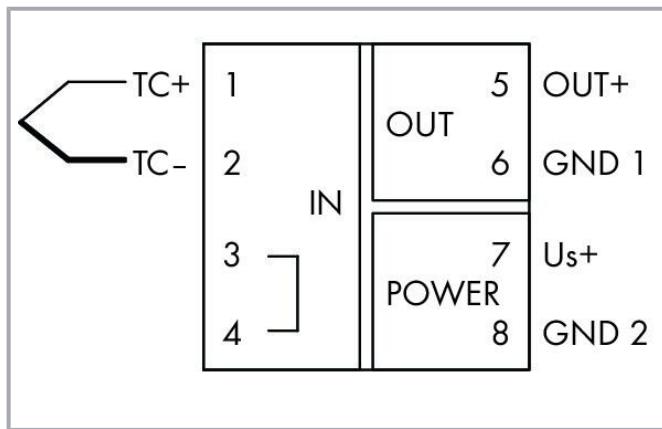
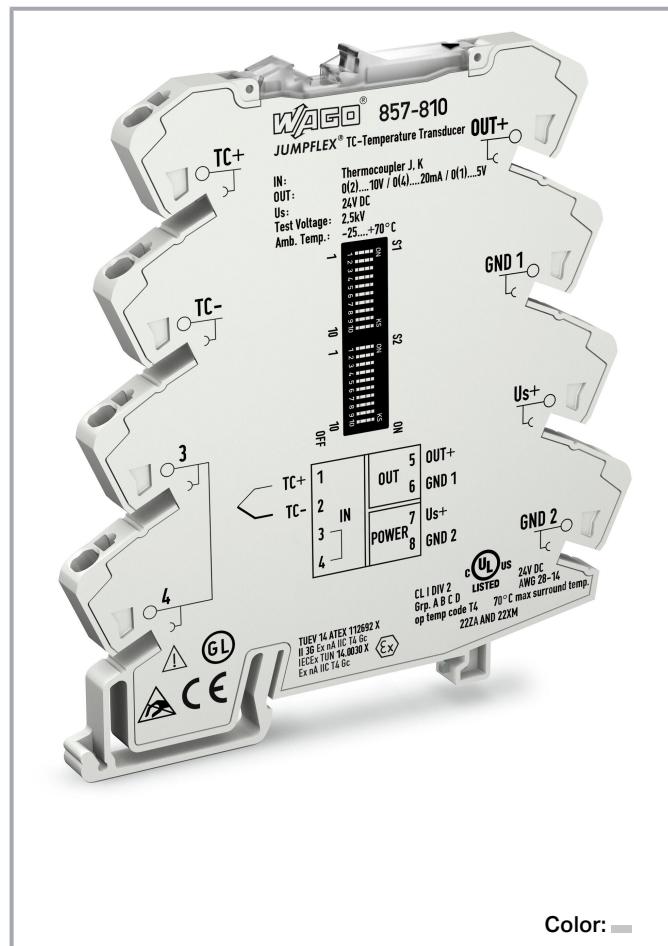


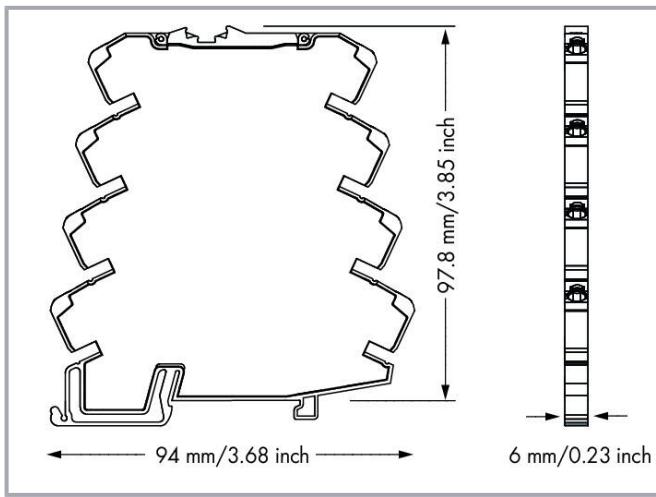
Temperature signal conditioner for thermocouples; Current and voltage output signal; Configuration via DIP switch; Supply voltage: 24 VDC; 6 mm module width; light gray



[www.wago.com/857-810](http://www.wago.com/857-810)



