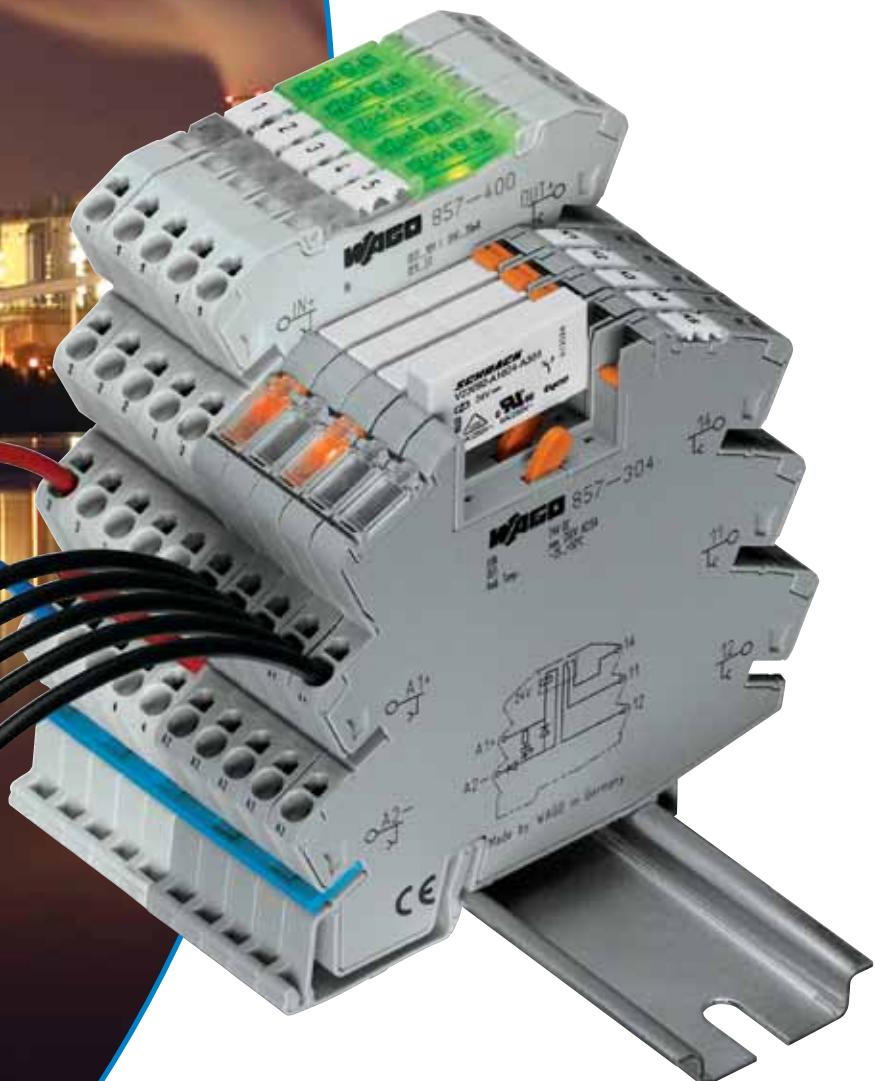




JUMPFLEX® – 857 Series

Signal Conditioning, Relay and Solid State Modules



WAGO®
INNOVATIVE CONNECTIONS

JUMPFLEX® – 857 Series

Today's factory automation and process control applications require conversion, isolation, and transmission of many different signal types. With these requirements comes the challenge of managing signal types, maximizing panel space, reducing signal wiring and downtime, while controlling overall system costs. The new 857 Series signal conditioners and relays meet this challenge and much more with...

- Industries smallest pitch at just 6mm wide, reduces panel space
- Pluggable relays for easy replacement
- Flexible jumpering system eliminates redundant wiring
- Configurable modules increase flexibility and reduce inventory/part number requirements
- Safe operation with three-way isolation (2.5kV)
- Maintenance-free wiring with CAGE CLAMP®S termination technology
- And support for all signal types...

Isolation Amplifiers

Passive Isolators

Repeater Power Supplies

Signal Splitter

Relay and Solid State Modules

DC Relay Modules

DC Relay Modules with Gold Contacts

V230/32-A1024-A301

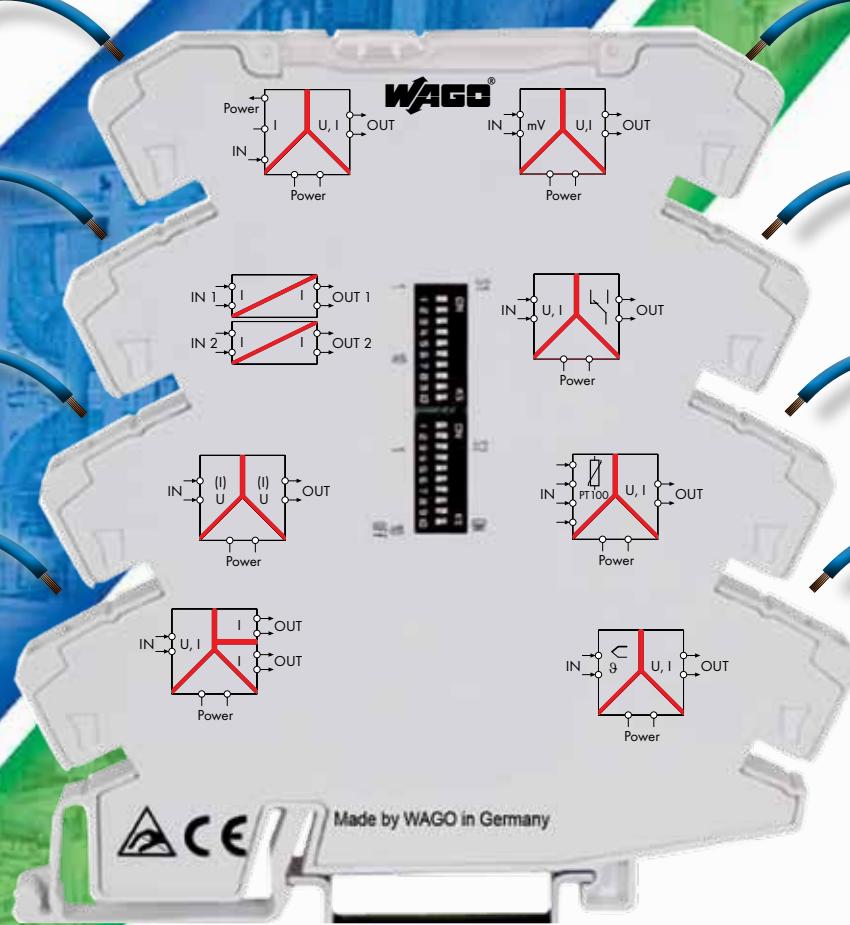
WAGO

Made by WAGO in Germany

CE

Made by WAGO in Germany

Signal Conditioners



mV Signal Conditioner

Limit Value Switch

Signal Conditioner for RTDs

Signal Conditioner
for Thermocouples

Solid State

AC/DC Relay Modules

AC/DC Relay Modules
with Gold Contacts

**JUMPFLEX® -
The Intelligent Solution!**

Effectively Protected

JUMPFLEX®

Requirement:

Input circuit protection against overcurrent.



