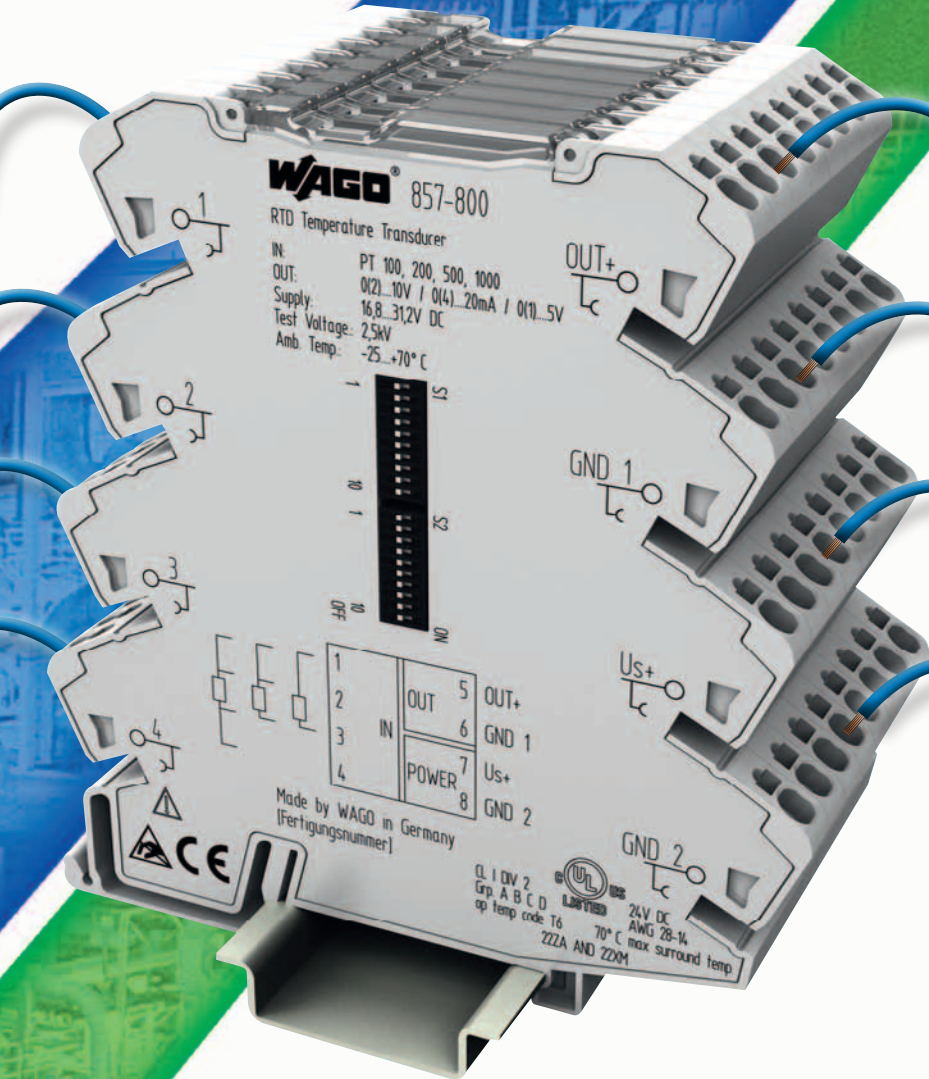
**Relay and  
Optocoupler Modules**

DC relay modules

DC relay modules  
with gold contacts



# Transducers



Millivolt transducer

Threshold value switch

Temperature transducers for RTD

Temperature transducers for thermocouples

Optocouplers

AC/DC relay modules

AC/DC relay modules with gold contacts

## JUMPFLEX® – The Intelligent Solution!

**Requirement:**

Input circuit protection against overcurrent.



**Solution:**

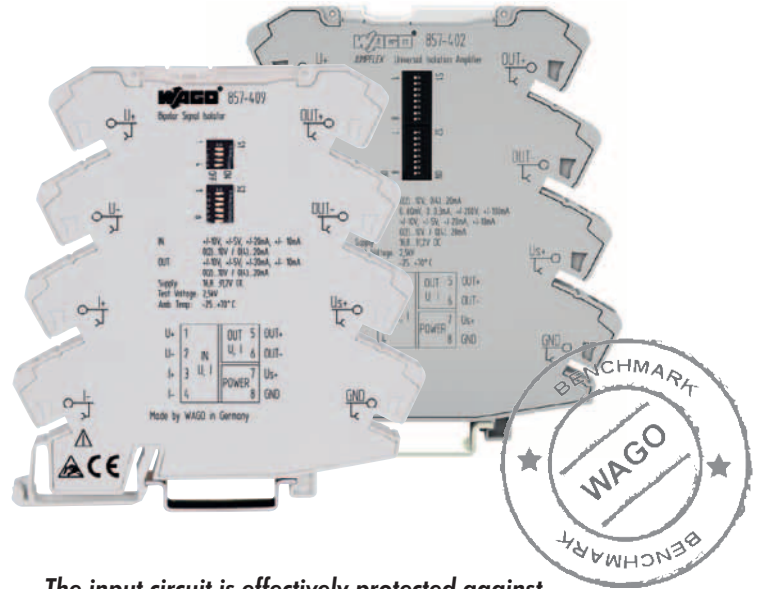
Input overcurrent protection via resettable fuse.



**Product:**

JUMPFLEX® –

857-409 Bipolar Isolator and  
857-402 Universal Isolation Amplifier

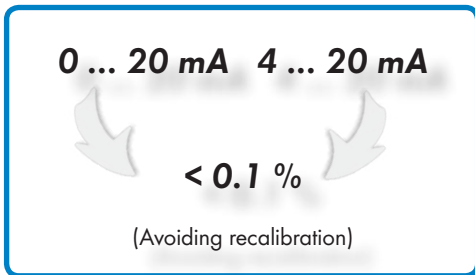


The input circuit is effectively protected against overcurrent.

# Always right

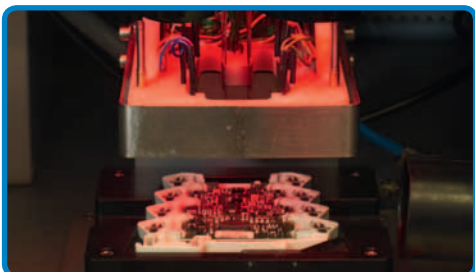
**Requirement:**

Achieving constant precision values even after range switching.



**Solution:**

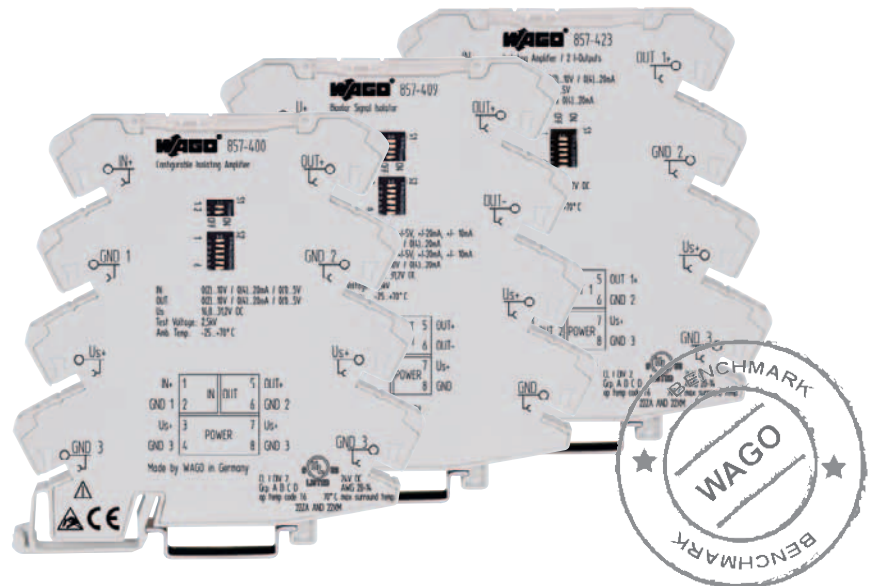
Providing laser-capable resistors to each individual DIP switch multiplier.