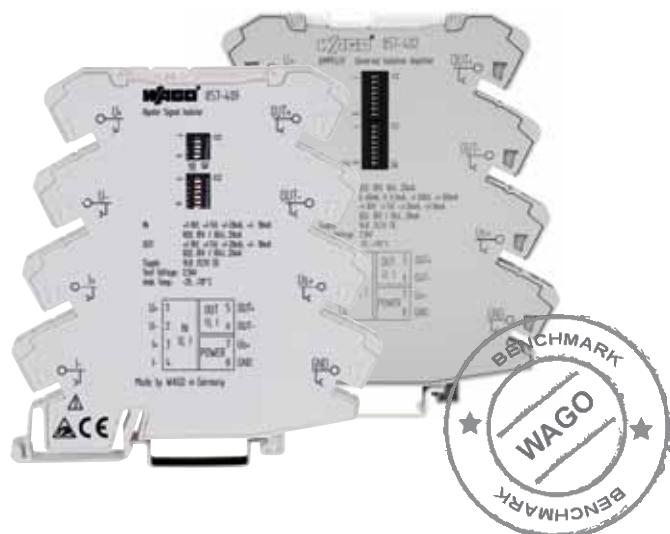
Solution:

Use auto-reset fuses that reset once overcurrent is removed.



Product:

JUMPFLEX® –
857-409 Bipolar and
857-402 Universal Signal Conditioner



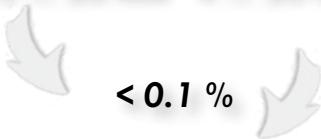
The input circuit is effectively protected against overcurrent.

Always Accurate

Requirement:

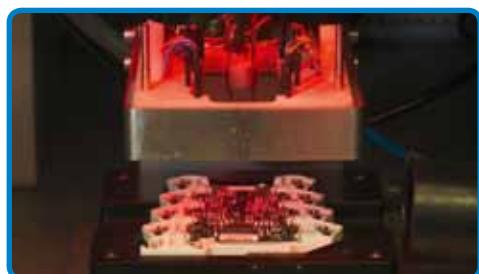
Always precise and constant signal values.
Even after signal range change.

0 ... 20 mA 4 ... 20 mA



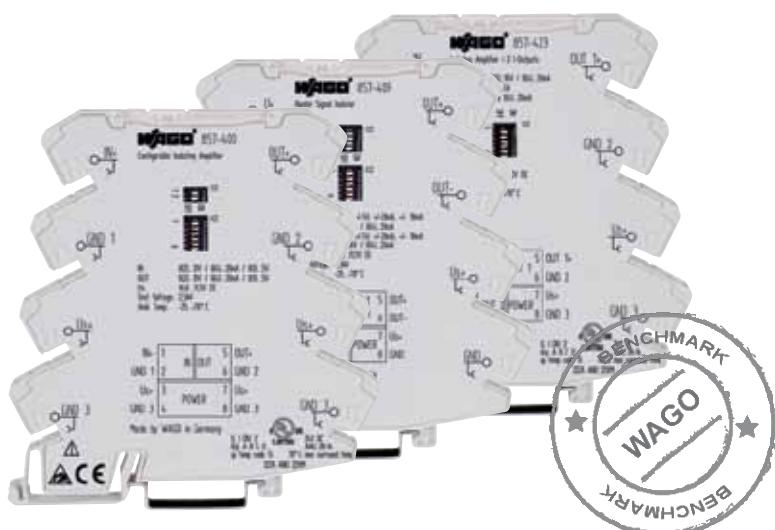
Solution:

Use laser trimming process on resistors for each DIP switch setting to avoid the need to recalibrate.



Product:

JUMPFLEX® –
Configurable 857-4xx Series Signal Conditioners
are calibrated via DIP switch



No recalibration is necessary after switching between measuring ranges.

Top Features

Ideally Adjusted

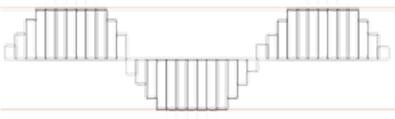
Requirement:

Reaching definable end values for standard analog signals.



Solution:

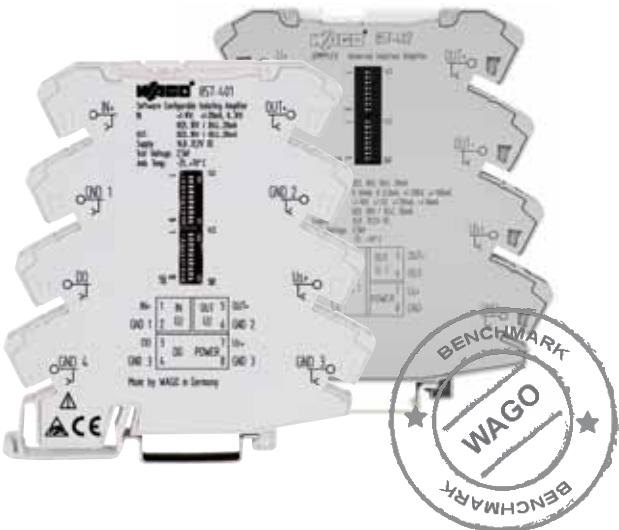
Integrate a clipping function to ensure accurate analog signal conversion by limiting upper range values.



(i.e. for 0 - 10 V input to 4 - 20 mA; even at 11 V input, the output will not exceed 20 mA.)

Product:

JUMPFLEX® –
857-401 Software-Configurable Signal Conditioner
(with configurable digital output (DO))
857-402 Universal Signal Conditioner

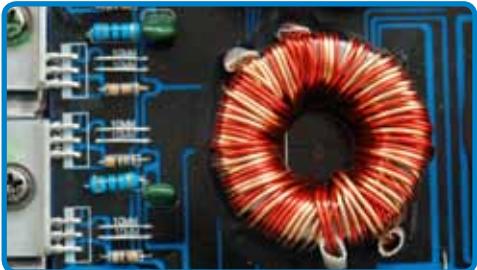


The perfect solution for any application.

Maximum Safety

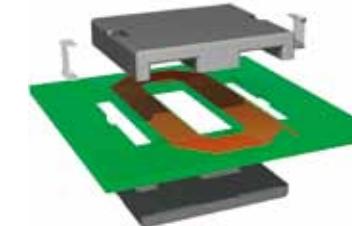
Requirement:

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



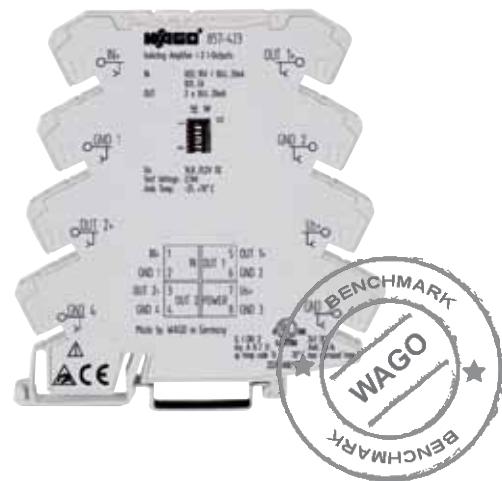
Solution:

Utilize multi-layer PCB windings with a ferrite core.



Product:

The complete JUMPFLEX® 857 Series

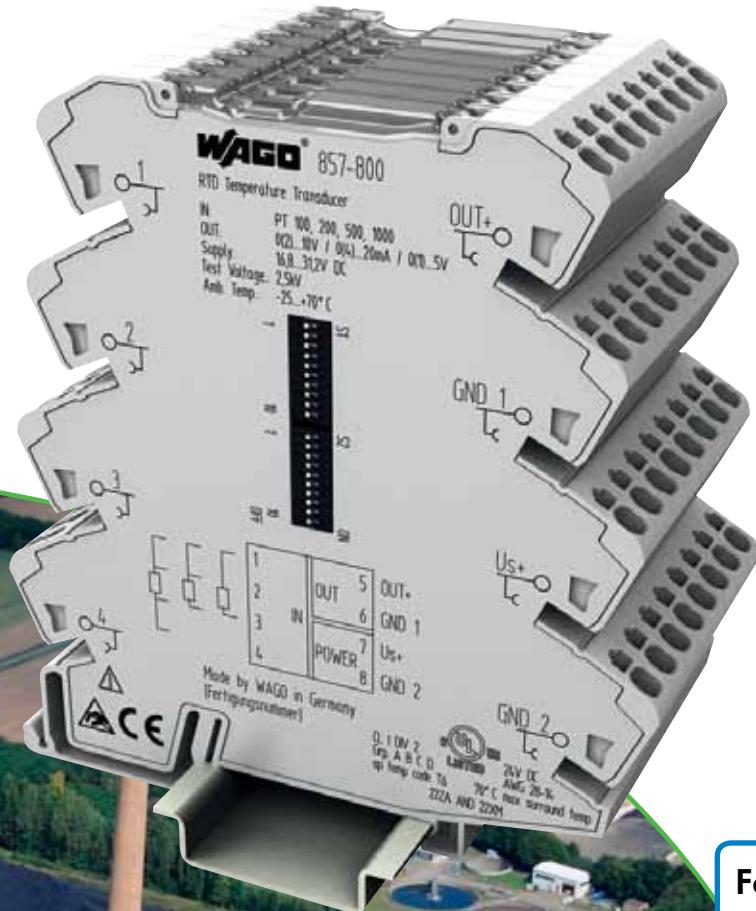


All devices provide "safe isolation" with 2.5kV test voltage to EN 61140.

JUMPFLEX® - Signal Conditioners – 857 Series

Housed in a 6 mm wide package, the 857 Series JUMPFLEX® Signal Conditioners feature eight CAGE CLAMP®S connections, a jumper slot at every connection point, and a common profile. As a result, the same flexible, push-in jumpers can be used for the entire JUMPFLEX® product line... providing a system approach to signal conditioning and switching.

Additional features include: safe isolation, extended temperature range, and calibrated configurable signals. Combined with excellent technical specifications, these features offer an advanced signal conditioning product that maximizes panel space, while reducing signal wiring and downtime.



For
Exte
to +

Highest safety
All devices provided
with 2.5kV test voltage

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

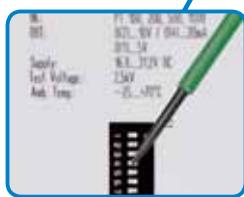
Always accurate

Laser-capable resistors eliminate recalibration.



Flexibility at its finest

Configuration via DIP switch or software configuration tool (FDT/DTM).



Industry's most compact

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



For extreme applications

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



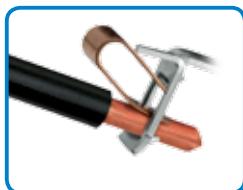
Safe "safe isolation"
Voltage to EN 61140.



CAGE CLAMP®S

Vibration-proof – fast – maintenance-free

CAGE CLAMP®S termination for all conductor types.



solid



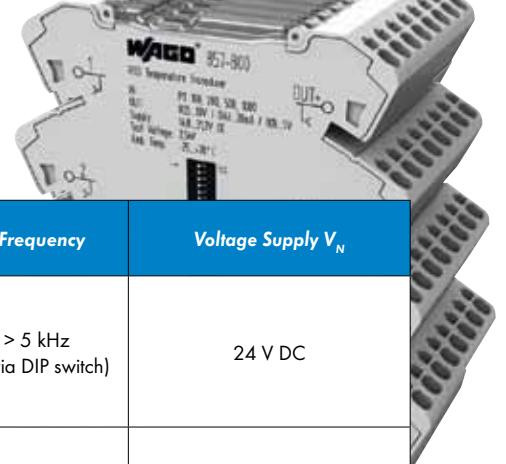
fine-stranded



ferruled

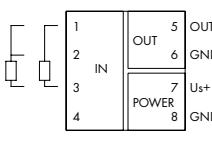
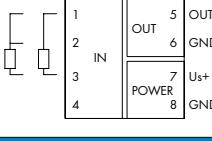
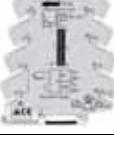
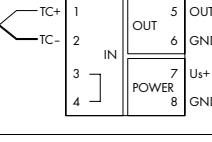
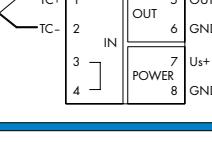
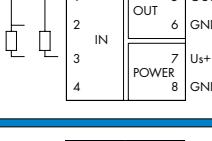
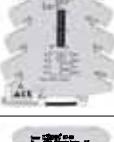
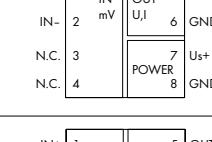
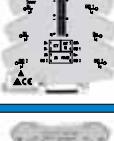
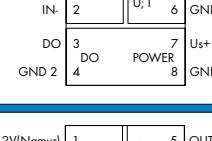
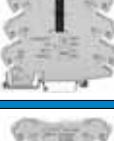
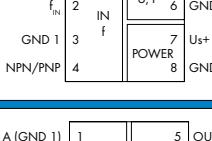
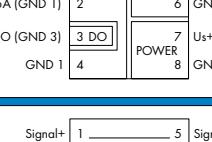
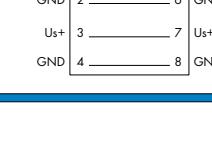
Signal Conditioners