**Product:**

JUMPFLEX® –

All 857-4xx Series Isolation Amplifiers  
(All 857-xxx Series Transducers are configurable and calibrated via DIP switch.)



No recalibration is necessary after switching between measuring ranges.

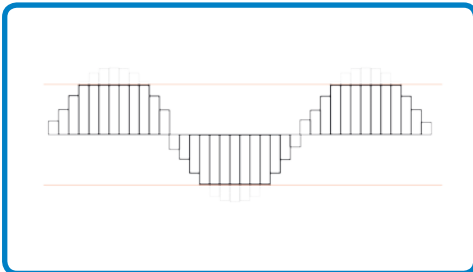
**Requirement:**

Reaching definable end values for analog standard signals.



**Solution:**

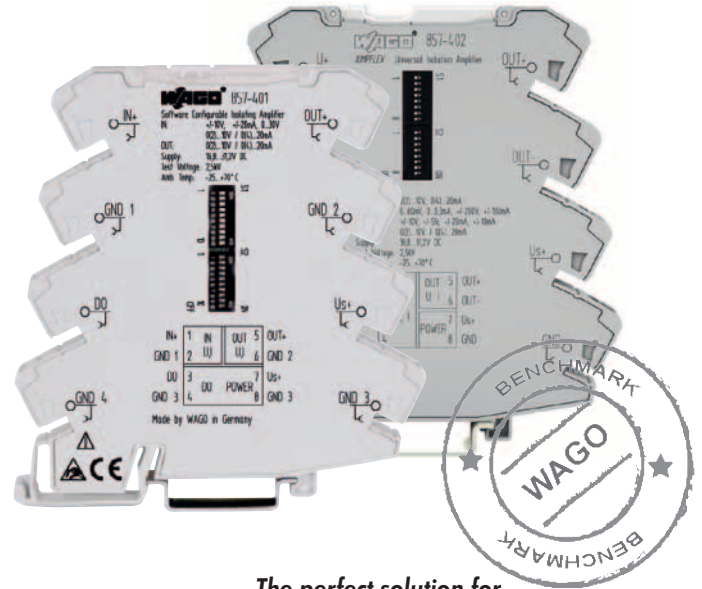
Clipping capability allows analog standard signal limitation to upper-range values.



**Product:**

JUMPFLEX® –

857-401 Software-Configurable Isolation Amplifier  
(with configurable digital output (DO))  
857-402 Universal Isolation Amplifier

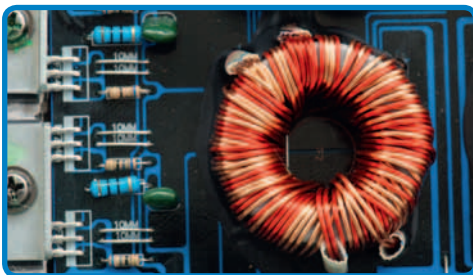


The perfect solution for any application.

Maximum safety

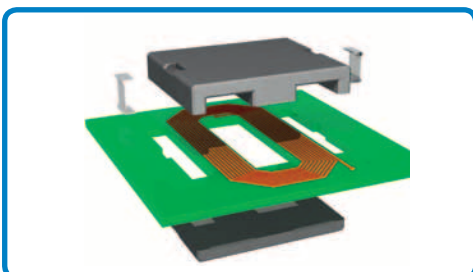
**Requirement:**

Providing safe electrical isolation of all circuits (input, output and power supply) without additional costs.



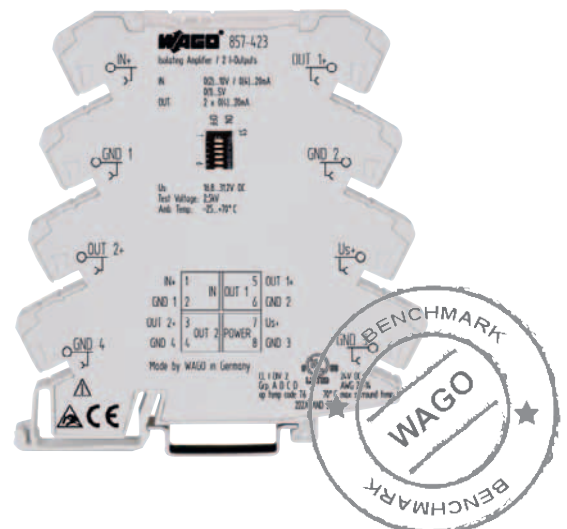
**Solution:**

Providing multilayer PCB windings with a ferrite core.



**Product:**

The complete JUMPFLEX® 857 Series  
(all transducers and isolation amplifiers)



All devices provide "safe isolation" with 2.5kV test voltage to EN 61140.



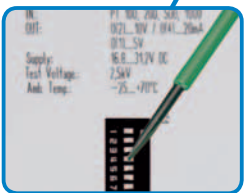
**Always right**

Laser-capable resistors eliminate recalibration.



**Flexibility at its finest**

Configuration via DIP switch or configuration tool.



**Industry's most compact**

"True" 6.0mm (0.23 inch) width maximizes panel space.

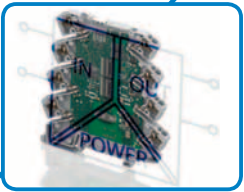


**extreme applications**

Extended range of temperatures from -25°C to +70°C to suit more applications.

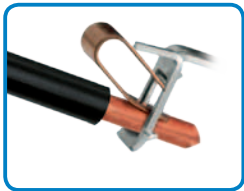


"safe isolation" to EN 61140.



**CAGE CLAMP®S**

**Vibration-proof – fast – maintenance-free**  
CAGE CLAMP®S termination for all conductor types.



solid









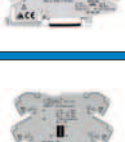
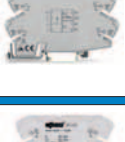




fine-stranded



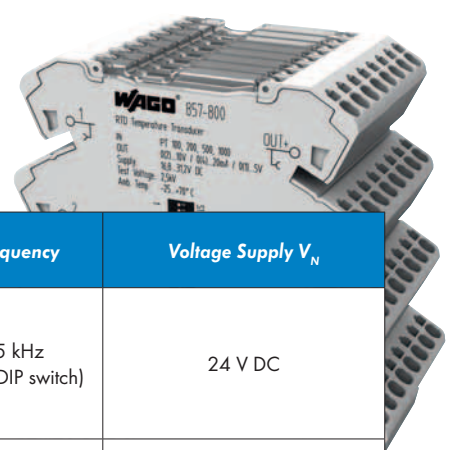
ferruled

# Isolation Amplifiers

| Description  |   |   | Item No.              | Configuration |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
|--|---|---|-----------------------|---------------|---------|---|--------|-------|---|-------|---|-------|--------|---|-------|---|--------|-------|---|-------|-------|---------|---------|---|---|
|  |   |   |                       | Dip Switch    | FDT/DTM |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| Isolation amplifier, configurable with zero/span adjustment                |    | <table border="1"> <tr> <td>IN+</td> <td>1</td> <td>IN</td> <td>5</td> <td>OUT+</td> </tr> <tr> <td>GND 1</td> <td>2</td> <td>OUT</td> <td>6</td> <td>GND 2</td> </tr> <tr> <td>Us+</td> <td>3</td> <td rowspan="2">POWER</td> <td>7</td> <td>Us+</td> </tr> <tr> <td>GND 3</td> <td>4</td> <td>8</td> <td>GND 3</td> </tr> </table>                            | IN+                   | 1             | IN      | 5 | OUT+   | GND 1 | 2 | OUT   | 6 | GND 2 | Us+    | 3 | POWER | 7 | Us+    | GND 3 | 4 | 8     | GND 3 | 857-400 | x       |   |   |
| IN+  | 1   | IN  | 5                     | OUT+          |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| GND 1  | 2   | OUT   | 6                     | GND 2         |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| Us+  | 3   | POWER   | 7                     | Us+           |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| GND 3  | 4   |   | 8                     | GND 3         |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| Isolation amplifier, configurable with digital output                      |    | <table border="1"> <tr> <td>IN+</td> <td>1</td> <td>IN</td> <td>5</td> <td>OUT+</td> </tr> <tr> <td>GND 1</td> <td>2</td> <td>U,I</td> <td>6</td> <td>GND 2</td> </tr> <tr> <td>DO</td> <td>3</td> <td rowspan="2">DO</td> <td>7</td> <td>Us+</td> </tr> <tr> <td>GND 3</td> <td>4</td> <td>POWER</td> <td>8</td> <td>GND 3</td> </tr> </table>                 | IN+                   | 1             | IN      | 5 | OUT+   | GND 1 | 2 | U,I   | 6 | GND 2 | DO     | 3 | DO    | 7 | Us+    | GND 3 | 4 | POWER | 8     | GND 3   | 857-401 | x | x |
| IN+  | 1   | IN  | 5                     | OUT+          |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| GND 1  | 2   | U,I   | 6                     | GND 2         |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| DO   | 3   | DO  | 7                     | Us+           |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| GND 3  | 4   |   | POWER                 | 8             | GND 3   |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| Universal isolation amplifier  |    | <table border="1"> <tr> <td>IN+</td> <td>1</td> <td>IN</td> <td>5</td> <td>OUT+</td> </tr> <tr> <td>GND 1</td> <td>2</td> <td>U,I</td> <td>6</td> <td>GND 2</td> </tr> <tr> <td>DO</td> <td>3</td> <td rowspan="2">DO</td> <td>7</td> <td>Us+</td> </tr> <tr> <td>GND 3</td> <td>4</td> <td>POWER</td> <td>8</td> <td>GND 3</td> </tr> </table>                 | IN+                   | 1             | IN      | 5 | OUT+   | GND 1 | 2 | U,I   | 6 | GND 2 | DO     | 3 | DO    | 7 | Us+    | GND 3 | 4 | POWER | 8     | GND 3   | 857-402 | x |   |
| IN+  | 1   | IN  | 5                     | OUT+          |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| GND 1  | 2   | U,I   | 6                     | GND 2         |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| DO   | 3   | DO  | 7                     | Us+           |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| GND 3  | 4   |   | POWER                 | 8             | GND 3   |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| Bipolar isolation amplifier  |    | <table border="1"> <tr> <td>U+</td> <td>1</td> <td rowspan="2">IN</td> <td>5</td> <td>OUT+</td> </tr> <tr> <td>U-</td> <td>2</td> <td>U; I</td> <td>6</td> <td>OUT-</td> </tr> <tr> <td>I+</td> <td>3</td> <td rowspan="2">POWER</td> <td>7</td> <td>Us+</td> </tr> <tr> <td>I-</td> <td>4</td> <td>8</td> <td>GND</td> </tr> </table>                          | U+                    | 1             | IN      | 5 | OUT+   | U-    | 2 | U; I  | 6 | OUT-  | I+     | 3 | POWER | 7 | Us+    | I-    | 4 | 8     | GND   | 857-409 | x       |   |   |
| U+   | 1   | IN  | 5                     | OUT+          |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| U-   | 2   |   | U; I                  | 6             | OUT-    |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| I+   | 3   | POWER   | 7                     | Us+           |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| I-   | 4   |   | 8                     | GND           |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| Isolation amplifiers, fixed setting for voltage signals or current signals |   |   | 857-411               |               |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
|  |   |   | 857-412               |               |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
|  |   |   | 857-413               |               |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
|  |   |   | 857-414               |               |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
|  |   |   | 857-415               |               |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| Isolation amplifiers, fixed setting for voltage signals or current signals |  |   | 857-416               |               |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
|  |   |   | 857-417               |               |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
|  |   |   | 857-418               |               |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
|  |   |   | 857-419               |               |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
|  |   |   | 857-420               |               |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| Repeater power supply, configurable with current and voltage output        |  | <table border="1"> <tr> <td>U<sub>sensor</sub>+</td> <td>1</td> <td rowspan="2">IN</td> <td>5</td> <td>OUT+</td> </tr> <tr> <td>IN</td> <td>2</td> <td>OUT</td> <td>6</td> <td>GND 2</td> </tr> <tr> <td>GND 1</td> <td>3</td> <td rowspan="2">POWER</td> <td>7</td> <td>Us+</td> </tr> <tr> <td>GND 1</td> <td>4</td> <td>8</td> <td>GND 3</td> </tr> </table> | U <sub>sensor</sub> + | 1             | IN      | 5 | OUT+   | IN    | 2 | OUT   | 6 | GND 2 | GND 1  | 3 | POWER | 7 | Us+    | GND 1 | 4 | 8     | GND 3 | 857-420 | x       |   |   |
| U <sub>sensor</sub> +  | 1   | IN  | 5                     | OUT+          |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| IN   | 2   |   | OUT                   | 6             | GND 2   |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| GND 1  | 3   | POWER   | 7                     | Us+           |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| GND 1  | 4   |   | 8                     | GND 3         |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| Repeater power supply, HART  |  | <table border="1"> <tr> <td>U<sub>sensor</sub>+</td> <td>1</td> <td rowspan="2">IN</td> <td>5</td> <td>OUT +</td> </tr> <tr> <td>IN</td> <td>2</td> <td>OUT</td> <td>6</td> <td>GND 2</td> </tr> <tr> <td>N.C.</td> <td>3</td> <td rowspan="2">POWER</td> <td>7</td> <td>Us+</td> </tr> <tr> <td>N.C.</td> <td>4</td> <td>8</td> <td>GND 3</td> </tr> </table>  | U <sub>sensor</sub> + | 1             | IN      | 5 | OUT +  | IN    | 2 | OUT   | 6 | GND 2 | N.C.   | 3 | POWER | 7 | Us+    | N.C.  | 4 | 8     | GND 3 | 857-421 |         |   |   |
| U <sub>sensor</sub> +  | 1   | IN  | 5                     | OUT +         |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| IN   | 2   |   | OUT                   | 6             | GND 2   |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| N.C.   | 3   | POWER   | 7                     | Us+           |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| N.C.   | 4   |   | 8                     | GND 3         |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| Signal splitter with 2 configurable current outputs                        |  | <table border="1"> <tr> <td>IN+</td> <td>1</td> <td>IN</td> <td>5</td> <td>OUT 1+</td> </tr> <tr> <td>GND 1</td> <td>2</td> <td>OUT 1</td> <td>6</td> <td>GND 2</td> </tr> <tr> <td>OUT 2+</td> <td>3</td> <td rowspan="2">POWER</td> <td>7</td> <td>Us+</td> </tr> <tr> <td>GND 4</td> <td>4</td> <td>OUT 2</td> <td>8</td> <td>GND 3</td> </tr> </table>      | IN+                   | 1             | IN      | 5 | OUT 1+ | GND 1 | 2 | OUT 1 | 6 | GND 2 | OUT 2+ | 3 | POWER | 7 | Us+    | GND 4 | 4 | OUT 2 | 8     | GND 3   | 857-423 | x |   |
| IN+  | 1   | IN  | 5                     | OUT 1+        |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| GND 1  | 2   | OUT 1   | 6                     | GND 2         |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| OUT 2+   | 3   | POWER   | 7                     | Us+           |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| GND 4  | 4   |   | OUT 2                 | 8             | GND 3   |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| Loop-powered isolation amplifier   |  | <table border="1"> <tr> <td>U+</td> <td>1</td> <td rowspan="2">IN</td> <td>5</td> <td>Us+</td> </tr> <tr> <td>U-</td> <td>2</td> <td>U, I</td> <td>6</td> <td>OUT 1</td> </tr> <tr> <td>I+</td> <td>3</td> <td rowspan="2">POWER</td> <td>7</td> <td>N.C.</td> </tr> <tr> <td>I-</td> <td>4</td> <td>8</td> <td>N.C.</td> </tr> </table>                        | U+                    | 1             | IN      | 5 | Us+    | U-    | 2 | U, I  | 6 | OUT 1 | I+     | 3 | POWER | 7 | N.C.   | I-    | 4 | 8     | N.C.  | 857-450 |         |   |   |
| U+   | 1   | IN  | 5                     | Us+           |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| U-   | 2   |   | U, I                  | 6             | OUT 1   |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| I+   | 3   | POWER   | 7                     | N.C.          |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| I-   | 4   |   | 8                     | N.C.          |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| Passive isolator, 1 channel  |  | <table border="1"> <tr> <td>IN+</td> <td>1</td> <td>IN</td> <td>5</td> <td>OUT+</td> </tr> <tr> <td>GND 1</td> <td>2</td> <td>OUT</td> <td>6</td> <td>GND 2</td> </tr> <tr> <td>N.C.</td> <td>3</td> <td rowspan="2">POWER</td> <td>7</td> <td>N.C.</td> </tr> <tr> <td>N.C.</td> <td>4</td> <td>8</td> <td>N.C.</td> </tr> </table>                            | IN+                   | 1             | IN      | 5 | OUT+   | GND 1 | 2 | OUT   | 6 | GND 2 | N.C.   | 3 | POWER | 7 | N.C.   | N.C.  | 4 | 8     | N.C.  | 857-451 |         |   |   |
| IN+  | 1   | IN  | 5                     | OUT+          |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| GND 1  | 2   | OUT   | 6                     | GND 2         |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| N.C.   | 3   | POWER   | 7                     | N.C.          |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| N.C.   | 4   |   | 8                     | N.C.          |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| Passive isolator, 2 channels   |  | <table border="1"> <tr> <td>IN 1+</td> <td>1</td> <td>IN 1</td> <td>5</td> <td>OUT 1+</td> </tr> <tr> <td>GND 1</td> <td>2</td> <td>OUT 1</td> <td>6</td> <td>GND 2</td> </tr> <tr> <td>IN 2+</td> <td>3</td> <td rowspan="2">IN 2</td> <td>7</td> <td>OUT 2+</td> </tr> <tr> <td>GND 3</td> <td>4</td> <td>OUT 2</td> <td>8</td> <td>GND 4</td> </tr> </table> | IN 1+                 | 1             | IN 1    | 5 | OUT 1+ | GND 1 | 2 | OUT 1 | 6 | GND 2 | IN 2+  | 3 | IN 2  | 7 | OUT 2+ | GND 3 | 4 | OUT 2 | 8     | GND 4   | 857-452 |   |   |
| IN 1+  | 1   | IN 1  | 5                     | OUT 1+        |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| GND 1  | 2   | OUT 1   | 6                     | GND 2         |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| IN 2+  | 3   | IN 2  | 7                     | OUT 2+        |         |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |
| GND 3  | 4   |   | OUT 2                 | 8             | GND 4   |   |        |       |   |       |   |       |        |   |       |   |        |       |   |       |       |         |         |   |   |