Description			Item No.	Configuration																									
				Dip Switch	FDT/DTM																								
Signal conditioner, configurable with zero/span adjustment		<table border="1"> <tr> <td>IN+</td> <td>1</td> <td>IN</td> <td>OUT</td> <td>5</td> <td>OUT+</td> </tr> <tr> <td>GND 1</td> <td>2</td> <td></td> <td></td> <td>6</td> <td>GND 2</td> </tr> <tr> <td>Us+</td> <td>3</td> <td></td> <td></td> <td>7</td> <td>Us+</td> </tr> <tr> <td>GND 3</td> <td>4</td> <td>POWER</td> <td></td> <td>8</td> <td>GND 3</td> </tr> </table>	IN+	1	IN	OUT	5	OUT+	GND 1	2			6	GND 2	Us+	3			7	Us+	GND 3	4	POWER		8	GND 3	857-400	x	
IN+	1	IN	OUT	5	OUT+																								
GND 1	2			6	GND 2																								
Us+	3			7	Us+																								
GND 3	4	POWER		8	GND 3																								
Signal conditioner, configurable with digital output		<table border="1"> <tr> <td>IN+</td> <td>1</td> <td>IN</td> <td>OUT</td> <td>5</td> <td>OUT+</td> </tr> <tr> <td>GND 1</td> <td>2</td> <td>U,I</td> <td></td> <td>6</td> <td>GND 2</td> </tr> <tr> <td>DO</td> <td>3</td> <td>DO</td> <td>POWER</td> <td>7</td> <td>Us+</td> </tr> <tr> <td>GND 3</td> <td>4</td> <td></td> <td></td> <td>8</td> <td>GND 3</td> </tr> </table>	IN+	1	IN	OUT	5	OUT+	GND 1	2	U,I		6	GND 2	DO	3	DO	POWER	7	Us+	GND 3	4			8	GND 3	857-401	x	x
IN+	1	IN	OUT	5	OUT+																								
GND 1	2	U,I		6	GND 2																								
DO	3	DO	POWER	7	Us+																								
GND 3	4			8	GND 3																								
Universal signal conditioner		<table border="1"> <tr> <td>IN+</td> <td>1</td> <td>IN</td> <td>OUT</td> <td>5</td> <td>OUT+</td> </tr> <tr> <td>GND 1</td> <td>2</td> <td>U,I</td> <td>U,I</td> <td>6</td> <td>GND 2</td> </tr> <tr> <td>DO</td> <td>3</td> <td>DO</td> <td>POWER</td> <td>7</td> <td>Us+</td> </tr> <tr> <td>GND 3</td> <td>4</td> <td></td> <td></td> <td>8</td> <td>GND 3</td> </tr> </table>	IN+	1	IN	OUT	5	OUT+	GND 1	2	U,I	U,I	6	GND 2	DO	3	DO	POWER	7	Us+	GND 3	4			8	GND 3	857-402	x	
IN+	1	IN	OUT	5	OUT+																								
GND 1	2	U,I	U,I	6	GND 2																								
DO	3	DO	POWER	7	Us+																								
GND 3	4			8	GND 3																								
Bipolar signal conditioner		<table border="1"> <tr> <td>U+</td> <td>1</td> <td></td> <td>OUT</td> <td>5</td> <td>OUT+</td> </tr> <tr> <td>U-</td> <td>2</td> <td>IN</td> <td>U,I</td> <td>6</td> <td>OUT-</td> </tr> <tr> <td>I+</td> <td>3</td> <td>U,I</td> <td></td> <td>7</td> <td>Us+</td> </tr> <tr> <td>I-</td> <td>4</td> <td></td> <td>POWER</td> <td>8</td> <td>GND</td> </tr> </table>	U+	1		OUT	5	OUT+	U-	2	IN	U,I	6	OUT-	I+	3	U,I		7	Us+	I-	4		POWER	8	GND	857-409	x	
U+	1		OUT	5	OUT+																								
U-	2	IN	U,I	6	OUT-																								
I+	3	U,I		7	Us+																								
I-	4		POWER	8	GND																								
Signal conditioners, fixed setting for current and voltage signals		<table border="1"> <tr> <td>IN+</td> <td>1</td> <td>IN</td> <td>OUT</td> <td>5</td> <td>OUT+</td> </tr> <tr> <td>GND 1</td> <td>2</td> <td></td> <td></td> <td>6</td> <td>GND 2</td> </tr> <tr> <td>Us+</td> <td>3</td> <td></td> <td></td> <td>7</td> <td>Us+</td> </tr> <tr> <td>GND 3</td> <td>4</td> <td>POWER</td> <td></td> <td>8</td> <td>GND 3</td> </tr> </table>	IN+	1	IN	OUT	5	OUT+	GND 1	2			6	GND 2	Us+	3			7	Us+	GND 3	4	POWER		8	GND 3	857-411 857-412 857-413 857-414 857-415 857-416		
IN+	1	IN	OUT	5	OUT+																								
GND 1	2			6	GND 2																								
Us+	3			7	Us+																								
GND 3	4	POWER		8	GND 3																								
Repeater power supply, configurable with current and voltage output		<table border="1"> <tr> <td>Usensor+</td> <td>1</td> <td></td> <td>OUT</td> <td>5</td> <td>OUT+</td> </tr> <tr> <td>IN</td> <td>2</td> <td>IN</td> <td></td> <td>6</td> <td>GND 2</td> </tr> <tr> <td>GND 1</td> <td>3</td> <td></td> <td></td> <td>7</td> <td>Us+</td> </tr> <tr> <td>GND 1</td> <td>4</td> <td></td> <td>POWER</td> <td>8</td> <td>GND 3</td> </tr> </table>	Usensor+	1		OUT	5	OUT+	IN	2	IN		6	GND 2	GND 1	3			7	Us+	GND 1	4		POWER	8	GND 3	857-420	x	
Usensor+	1		OUT	5	OUT+																								
IN	2	IN		6	GND 2																								
GND 1	3			7	Us+																								
GND 1	4		POWER	8	GND 3																								
Repeater power supply, HART		<table border="1"> <tr> <td>Usensor+</td> <td>1</td> <td></td> <td>OUT</td> <td>5</td> <td>OUT +</td> </tr> <tr> <td>IN</td> <td>2</td> <td>IN</td> <td></td> <td>6</td> <td>GND 2</td> </tr> <tr> <td>N.C.</td> <td>3</td> <td></td> <td></td> <td>7</td> <td>Us+</td> </tr> <tr> <td>N.C.</td> <td>4</td> <td></td> <td>POWER</td> <td>8</td> <td>GND 3</td> </tr> </table>	Usensor+	1		OUT	5	OUT +	IN	2	IN		6	GND 2	N.C.	3			7	Us+	N.C.	4		POWER	8	GND 3	857-421		
Usensor+	1		OUT	5	OUT +																								
IN	2	IN		6	GND 2																								
N.C.	3			7	Us+																								
N.C.	4		POWER	8	GND 3																								
Signal splitter with 2 configurable current outputs		<table border="1"> <tr> <td>IN+</td> <td>1</td> <td>IN</td> <td>OUT 1</td> <td>5</td> <td>OUT 1+</td> </tr> <tr> <td>GND 1</td> <td>2</td> <td></td> <td></td> <td>6</td> <td>GND 2</td> </tr> <tr> <td>OUT 2+</td> <td>3</td> <td>OUT 2</td> <td>POWER</td> <td>7</td> <td>Us+</td> </tr> <tr> <td>GND 4</td> <td>4</td> <td></td> <td></td> <td>8</td> <td>GND 3</td> </tr> </table>	IN+	1	IN	OUT 1	5	OUT 1+	GND 1	2			6	GND 2	OUT 2+	3	OUT 2	POWER	7	Us+	GND 4	4			8	GND 3	857-423	x	
IN+	1	IN	OUT 1	5	OUT 1+																								
GND 1	2			6	GND 2																								
OUT 2+	3	OUT 2	POWER	7	Us+																								
GND 4	4			8	GND 3																								
Passive signal conditioner, 1 channel		<table border="1"> <tr> <td>IN+</td> <td>1</td> <td>IN</td> <td>OUT</td> <td>5</td> <td>OUT+</td> </tr> <tr> <td>GND 1</td> <td>2</td> <td></td> <td></td> <td>6</td> <td>GND 2</td> </tr> <tr> <td>N.C.</td> <td>3</td> <td></td> <td></td> <td>7</td> <td>N.C.</td> </tr> <tr> <td>N.C.</td> <td>4</td> <td></td> <td></td> <td>8</td> <td>N.C.</td> </tr> </table>	IN+	1	IN	OUT	5	OUT+	GND 1	2			6	GND 2	N.C.	3			7	N.C.	N.C.	4			8	N.C.	857-451		
IN+	1	IN	OUT	5	OUT+																								
GND 1	2			6	GND 2																								
N.C.	3			7	N.C.																								
N.C.	4			8	N.C.																								
Passive signal conditioner, 2 channels		<table border="1"> <tr> <td>IN 1+</td> <td>1</td> <td>IN 1</td> <td>OUT 1</td> <td>5</td> <td>OUT 1+</td> </tr> <tr> <td>GND 1</td> <td>2</td> <td></td> <td></td> <td>6</td> <td>GND 2</td> </tr> <tr> <td>IN 2+</td> <td>3</td> <td>IN 2</td> <td>OUT 2</td> <td>7</td> <td>OUT 2+</td> </tr> <tr> <td>GND 3</td> <td>4</td> <td></td> <td></td> <td>8</td> <td>GND 4</td> </tr> </table>	IN 1+	1	IN 1	OUT 1	5	OUT 1+	GND 1	2			6	GND 2	IN 2+	3	IN 2	OUT 2	7	OUT 2+	GND 3	4			8	GND 4	857-452		
IN 1+	1	IN 1	OUT 1	5	OUT 1+																								
GND 1	2			6	GND 2																								
IN 2+	3	IN 2	OUT 2	7	OUT 2+																								
GND 3	4			8	GND 4																								
Limit value switch with analog input and changeover relay output		<table border="1"> <tr> <td>DO</td> <td>1</td> <td>DO</td> <td>IN</td> <td>5</td> <td>IN+</td> </tr> <tr> <td></td> <td>2</td> <td></td> <td>U,I</td> <td>6</td> <td>GND 1</td> </tr> <tr> <td></td> <td>11</td> <td></td> <td></td> <td>7</td> <td>Us+</td> </tr> <tr> <td></td> <td>14</td> <td></td> <td>POWER</td> <td>8</td> <td>GND 2</td> </tr> </table>	DO	1	DO	IN	5	IN+		2		U,I	6	GND 1		11			7	Us+		14		POWER	8	GND 2	857-531	x	FDT/DTM + Teach In
DO	1	DO	IN	5	IN+																								
	2		U,I	6	GND 1																								
	11			7	Us+																								
	14		POWER	8	GND 2																								