Ambient operating temperature for all devices: - 25 °C ... +70 °C





| Input Signal<br>(configurable and calibrated)  | Output Signal<br>(configurable and calibrated)   | Load Impedance                          | Operating Frequency                               | Voltage Supply $V_N$ |
|--|--|---|---|----------------------|
| 0 ... 20 mA, 4 ... 20 mA,<br>0... 5 V, 1 ... 5 V,<br>0 ... 10 V, 2 ... 10 V,   | 0 ... 20 mA, 4 ... 20 mA,<br>0... 5 V, 1 ... 5 V,<br>0 ... 10 V, 2 ... 10 V,   | 600 Ω (I-output)<br>2 kΩ (U-output)     | 100 Hz / > 5 kHz<br>(configurable via DIP switch) | 24 V DC              |
| -10 ... +10 V,<br>-20 ... +20 mA,<br>0 ... +30 V   | 0 ... 20 mA, 4 ... 20 mA,<br>0 ... 10 V, 2 ... 10 V, 0... 5 V, 1 ... 5 V,<br>0 ... 10 mA, 2 ... 10 mA  | ≤ 600 Ω (I-output)<br>≥ 2 kΩ (U-output) | 125 Hz  | 24 V DC              |
| <b>Voltage:</b><br>± 60 mV to ± 200 V<br>0 ... 60 mV to ± 0 ... 200 V<br><b>Current:</b><br>± 0,3 mA to ± 100 mA<br>0 ... 0,3 mA to 0 ... 100 mA   | <b>Voltage:</b><br>± 10 V, 0 ... 10 V, 2 ... 10 V,<br>± 5 V, 0 ... 5 V, 1 ... 5 V<br><b>Current:</b><br>± 20 mA, 0 ... 20 mA, 4 ... 20 mA,<br>± 10 mA, 0 ... 10 mA, 2 ... 10 mA  | ≤ 600 Ω (I-output)<br>≥ 2 kΩ (U-output) | 100 Hz / > 5 kHz<br>(configurable via DIP switch) | 24 V DC              |
| <b>Voltage:</b><br>± 5 V, 0 ... 5 V, 1 ... 5 V,<br>± 10 V, 0 ... 10 V, 2 ... 10 V,<br><b>Current:</b><br>± 10 mA, 0 ... 10 mA, 2 ... 10 mA,<br>± 20 mA, 0 ... 20 mA, 4 ... 20 mA   | <b>Voltage:</b><br>± 5 V, 0 ... 5 V, 1 ... 5 V,<br>± 10 V, 0 ... 10 V, 2 ... 10 V,<br><b>Current:</b><br>± 10 mA, 0 ... 10 mA, 2 ... 10 mA,<br>± 20 mA, 0 ... 20 mA, 4 ... 20 mA | ≤ 600 Ω (I-output)<br>≥ 2 kΩ (U-output) | 100 Hz / > 5 kHz<br>(configurable via DIP switch) | 24 V DC              |
| 0 (4) ... 20 mA  | 0 (4) ... 20 mA  | ≤ 600 Ω (I-output)<br>≥ 2 kΩ (U-output) | 100 Hz  | 24 V DC              |
| 0 (2) ... 12 V   | 0 (2) ... 10 V   |   |   |                      |
| 0 ... 10 V   | 0 ... 20 mA  |   |   |                      |
| 0 ... 10 V   | 4 ... 20 mA  |   |   |                      |
| 0 ... 20 mA  | 0 ... 10 V   |   |   |                      |
| 4 ... 20 mA  | 0 ... 10 V   |   |   |                      |
| 0 ... 20 mA,<br>4 ... 20 mA  | 0 ... 20 mA, 4 ... 20 mA,<br>0... 5 V, 0 ... 10 V,<br>2 ... 10 V, 1 ... 5 V  | 600 Ω (I-output)<br>2 kΩ (U-output)     | 100 Hz  | 24 V DC              |
| 4 ... 20 mA  | 4 ... 20 mA  | 600 Ω                                   | 100 Hz Signal /<br>HART ≥ 2.5 kHz                 | 24 V DC              |
| 0 ... 20 mA, 4 ... 20 mA,<br>0... 5 V, 0 ... 10 V,<br>2 ... 10 V, 1 ... 5 V  | 2 x 0(4) ... 20 mA   | 2 x 300 Ω                               | 100 Hz / > 1 kHz<br>(configurable via DIP switch) | 24 V DC              |
| <b>Voltage:</b><br>± 5 V, 0 ... 5 V, 1 ... 5 V,<br>± 10 V, 0 ... 10 V, 2 ... 10 V,<br>± 20 V, +2 V, 0 ... 2 V, ± 1 V, 0 ... 1 V<br><b>Current:</b><br>± 10 mA, 0 ... 10 mA, 2 ... 10 mA,<br>± 20 mA, 0 ... 20 mA, 4 ... 20 mA,<br>± 5 mA, 0 ... 5 mA | 4 ... 20 mA<br>Loop-powered<br>(for active input cards)  | ≤ 600 Ω                                 | 30 Hz / 100 Hz                                    |                      |
| 0(4) ... 20 mA   | 0(4) ... 20 mA   | 600 Ω                                   | 100 Hz  |                      |
| 0(4) ... 20 mA   | 0(4) ... 20 mA   | 600 Ω                                   | 100 Hz  |                      |

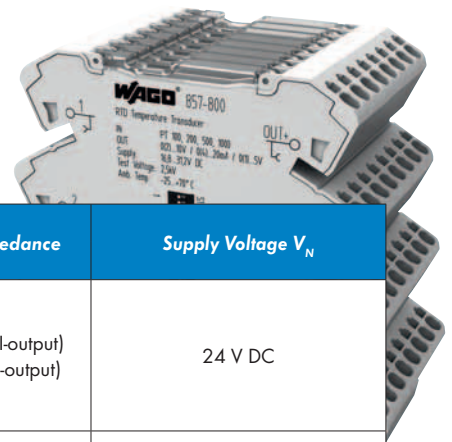
# Temperature Transducers and Transducers with Specialty Signals

| Description  |  |  | Item No. | Configuration |                    |
|--|--|--|----------|---------------|--------------------|
|  |  |  |          | Dip Switch    | FDT/DTM            |
| Temperature transducer for Pt100, Pt200, Pt500 and Pt1000 as well as resistors<br>0 ... 1 kOhm; 0 ... 4.5 kOhm |  |  | 857-800  | x             |                    |
| Temperature transducer for Pt100, Pt200, Pt500 and Pt1000 as well as resistors<br>0 ... 1 kOhm; 0 ... 4.5 kOhm |  |  | 857-801  | x             | x                  |
| Temperature transducer for thermocouples of types J and K  |  |  | 857-810  | x             |                    |
| Temperature transducer for thermocouples of types J, K, E, R, N, S, T, B, S                                    |  |  | 857-811  | x             | x                  |
| Ni Transducer for Ni 100, Ni 120, Ni 200, Ni 500, Ni 1000  |  |  | 857-818  | x             |                    |
| Millivolt transducer;<br>Records all mV signals ranging from -100 mV to +100 mV; 0 mV ... 1000 mV              |  |  | 857-819  | x             | x                  |
| KTY transducer   |  |  | 857-820  | x             |                    |
| Frequency transducer   |  |  | 857-500  | x             |                    |
| Threshold value switch with analog input and changeover relay output   |  |  | 857-531  | x             | FDT/DTM + Teach In |
| Current transducer   |  |  | 857-550  | x             |                    |
| Supply and through module  |  |  | 857-979  |               |                    |

Ambient operating temperature for all devices: - 25 °C ... +70 °C

\* KTY81-110, KTY81-120, KTY81-150, KTY82-110, KTY82-120, KTY82-150, KTY81-121, KTY82-121, KTY81-122, KTY82-122, KTY81-210, KTY81-220, KTY82-210, KTY82-220, KTY83-151, KTY84-130, KTY84-150, KTY84-151, KTY16, KTY19, ST13, ST20

\*\* Operating restrictions may occur within the temperature range



| Input Signal  | Sensor Connection                           | Sensor Temperature Range   | Output Signal  | Load Impedance  | Supply Voltage $V_N$ |
|---|---|--|--|---|----------------------|
| <b>Pt sensors</b><br>Pt100, Pt200, Pt500, Pt1000<br><b>Resistors</b><br>0 ... 1 k $\Omega$ ; 0 ... 4,5 k $\Omega$ | 2-wire, 3-wire, 4-wire<br>(switchable)      | -200 °C ... +850 °C  | 0 ... 20 mA, 4 ... 20 mA,<br>0 ... 10 V, 2 ... 10 V,<br>0... 5 V, 1 ... 5 V,<br>0 ... 10 mA, 2 ... 10 mA | $\leq 600 \Omega$ (I-output)<br>$\geq 2 \text{ k}\Omega$ (U-output)         | 24 V DC              |
| <b>Pt sensors</b><br>Pt100, Pt200, Pt500, Pt1000<br><b>Resistors</b><br>0 ... 1 k $\Omega$ ; 0 ... 4,5 k $\Omega$ | 2-wire, 3-wire, 4-wire<br>(switchable)      | -200 °C ... +850 °C  | 0 ... 20 mA, 4 ... 20 mA,<br>0 ... 10 V, 2 ... 10 V,<br>0... 5 V, 1 ... 5 V,<br>0 ... 10 mA, 2 ... 10 mA | $\leq 600 \Omega$ (I-output)<br>$\geq 2 \text{ k}\Omega$ (U-output)         | 24 V DC              |
| <b>Thermocouples</b><br>Type J, Type K  |   | <b>Type J:</b><br>-150 °C ... +1200 °C<br><b>Type K:</b><br>-150 °C ... +1350 °C | 0 ... 20 mA, 4 ... 20 mA,<br>0 ... 10 V, 2 ... 10 V,<br>0... 5 V, 1 ... 5 V,<br>0 ... 10 mA, 2 ... 10 mA | $\leq 600 \Omega$ (I-output)<br>$\geq 2 \text{ k}\Omega$ (U-output)         | 24 V DC              |
| <b>Thermocouples</b><br>Type J, K, E, R, N, S, T, B, S  |   | <b>Type J:</b><br>-150 °C ... +1200 °C<br><b>Type K:</b><br>-150 °C ... +1350 °C | 0 ... 20 mA, 4 ... 20 mA,<br>0 ... 10 V, 2 ... 10 V,<br>0... 5 V, 1 ... 5 V,<br>0 ... 10 mA, 2 ... 10 mA | $\leq 600 \Omega$ (I-output)<br>$\geq 2 \text{ k}\Omega$ (U-output)         | 24 V DC              |
| <b>Ni sensors</b><br>Ni 100, Ni 120, Ni 200,<br>Ni 500, Ni1000  | 2-wire, 3-wire, 4-wire<br>(switchable)      |  | 0 ... 20 mA, 4 ... 20 mA,<br>0 ... 10 V, 2 ... 10 V,<br>0... 5 V, 1 ... 5 V,<br>0 ... 10 mA, 2 ... 10 mA | $\leq 600 \Omega$ (I-output)<br>$\geq 2 \text{ k}\Omega$ (U-output)         | 24 V DC              |
| -100 mV ... +100 mV,<br>0 mV ... 200 mV bis<br>0 mV ... 1000 mV<br>(in 100 mV increments)                         |   |  | 0 ... 20 mA, 4 ... 20 mA,<br>0 ... 10 V, 2 ... 10 V, 0... 5 V,<br>1 ... 5 V,<br>0 ... 10 mA, 2 ... 10 mA | $\leq 600 \Omega$ (I-output)<br>$\geq 2 \text{ k}\Omega$ (U-output)         | 24 V DC              |
| KTY sensors *   | 2-wire                                      |  | 0 ... 20 mA, 4 ... 20 mA,<br>0 ... 10 V, 2 ... 10 V,<br>0... 5 V, 1 ... 5 V,<br>0 ... 10 mA, 2 ... 10 mA | $\leq 600 \Omega$ (I-output)<br>$\geq 2 \text{ k}\Omega$ (U-output)         | 24 V DC              |
| Frequency signals,<br>NAMUR-, NPN or PNP<br>sensors<br>0.1 Hz bis 120 kHz   |   |  | 0 ... 10 V, 2 ... 10 V,<br>0 ... 5 V, 1 ... 5 V<br>0 ... 20 mA, 4 ... 20 mA,<br>0 ... 10 mA, 2 ... 10 mA | $\leq 600 \Omega$ (I-output)<br>$\geq 2 \text{ k}\Omega$ (U-output)         | 24 V DC              |
| -10...+10 V,<br>-20...+20 mA<br>0...+30 V   | 1 changeover contact, 6 A<br>digital output |  |  | 24 V DC   |                      |
| 0 ... 1 A AC/DC;<br>0 ... 5 A AC/DC   |   |  | 0 ... 10 V, 2 ... 10 V,<br>0 ... 5 V, 1 ... 5 V<br>0 ... 20 mA, 4 ... 20 mA,<br>0 ... 10 mA, 2 ... 10 mA | $\leq 600 \Omega$<br>(I-output)**<br>$\geq 2 \text{ k}\Omega$<br>(U-output) | 24 V DC              |
| 33 V AC/DC / 2 A  |   |  |  |   |                      |