Input Signal (configurable and calibrated)	Output Signal (configurable and calibrated)	Load Impedance	Operating Frequency	Voltage Supply V_N
0 ... 20 mA, 4 ... 20 mA, 0 ... 5 V, 1 ... 5 V, 0 ... 10 V, 2 ... 10 V	0 ... 20 mA, 4 ... 20 mA, 0 ... 5 V, 1 ... 5 V, 0 ... 10 V, 2 ... 10 V	600 Ω (I-output) 2 kΩ (U-output)	100 Hz / > 5 kHz (configurable via DIP switch)	24 V DC
-20 ... +20 mA, -10 ... +10 V, 0 ... +30 V	0 ... 20 mA, 4 ... 20 mA, 0 ... 10 mA, 2 ... 10 mA 0 ... 10 V, 2 ... 10 V, 0 ... 5 V, 1 ... 5 V	≤ 600 Ω (I-output) ≥ 2 kΩ (U-output)	125 Hz	24 V DC
± 0,3 mA to ± 100 mA, 0 ... 0,3 mA to 0 ... 100 mA ± 60 mV to ± 200 V, 0 ... 60 mV to ± 0 ... 200 V	± 10 mA, 0 ... 10 mA, 2 ... 10 mA, ± 20 mA, 0 ... 20 mA, 4 ... 20 mA ± 5 V, 0 ... 5 V, 1 ... 5 V, ± 10 V, 0 ... 10 V, 2 ... 10 V	≤ 600 Ω (I-output) ≥ 2 kΩ (U-output)	100 Hz / > 5 kHz (configurable via DIP switch)	24 V DC
± 10 mA, 0 ... 10 mA, 2 ... 10 mA, ± 20 mA, 0 ... 20 mA, 4 ... 20 mA ± 5 V, 0 ... 5 V, 1 ... 5 V, ± 10 V, 0 ... 10 V, 2 ... 10 V	± 10 mA, 0 ... 10 mA, 2 ... 10 mA, ± 20 mA, 0 ... 20 mA, 4 ... 20 mA ± 5 V, 0 ... 5 V, 1 ... 5 V, ± 10 V, 0 ... 10 V, 2 ... 10 V	≤ 600 Ω (I-output) ≥ 2 kΩ (U-output)	100 Hz / > 5 kHz (configurable via DIP switch)	24 V DC
0(4) ... 20 mA 0(2) ... 10 V 0 ... 10 V 0 ... 10 V 0 ... 20 mA 4 ... 20 mA	0(4) ... 20 mA 0(2) ... 10 V 0 ... 20 mA 4 ... 20 mA 0 ... 10 V 0 ... 10V	600 Ω (I-output) 2 kΩ (U-output)	100 Hz	24 V DC
0 ... 20 mA, 4 ... 20 mA	0 ... 20 mA, 4 ... 20 mA, 0 ... 5 V, 0 ... 10 V, 2 ... 10 V, 1 ... 5 V	600 Ω (I-output) 2 kΩ (U-output)	100 Hz	24 V DC
4 ... 20 mA	4 ... 20 mA	600 Ω	100 Hz Signal / HART ≥ 2.5 kHz	24 V DC
0 ... 20 mA, 4 ... 20 mA, 0 ... 5 V, 0 ... 10 V, 2 ... 10 V, 1 ... 5 V	2 × 0(4) ... 20 mA	2 × 300 Ω	100 Hz / > 1 kHz (configurable via DIP switch)	24 V DC
0(4) ... 20 mA	0(4) ... 20 mA	600 Ω	100 Hz	
0(4) ... 20 mA	0(4) ... 20 mA	600 Ω	100 Hz	
-20...+20 mA, -10...+10 V, 0...+30 V	1 changeover contact, 6 A digital output			24 V DC

Temperature Signal Conditioners and Signal Conditioners for Special

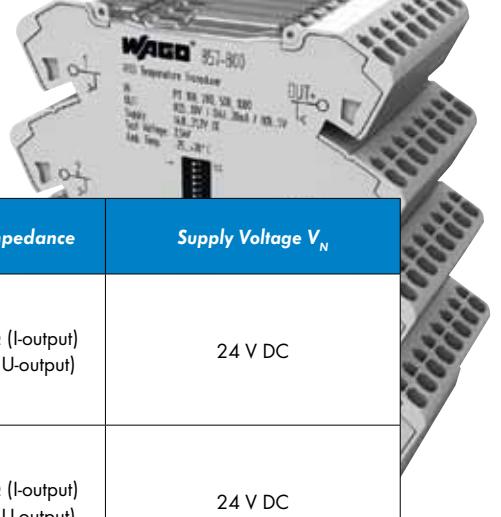
Description			Item No.	Configuration	
				Dip Switch	FDT/DTM
Temperature signal conditioner for Pt100, Pt200, Pt500 and Pt1000 as well as resistors 0 ... 1 kOhm; 0 ... 4.5 kOhm			857-800	x	
Temperature signal conditioner for Pt100, Pt200, Pt500 and Pt1000 as well as resistors 0 ... 1 kOhm; 0 ... 4.5 kOhm			857-801	x	x
Temperature signal conditioner for thermocouples of types J and K			857-810	x	
Temperature signal conditioner for thermocouples of types J, K, E, R, N, S, T, B, S			857-811	x	x
Ni signal conditioner for Ni 100, Ni 120, Ni 200, Ni 500, Ni 1000			857-818	x	
Millivolt signal conditioner; Records all mV signals ranging from -100 mV to +100 mV; 0 mV ... 1000 mV			857-819	x	x
KTY signal conditioner			857-820	x	
Frequency signal conditioner			857-500	x	
Current signal conditioner			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, KTY82-211, KTY83-151, KTY84-130, KTY84-150, KTY84-151, KTY16, KTY19, ST13, ST20