0, KTY81-221, KTY82-221, KTY81-222, KTY82-222, KTY81-250, KTY82-250, KTY83-110, KTY83-120, KTY83-150, KTY83-121, KTY83-122,

# JUMPFLEX® Transducer Parameter Setting

Select JUMPFLEX® Transducers can also be parameterized via WAGOframe software tool. The WAGOframe FDT/DTM-based configuration tool provides parameterization, start-up and field device diagnostics. DTM device drivers, for the devices employed, are required to use the WAGOframe FDT frame application.

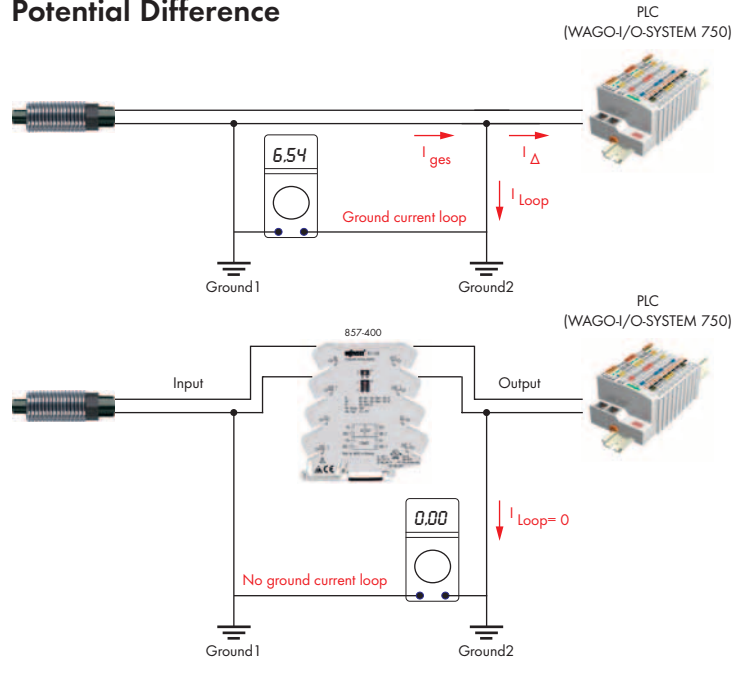
The WAGOframe FDT frame application provides a wizard, simplifying the operation of components, such as WAGO JUMPFLEX® DTM. This wizard guides the user through the different operating modes of DTM device drivers. Depending on the PC communication interface used, an appropriate communication cable including DTM is required.



# Application Examples for Avoiding Corruption of Analog Signals

In industrial applications, there are several requirements for safe and economical signal matching that demand appropriate solutions. This is precisely where the strengths of analog technology lie. For years it has been used successfully in all branches of industry, including factory automation and process technology.

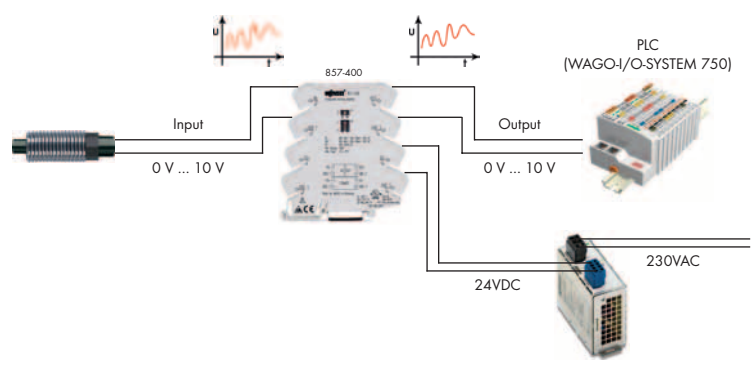
## Potential Difference



The main cause of analog signal corruptions are potential differences that arise. With increasing transmission lengths, the ground resistance increases. Thus, differences of up to 200V can arise. With signals having ground reference, these ground loops can cause corruptions since particular parts of the signal are not transmitted via analog line, but via ground. Thus, there is a faulty signal assessment.

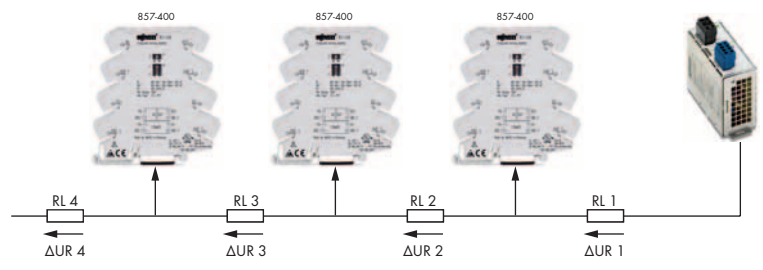
In this instance, an isolation amplifier helps since it prevents the arising of a ground current loop. Galvanic isolation of the input circuit from the output circuit breaks up this ground loop and enables perfect signal transmission. Smaller overvoltages with a lower energy level that can arise due to switching operations are dissipated safely. In addition, the output side downstream controller is protected by the galvanic isolation.

## Signal Filtering



If the signal to be processed is burdened with disturbances, it is freed of the disturbances by the signal filtering with an internal filter in the input of the isolation amplifier. The signal is then transmitted to the superior controller. This way, the devices can be adapted flexibly to the frequency range in which the disturbance lies using DIP switches. The disturbances are thus filtered out safely.

## Linked Measurement Circuits



A frequent cause of potential differences is linked measurement circuits for which the reference voltage is raised by combining several signal circuits. Thanks to the use of isolation amplifiers, this problem is eliminated since galvanic isolation of the isolation amplifier eliminates the influence of various reference voltages.

The 857 Series JUMPFLEX® Transducers make a solid contribution to system safety for many problems that occur by providing a continuous galvanic 3-way isolation with test voltages of 2.5kV between all channels (input/output/supply).