** Operating restrictions may occur within the temperature range

Safety Signals



Input Signal	Sensor Connection	Sensor Temperature Range	Output Signal	Load Impedance	Supply Voltage V_N
Pt sensors Pt100, Pt200, Pt500, Pt1000 Resistors 0 ... 1 kΩ; 0 ... 4,5 kΩ	2-wire, 3-wire, 4-wire (switchable)	-200 °C ... +850 °C	0 ... 20 mA, 4 ... 20 mA, 0 ... 10 mA, 2 ... 10 mA 0 ... 10 V, 2 ... 10 V, 0 ... 5 V, 1 ... 5 V	≤ 600 Ω (I-output) ≥ 2 kΩ (U-output)	24 V DC
Pt sensors Pt100, Pt200, Pt500, Pt1000 Resistors 0 ... 1 kΩ; 0 ... 4,5 kΩ	2-wire, 3-wire, 4-wire (switchable)	-200 °C ... +850 °C	0 ... 20 mA, 4 ... 20 mA, 0 ... 10 mA, 2 ... 10 mA 0 ... 10 V, 2 ... 10 V, 0 ... 5 V, 1 ... 5 V	≤ 600 Ω (I-output) ≥ 2 kΩ (U-output)	24 V DC
Thermocouples Type J, Type K		Type J: -150 °C ... +1200 °C Type K: -150 °C ... +1350 °C	0 ... 20 mA, 4 ... 20 mA, 0 ... 10 mA, 2 ... 10 mA 0 ... 10 V, 2 ... 10 V, 0 ... 5 V, 1 ... 5 V	≤ 600 Ω (I-output) ≥ 2 kΩ (U-output)	24 V DC
Thermocouples Type J, K, E, R, N, S, T, B		Type J: -150 °C ... +1200 °C Type K: -150 °C ... +1350 °C	0 ... 20 mA, 4 ... 20 mA, 0 ... 10 mA, 2 ... 10 mA 0 ... 10 V, 2 ... 10 V, 0 ... 5 V, 1 ... 5 V	≤ 600 Ω (I-output) ≥ 2 kΩ (U-output)	24 V DC
Ni sensors Ni 100, Ni 120, Ni 200, Ni 500, Ni1000	2-wire, 3-wire, 4-wire (switchable)		0 ... 20 mA, 4 ... 20 mA, 0 ... 10 mA, 2 ... 10 mA 0 ... 10 V, 2 ... 10 V, 0 ... 5 V, 1 ... 5 V	≤ 600 Ω (I-output) ≥ 2 kΩ (U-output)	24 V DC
-100 mV ... +100 mV, 0 mV ... 200 mV to 0 mV ... 1000 mV (in 100 mV increments)			0 ... 20 mA, 4 ... 20 mA, 0 ... 10 mA, 2 ... 10 mA 0 ... 10 V, 2 ... 10 V, 0 ... 5 V, 1 ... 5 V	≤ 600 Ω (I-output) ≥ 2 kΩ (U-output)	24 V DC
KTY sensors *	2-wire		0 ... 20 mA, 4 ... 20 mA, 0 ... 10 mA, 2 ... 10 mA 0 ... 10 V, 2 ... 10 V, 0 ... 5 V, 1 ... 5 V	≤ 600 Ω (I-output) ≥ 2 kΩ (U-output)	24 V DC
Frequency signals, NAMUR-, NPN or PNP sensors 0.1 Hz to 120 kHz			0 ... 20 mA, 4 ... 20 mA, 0 ... 10 mA, 2 ... 10 mA 0 ... 10 V, 2 ... 10 V, 0 ... 5 V, 1 ... 5 V	≤ 600 Ω (I-output) ≥ 2 kΩ (U-output)	24 V DC
0 ... 1 A AC/DC; 0 ... 5 A AC/DC			0 ... 20 mA, 4 ... 20 mA, 0 ... 10 mA, 2 ... 10 mA 0 ... 10 V, 2 ... 10 V, 0 ... 5 V, 1 ... 5 V	≤ 600 Ω (I-output) ** ≥ 2 kΩ (U-output)	24 V DC
33 V AC/DC / 2 A					

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

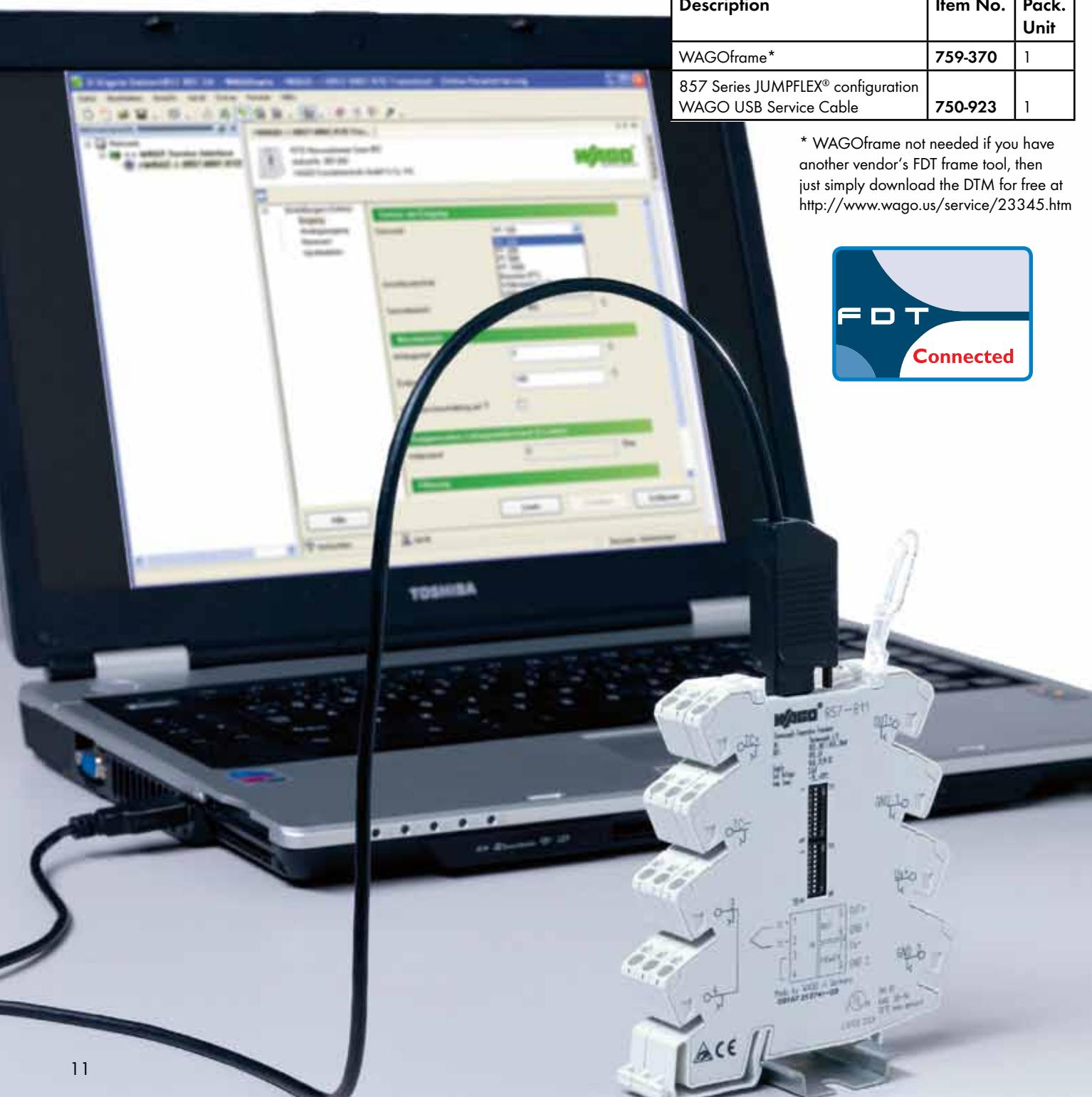
Software Configuration of a JUMPFLEX® Signal Conditioner

Some JUMPFLEX® signal conditioners can also be configured with the WAGOframe Software (an FDT based software tool) and the appropriate DTM (device driver). In addition to configuring your device, the software can also be used for start-up and diagnostics of field devices (including 3rd party devices and other WAGO products like the SPEEDWAY I/O-SYSTEM and

some of the EPSITRON® power supplies). With a built-in wizard, the WAGOframe software guides users through the different operating modes of the device via its' DTM, resulting in simplified implementation. One tool allows the configuration of many different vendors devices. For more information on the FDT standard visit www.fdtgroup.org.

Description	Item No.	Pack. Unit
WAGOframe*	759-370	1
857 Series JUMPFLEX® configuration WAGO USB Service Cable	750-923	1

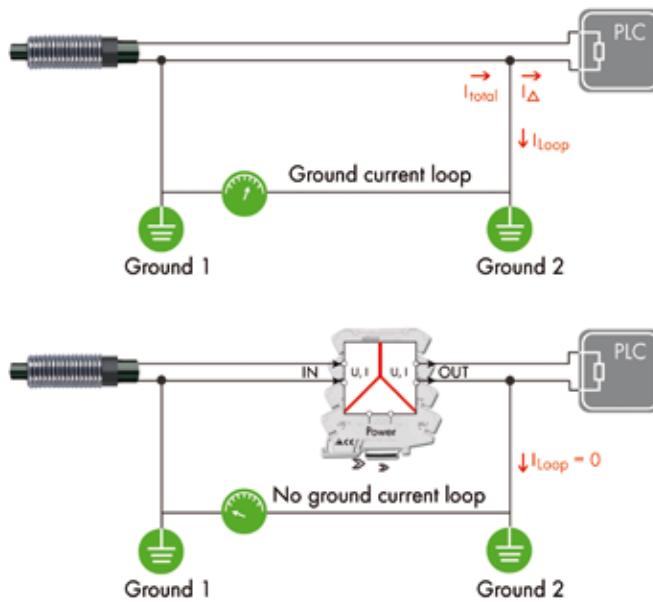
* WAGOframe not needed if you have another vendor's FDT frame tool, then just simply download the DTM for free at <http://www.wago.us/service/23345.htm>



Avoiding Analog Signal Corruption

Industrial applications have numerous requirements for safe and efficient signal matching that demand appropriately engineered solutions. The strength of analog technology is in managing these various signal types. Analog solutions have reliably served all sectors of the electrical/electronic industry, including factory automation and process control applications.