**Quick and easy replacement**  
Pluggable relays and  
optocouplers



**Industry's most compact**  
"True" 6.0mm (0.23 inch) width maximizes  
panel space.



**Highly versatile**  
Input voltage available in  
5-230 V AC/DC variants



**Monitoring, not discrete wiring**  
The outline allows the usage  
of a single in-line, push-in jumper.



**...**



**CAGE CLAMP®S**

**Vibration-proof, fast and maintenance-free**  
CAGE CLAMP®S termination for all conductor types.



solid


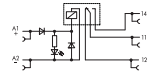
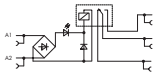

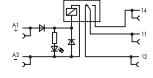
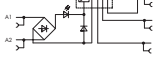

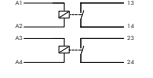



fine-stranded



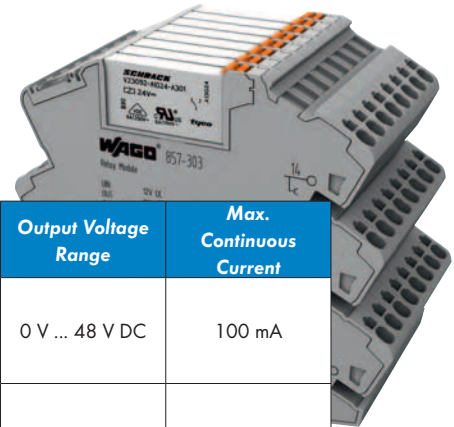
ferruled

# Relays and Optocouplers

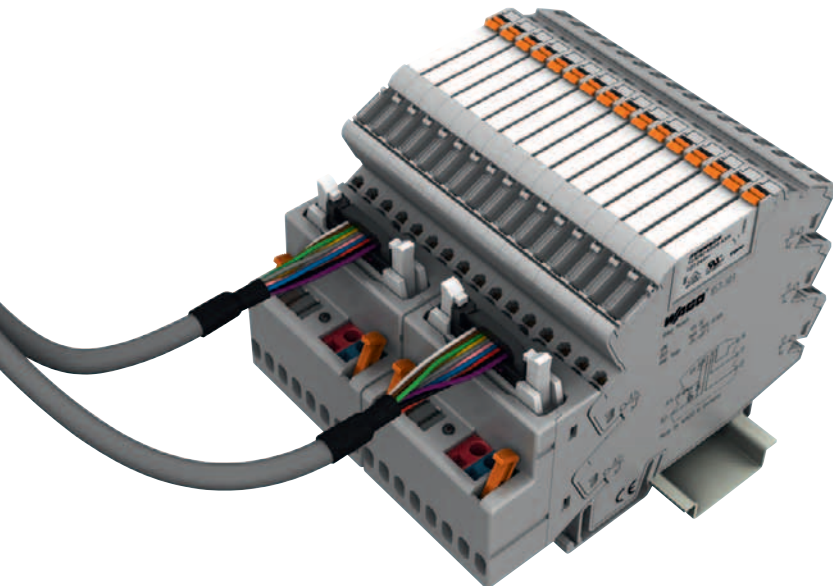
| Description   |   | Item No.  | Input Nominal Voltage $V_N$  | Max. Switching Voltage  | Max. Continuous Current                    |
|---|---|---|--|---|--|
| Relay with 1 changeover contact                       |    |    | <b>857-303</b><br><b>857-304</b><br><b>857-305</b><br><b>857-306</b><br><b>857-307</b><br><b>857-308</b> | 12 V DC<br>24 V DC<br>48 V DC<br>60 V DC<br>110 V DC<br>220 V DC    | 250 V AC<br>6 A                            |
|   |   |    | <b>857-354</b><br><b>857-357</b><br><b>857-358</b>   | 24 V AC/DC<br>115 V AC/DC<br>230 V AC/DC                            | 250 V AC<br>6 A                            |
|   |   |   | <b>857-304/008-000</b><br><b>857-358/008-000</b>   | 24 V DC<br>230 V AC/DC  | 250 V AC<br>8 A                            |
| Relay with 1 changeover contact, with gold contacts   |   |    | <b>857-314</b><br><b>857-317</b><br><b>857-318</b>   | 24 V DC<br>110 V DC<br>220 V DC                                     | 36 V DC* / (250 V AC/DC)<br>50 mA* / (6 A) |
|   |   |  | <b>857-364</b><br><b>857-367</b><br><b>857-368</b>   | 24 V AC/DC<br>115 V AC/DC<br>230 V AC/DC                            | 36 V DC* / (250 V AC/DC)<br>50 mA* / (6 A) |
| 2 relays, with 1 make contact                         |  |  | <b>857-1330</b>  | 24 V AC/DC  | 250 V AC<br>4 A                            |
| Description   |   | Item No.  | Input Nominal Voltage $V_N$  | For replacement relays and optocouplers, see accessories on page 16 |  |
| Sockets for Miniature switching relay and optocoupler |  |   | <b>857-104</b>   | AC/24 V DC  |  |
|   |   |   | <b>857-107</b>   | AC/DC 110 V   |  |
|   |   |   | <b>857-108</b>   | AC/DC 230 V   |  |

\* In order to prevent the gold layer from being damaged, these values shall not be exceeded. (In case of damaged gold layer, the values in parens apply). Higher switching power leads to evaporation of the gold layer.





| Description       |  |  | Item No.        | Input Nominal Voltage $V_N$ | Output Voltage Range   | Max. Continuous Current |
|-------------------|--|--|-----------------|-----------------------------|------------------------|-------------------------|
| Solid state relay |  |  | <b>857-704</b>  | 24 V DC                     | 0 V ... 48 V DC        | 100 mA                  |
|                   |  |  | <b>857-707</b>  | 115 V AC/DC                 | 0 V ... 48 V DC        | 100 mA                  |
|                   |  |  | <b>857-708</b>  | 230 V AC/DC                 | 0 V ... 48 V DC        | 100 mA                  |
| Solid state relay |  |  | <b>857-714</b>  | 24 V DC                     | 24 V ... 240 V AC      | 1 A                     |
|                   |  |  | <b>857-717</b>  | 115 V AC/DC                 | 24 V ... 240 V AC      | 1 A                     |
|                   |  |  | <b>857-718</b>  | 230 V AC/DC                 | 24 V ... 240 V AC      | 1 A                     |
| Solid state relay |  |  | <b>857-724</b>  | 24 V DC                     | 0 V ... 24 V DC        | 2 A                     |
|                   |  |  | <b>857-727</b>  | 115 V AC/DC                 | 0 V ... 24 V DC        | 2 A                     |
|                   |  |  | <b>857-728</b>  | 230 V AC/DC                 | 0 V ... 24 V DC        | 2 A                     |
| Solid state relay |  |  | <b>857-1494</b> | 2 x<br>24 V DC              | 2 x<br>9 V ... 60 V DC | 2 x 0.1 A               |
|                   |  |  | <b>857-1430</b> | 2 x<br>24 V DC              | 2 x<br>3 V ... 30 V DC | 2 x 3 A                 |
|                   |  |  | <b>857-1432</b> | 24 V DC                     | 3 V ... 30 V DC        | 2 x 0.5 A               |



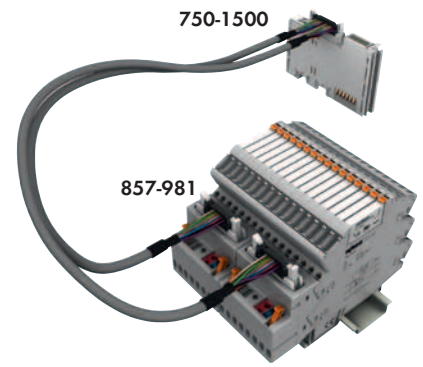
The 857-98x Interface Adapter provides a fast and reliable connection between WAGO I/O modules equipped with ribbon cable connector (e.g., 750-1500 and 750-1502) and JUMPFLEX® relay and optocoupler modules.


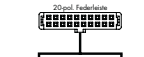













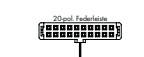


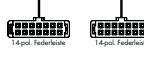


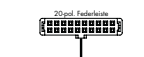





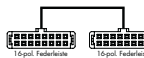


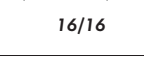
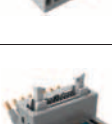

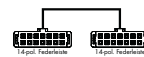


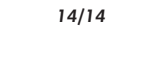

Suitable ribbon cable assemblies are also available as accessories.

## WAGO 857 Series Interface Adapter for System Wiring

The WAGO Interface Adapter provides a fast wiring solution for relay and optocoupler modules within the JUMPFLEX® 857 Series. On the module side, preassembled WAGO Ribbon Cables (706 Series) connect to the WAGO-I/O-SYSTEM controllers.






- Simple plug-in connection via jumper slot
- Combines 8 channels within a 857 Series module assembly
- Integrated test ports for each channel





| WAGO-I/O -SYSTEM 750 |   | WAGO Ribbon Cables  | WAGO Interface Adapter  |  |   |   |
|----------------------|---|---|---|--|---|---|
|                      | Item No.  | I/O Module  | Item No.  | Item No.   | Connection Example  |   |
| DI                   |  <b>750-1400</b>   | 16 DI 24V DC<br>3,0 ms<br>ribbon cable                        |  <b>706-7753/304-xxx</b>   |    | <b>857-982</b><br>with 14-pin ribbon cable<br>connector<br>acc. to DIN 41651<br><b>Output, positive switching</b> |    |
|                      |  <b>750-1402</b>   | 16 DI 24V DC<br>3,0 ms<br>ribbon cable,<br>low-side switching |  <b>20/2x14</b>            |    |   |   |
| DO                   |  <b>750-1500</b>   | 16 DO 24V DC<br>0,5 A<br>ribbon cable                         |  <b>706-7753/306-xxx</b>   |    | <b>857-986</b><br>with SUB-D male connector<br>Input, positive switching  |    |
|                      |   |   |  <b>20/2x15</b>            |    | <b>857-981</b><br>with 14-pin ribbon cable<br>connector<br>acc. to DIN 41651<br>Input, positive switching         |   |
| DI/DO                |  <b>750-1502</b> | 8DI 8DO 24V DC<br>0,5 A<br>ribbon cable                       |  <b>706-7753/304-xxx</b> |  | <b>857-982</b><br>with 14-pin ribbon cable<br>connector<br>acc. to DIN 41651<br>Output, positive switching        |  |
|                      |   |   |  <b>20/2x14</b>          |  | <b>857-981</b><br>with 14-pin ribbon cable<br>connector<br>acc. to DIN 41651<br>Input, positive switching         |  |
|                      |   |   |  <b>706-7753/306-xxx</b> |  | <b>857-986</b><br>with SUB-D male connector<br>Input, positive switching  |  |
|                      |   |   |  <b>20/2x15</b>          |  | <b>857-981</b><br>with 14-pin ribbon cable<br>connector<br>acc. to DIN 41651<br>(suitable for transducers)        |  |
|                      |   |   |  <b>706-753/301-xxx</b>  |  | <b>857-980</b><br>with 16-pin ribbon cable<br>connector<br>acc. to DIN 41651<br>Input, positive switching         |  |
|                      |   |   |  <b>16/16</b>            |  | <b>857-981</b><br>with 14-pin ribbon cable<br>connector<br>acc. to DIN 41651<br>Input, positive switching         |  |
|                      |   |   |  <b>706-753/300-xxx</b>  |  | <b>857-982</b><br>with 14-pin ribbon cable<br>connector<br>acc. to DIN 41651<br>Output, positive switching        |  |
|                      |   |   |  <b>14/14</b>            |  |   |   |

WAGO Ribbon Cables are available in 1m (-100), 2m (-200), 3m (-300) lengths.  
Additional cable types and lengths available upon request.

# Accessories

| Push-in Type Jumper Bars, Operating Tool, WAGO USB Service Cable, Marking |   |  |  |
|---|---|--|--|
| Push-in type jumper bars, light gray, insulated, 18 A                     |                            | 2-way  | 859-402  |
|   |   | 3-way  | 859-403  |
|   |   | 4-way  | 859-404  |
|   |   | 5-way  | 859-405  |
|   |   | 6-way  | 859-406  |
|   |   | 7-way  | 859-407  |
|   |   | 8-way  | 859-408  |
|   |   | 9-way  | 859-409  |
|   |   | 10-way   | 859-410  |
|   |   | Item no. suffix for colored push-in type jumper bars                                 |  |
| red   | ... /000-005  |  |  |
| blue  | ... /000-006  |  |  |
| Comb-style jumper bar, insulated  | (Jumper for clamping units)   | 2-way  | 281-482  |
| Operating tool, with partially insulated shaft                            | Type 2, blade (3.5 x 0.5) mm  |    | 210-720  |
| WAGO USB service cable  | Connection between PC (notebook) and service interface of 857 Series transducers                            |    | 750-923  |
| WAGOframe   | FDT frame application for parameterization, commissioning and diagnostics of devices with DTM device driver |    | 759-370  |
| Marking   | WMB Multi marking system  |  | see <a href="http://www.wago.com">www.wago.com</a> |

| Replacement Relays and Optocouplers        |   |               |                |                 |  |
|--|---|---------------|----------------|-----------------|--|
|  |   | Input Voltage | Item No. Relay | Item No. Socket | Item No. Replacement Relay and Optocoupler |
| Miniature switching relays                 |  | 12 V DC       | 857-303        | 857-103         | 857-150                                    |
|  |   | 24 V DC       | 857-304        | 857-104         | 857-152                                    |
|  |   | 48 V DC       | 857-305        | 857-105         | 857-154                                    |
|  |   | 60 V DC       | 857-306        | 857-106         | 857-155                                    |
|  |   | 110 V DC      | 857-307        | 857-107         | 857-155                                    |
|  |   | 220 V DC      | 857-308        | 857-108         | 857-155                                    |
|  |   | 24 V AC/DC    | 857-354        | 857-104         | 857-152                                    |
|  |   | 115 V AC/DC   | 857-357        | 857-107         | 857-155                                    |
| Miniature switching relays (gold contacts) |  | 230 V AC/DC   | 857-358        | 857-108         | 857-155                                    |
|  |   | 24 V DC       | 857-314        | 857-104         | 857-153                                    |
|  |   | 110 V DC      | 857-317        | 857-107         | 857-157                                    |
|  |   | 220 V DC      | 857-318        | 857-108         | 857-157                                    |
|  |   | 24 V AC/DC    | 857-364        | 857-104         | 857-153                                    |
|  |   | 115 V AC/DC   | 857-367        | 857-107         | 857-157                                    |
| Solid state relays                         |  | 230 V AC/DC   | 857-368        | 857-108         | 857-157                                    |
|  |   | 24 V DC       | 857-704        | 857-104         | 857-164                                    |
|  |   | 115 V AC/DC   | 857-707        | 857-107         | 857-165                                    |
|  |   | 230 V AC/DC   | 857-708        | 857-108         | 857-165                                    |
|  |   | 24 V DC       | 857-714        | 857-104         | 857-167                                    |
|  |   | 115 V AC/DC   | 857-717        | 857-107         | 857-168                                    |
|  |   | 230 V AC/DC   | 857-718        | 857-108         | 857-168                                    |
|  |   | 24 V DC       | 857-724        | 857-104         | 857-161                                    |
| 115 V AC/DC                                | 857-727   | 857-107       | 857-162        |                 |  |
|  |   | 230 V AC/DC   | 857-728        | 857-108         | 857-162                                    |

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