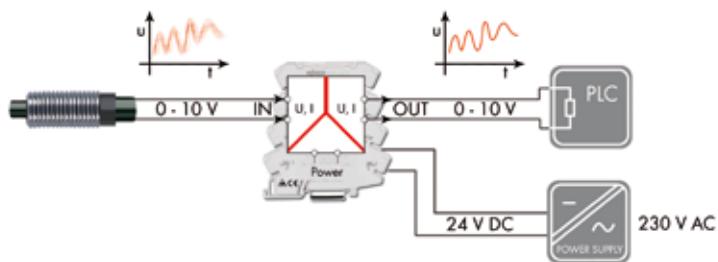
Potential Difference or Ground Loops



Potential differences or ground loops are the most common cause of analog signal corruptions. As transmission lengths increase, the ground resistance also increases, creating potential differences of up to 200V. A ground loop occurs when signals have a ground reference both at the input and output. This allows current to flow between the grounds, which interferes with the actual signal and causes faulty signal assessment.

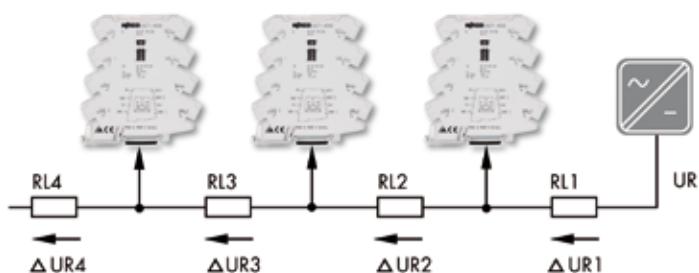
In this application example, an isolation amplifier prevents the ground loop. Galvanic isolation between the input and output circuit disrupts the ground loop, and allows for perfect signal transmission. Smaller overvoltages with a lower energy level arising from switching operations are also safely dissipated. Additionally, galvanic isolation protects the PLC or controller downstream of the isolation amplifier.

Signal Filtering



If the signal to be processed is burdened with electrical interference or noise, intolerable errors may result in the electronic control or measurement system. An internal filter within the input of the isolation amplifier eliminates disturbances in the process signal. The isolation amplifier can be adapted to the frequency range in which the disturbance is found via DIP switches. The disturbances are thus filtered out safely, and the signal is transmitted without error to the controller.

Linked Measurement Circuits



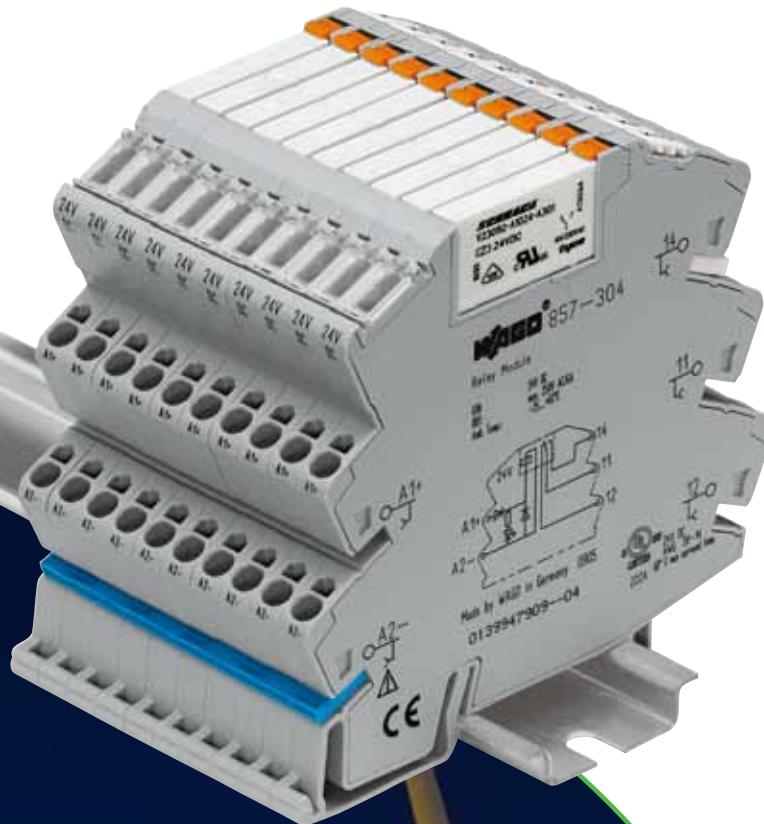
Potential differences are often caused by linked measurement circuits, where the reference voltage is raised by combining several signals. Isolation amplifiers eliminate this problem, as the galvanic isolation removes the influence of various reference voltages.

The 857 Series JUMPFLEX® signal conditioners strengthen system safety and eliminate typical problems through continuous galvanic 3-way isolation with test voltages of 2.5kV between all channels (input/output/supply).

JUMPFLEX® - Sockets with Miniature Switching Relay and Solid State Relay – 857 Series

Housed in a 6 mm wide package, the 857 Series mechanical and solid state relay modules from WAGO have the same dimensional outline. As a result, the same flexible, push-in jumper system can be used by both to reduce wiring time and errors. As shown in the picture, all A2-connections are jumpered together requiring only one module to be wired to the negative side of the power source.

Other features designed to reduce wiring time and errors include: pluggable relays for easy field replacement (without disturbing existing wiring), clear separation/identification of both the control and load side of the relay, and an optional interface adapter, for the control or load side of the relay, that allows the use of pre-harnessed cables via the on-board, ribbon-style connector.



Com...
Same...
of a si...

Clear identification
Clear marking via wW...



Quick and easy replacement

Pluggable mechanical and solid state relays.



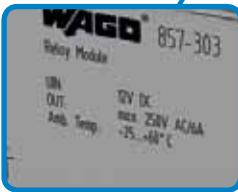
Industry's most compact

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



Highly versatile

Input voltage available in 5-230 V AC/DC versions.



Terminal, not discrete wiring

Outline allows the usage of single in-line, push-in jumper.



WMB Multi markers.



CAGE CLAMP®S

Vibration-proof, fast and maintenance-free

CAGE CLAMP®S termination for all conductor types.



solid

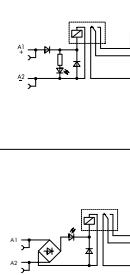
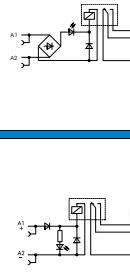
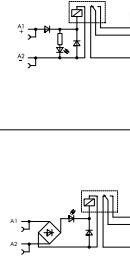
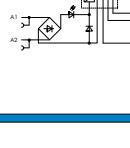
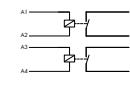


fine-stranded



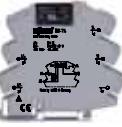
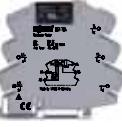
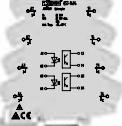
ferruled

Pluggable Relay and Solid State Relay Modules

Description			Item No.	Input Nominal Voltage V_N	Max. Switching Voltage	Max. Continuous Current
Relay with 1 changeover contact		 	857-303 857-304 857-305 857-306 857-307 857-308	12 V DC 24 V DC 48 V DC 60 V DC 110 V DC 220 V DC	250 V AC	6 A
			857-354 857-357 857-358	24 V AC/DC 115 V AC/DC 230 V AC/DC	250 V AC	6 A
Relay with 1 changeover contact, with gold contacts		 	857-314 857-317 857-318	24 V DC 110 V DC 220 V DC	36 V DC* / (250 V AC/DC)	50 mA* / (6 A)
			857-364 857-367 857-368	24 V AC/DC 115 V AC/DC 230 V AC/DC	36 V DC* / (250 V AC/DC)	50 mA* / (6 A)
2 relays, with 1 make contact			857-1330	24 V AC/DC	250 V AC	4 A

Description		Item No.	Input Nominal Voltage V_N	
Sockets for Miniature Switching Relay and SSR		857-104	AC/24 V DC	For replacement relays and solid state relays, see accessories on page 18
		857-107	AC/DC 110 V	
		857-108	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		857-704	24 V DC	0 V ... 48 V DC	100 mA
		857-707	115 V AC/DC	0 V ... 48 V DC	100 mA
		857-708	230 V AC/DC	0 V ... 48 V DC	100 mA
Solid state relay		857-714	24 V DC	24 V ... 240 V AC	1 A
		857-717	115 V AC/DC	24 V ... 240 V AC	1 A
		857-718	230 V AC/DC	24 V ... 240 V AC	1 A
Solid state relay		857-724	24 V DC	0 V ... 24 V DC	2 A
		857-727	115 V AC/DC	0 V ... 24 V DC	2 A
		857-728	230 V AC/DC	0 V ... 24 V DC	2 A
Solid state relay		857-1494	2 x 24 V DC	2 x 9 V ... 60 V DC	2 x 0.1 A
		857-1430	2 x 24 V DC	2 x 3 V ... 30 V DC	2 x 3 A
		857-1432	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 (i.e., 750-1500 and 750-1502) and JUMPFLEX® relay and solid state relay modules.

Suitable ribbon cable assemblies are also available as accessories.

See pages 17 - 18 for interface adapter and ribbon cable assembly item numbers.

Accessories

JUMPFLEX® - 8-Channel Adapter for System Wiring			
8-channel adapter with 14-pin ribbon cable connector acc. to DIN 41651 Input, positive switching			857-981
8-channel adapter with 14-pin ribbon cable connector acc. to DIN 41651 Output, positive switching			857-982
8-channel adapter with SUB-D male connector Input, positive switching			857-986
8-channel adapter with 16-pin ribbon cable connector acc. to DIN 41651 (suitable for signal conditioners)			857-980

WAGO Ribbon Cables			
The 14-pin cables transmit the signal one-to-one from the 14-pole female connector and are available in 1-, 2- and 3-meter lengths. (for 857-981 and 857-982)			
WAGO ribbon cable 14/14, 1m long			706-753/300-100
WAGO ribbon cable 14/14, 2m long			706-753/300-200
WAGO ribbon cable 14/14, 3m long			706-753/300-300
The 16-pin cables transmit the signal one-to-one from the 16-pole female connector and are available in 1-, 2- and 3-meter lengths. Signal transmission from the 857-980 Interface Adapter is also possible.			
WAGO ribbon cable 16/16, 1m long			706-753/301-100
WAGO ribbon cable 16/16, 2m long			706-753/301-200
WAGO ribbon cable 16/16, 3m long			706-753/301-300
The cables provide fast and easy connection of WAGO I/O modules featuring ribbon cable connectors. The following WAGO I/O modules and adapters are compatible: 750-1500 (16 DO) -> 857-981; 750-1400 (16 DI) -> 857-982; and 750-1502 (8 DO / 8 DI) -> 857-981 (DO) and 857-982 (DI) The ribbon cables are available in 1-, 2- and 3-meter lengths; each has one 20-pole or two 14-pole female connectors on the ends.			
WAGO ribbon cable 20/2x14, 1m long			706-7753/304-100
WAGO ribbon cable 20/2x14, 2m long			706-7753/304-200
WAGO ribbon cable 20/2x14, 3m long			706-7753/304-300
The cables provide fast and easy connection of WAGO I/O modules featuring ribboncable connectors. The following WAGO I/O modules and D-sub adapters are compatible: 750-1500 (16 DO) -> 857-986 (DO) The ribbon cables are available in 1-, 2- and 3-meter lengths; each has one 20-pole or two 15-pole female connectors on the ends.			
WAGO ribbon cable 20/2x15, 1m long			706-7753/306-100
WAGO ribbon cable 20/2x15, 2m long			706-7753/306-200
WAGO ribbon cable 20/2x15, 3m long			706-7753/306-300

Push-in Type Jumper Bars, Operating Tool, WAGO USB Service Cable, Marking				
Push-in type jumper bars, light gray, insulated, 18 A		2-way 3-way 4-way 5-way 6-way 7-way 8-way 9-way 10-way	859-402 859-403 859-404 859-405 859-406 859-407 859-408 859-409 859-410	
Item no. suffix for colored push-in type jumper bars	For example, a 2 pole yellow jumper = part number 859-402/000-029	yellow red blue	... /000-029 ... /000-005 ... /000-006	
Comb-style jumper for jumpering >10 poles	(Jumper inserted into conductor opening)	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 signal conditioner		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 www.wago.us	

Replacement Relays and Optocouplers					
		Input Voltage	Item No. Complete Relay Module	Item No. Socket	Item No. Replacement Relays
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
		230 V AC/DC	857-358	857-108	857-155
Miniature Switching Relays (gold contacts)		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
		230 V AC/DC	857-368	857-108	857-157
Solid State Relays		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

WAGO Service Worldwide

Germany

WAGO Kontakttechnik
Minden
Tel. ++49/571/887/0
Fax ++49/571/887/169

Austria

WAGO Kontakttechnik
Wien
Tel. ++43/1/615/07/80
Fax ++43/1/615/07/75

Belgium

WAGO Kontakttechnik
Zaventem
Tel. ++32/2/7/17/90/90
Fax ++32/2/7/17/90/99

China

WAGO ELECTRONIC Co. Ltd.
Tianjin
Tel. ++86/22/59617688
Fax ++86/22/59617668

England

WAGO, Ltd.
Rugby
Tel. ++44/1788/568008
Fax ++44/1788/568050

France

WAGO CONTACT S.A.
Paris
Tel. ++33/148172590
Fax ++33/148632520

Italy

WAGO ELETTRONICA SRL
Casalecchio di Reno (BO)
Tel. ++39/051/6132112
Fax ++39/051/6272174

Japan

WAGO Co. of JAPAN Ltd.
Tokyo
Tel. ++81/3/5627/2050
Fax ++81/3/5627/2055

Poland

WAGO ELWAG sp. z o. o.
Wroclaw
Tel. ++48/71/3604670/78
Fax ++48/71/3604699

Singapore

WAGO Electronic Pte. Ltd.
Singapore
Tel. ++65/62866776
Fax ++65/62842425

Switzerland

WAGO CONTACT SA
Domdidier
Tel. ++41/26/676/75/86
Fax ++65/26/676/75/01

Mexico

WAGO Corporation
Queretaro
Tel. 001/800/309/5975
+ 52/442/221/5946
Fax + 52/442/221/5063

Canada

WAGO Corporation
Tel. 800/DIN Rail (346-7245)
Fax 262/255-3232
www.wago.ca

WAGO Corporation
N120 W19129 Freistadt Road
Germantown, Wisconsin 53022
800 / DIN Rail (346-7245)
Fax 262 / 255-3232
info.us@wago.com
www.wago.us