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



857-810 DIP Switch Adjustability										
• = ON      Default										
DIP Switch S1										
1	Cold Junction Compensation	Sensor type	Output signal	7	8	Measurement Range Underflow	Measurement Range Overflow	Wire Break		
on	J	0...20 mA				Lower limit of output range - 5 % *	Upper limit of output range + 2.5 % *	Upper limit of output range + 5 % *		
off	K	0...10 mA				Lower limit of output range	Upper limit of output range + 2.5 %	Upper limit of output range + 5 %		
		0...10 V				Lower limit of output range	Upper limit of output range	Upper limit of output range + 5 %		
		2...10 V				Lower limit of output range	Upper limit of output range	Upper limit of output range		
		0...5 V				Lower limit of output range	Upper limit of output range	Lower limit of output range		
		1...5 V							* acc. to NAMUR NE 43	
DIP 9 and 10 n.c. DIP Switch S2										
Start Temperature					End Temperature					
1	2	3	4	5	6	7	8	9	10	
°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	
0	32	1000	1832	225	437	625	1157	1025	1877	
-200	-328	•	0	32	•	250	482	•	650	1202
-175	-283	•	10	50	•	275	527	•	675	1247
-150	-283	•	20	68	•	300	572	•	700	1292
-125	-193	•	30	86	•	325	617	•	725	1337
-100	-148	•	40	104	•	350	662	•	750	1382
-90	-130	•	50	122	•	375	707	•	775	1427
-80	-112	•	60	140	•	400	752	•	800	1472
-70	-94	•	70	158	•	425	797	•	825	1517
-60	-76	•	80	176	•	450	842	•	850	1562
-50	-58	•	90	194	•	475	887	•	875	1607
-40	-40	•	100	212	•	500	932	•	900	1652
-30	-22	•	125	257	•	525	977	•	925	1697
-20	-4	•	150	302	•	550	1022	•	950	1742
-10	14	•	175	347	•	575	1067	•	975	1787
0	32	•	200	392	•	600	1112	•	1000	1832

The minimum distance from the start temperature to the end temperature may not fall short of 100K degrees on the Celsius (C) scale or 212K degrees on the Fahrenheit (F) scale.

## Item description

### Short description:

WAGO's temperature signal conditioner records signals from thermocouples (type J, K) and converts the temperature signal into a standard analog signal at the output.

### Features:

- For type J and K thermocouples
- Cold junction compensation (On/Off)
- Calibrated measurement range switching
- Detects a sensor wire break
- Detects measurement range underflow/overflow
- Clipping capability for analog signal limitation to output end values
- 3-way electrical isolation with 2.5 kV test voltage

## Data

### Technical data

### Configuration

Configuration options

DIP switch

### Input

Input signal type

TC sensors

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

WAGO GmbH & Co. KG

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Do you have any questions about our products?

We are always happy to take your call at +49 (571) 887-44222.

## Input (TC sensors)

Sensor types (TC)	Type J Type K
Temperature measurement range (TC)	-200 ... 1200 °C (Type J); -200 ... 1350 °C (Type K)
Measurement span (TC) min.	100 K
Cold junction compensation	On/Off (Default: On)
Cold junction error	3 K (typ. 2 K)

## Output (analog)

Output signal type	Current Voltage
Output signal (voltage)	0 ... 5 V; 1 ... 5 V; 0 ... 10 V; 2 ... 10 V
Output signal (current)	0 ... 10 mA; 2 ... 10 mA; 0 ... 20 mA; 4 ... 20 mA
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω

## Signal Processing

Step response (typ.)	60 ms (cold junction compensation (Off)); 120 ms (cold junction compensation (ON))
----------------------	--

## Measurement Error

Transmission error (typ.)	≤ 0.1% at max. measurement span (type J, K)
Transmission error for the set measurement range	≤ (150 K/set measurement range [K]) %
Temperature coefficient	≤ 0.04 %/K

## Supply

Power supply type	24 VDC
Nominal supply voltage $U_S$	DC 24 V
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 40 mA

## Safety and protection

Protection type	IP20
-----------------	------

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

## Test voltage

Test voltage (input/output/supply)	AC 2.5 kV; 50 Hz; 1 min
------------------------------------	-------------------------

## Connection data

Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 ... 2.5 mm² / 28 ... 14 AWG
Fine-stranded conductor	0.34 ... 2.5 mm² / 22 ... 14 AWG
Strip length	9 ... 10 mm / 0.35 ... 0.39 inches

## Physical data

Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches

## Mechanical Data

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

## Material Data

Color	light gray
Fire load	0.42 MJ
Weight	35.5 g

## Environmental requirements

Ambient temperature (operation)	-25 ... +70 °C
Ambient temperature (storage)	-40 ... +85 °C
Relative humidity	5 ... 95 % (no condensation permissible)
Operating altitude (max.)	2000 m

## Standards and specifications

Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4
Standards/specifications	DNV

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

## Commercial data

Product Group	6 (INTERFACE ELECTRONIC)
eCl@ss 10.0	27-21-01-29
eCl@ss 9.0	27-20-02-06
ETIM 8.0	EC002919
ETIM 7.0	EC002919
PU (SPU)	1 pcs
Packaging type	bag
Country of origin	DE
GTIN	4045454470135
Customs tariff number	85437090300

## Environmental Product Compliance

CAS-No.	7439-92-1 79-94-7
REACH Candidate List Substance	2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol Lead
RoHS Compliance Status	Compliant,With Exemption
RoHS Exemption	6(c) 7(a) 7(c)-I 7(c)-II
SCIP notification number (Austria)	694a8dfe-c43e-47d6-ad52-996c633f9655
SCIP notification number (Belgium)	296545de-031d-4d5e-a5a5-dfddc192cdf7
SCIP notification number (Bulgaria)	c1b7b523-92f8-47da-850c-8c4c882c490d
SCIP notification number (Czech Republic)	e269576b-40b6-4b8e-a730-b20f6c4642ba
SCIP notification number (Denmark)	adf6ed2d-abff-4125-bf6c-c121e8fca395
SCIP notification number (Finland)	5021c540-639b-4fdb-88aa-4c5ba154c53e
SCIP notification number (France)	ca2c2545-875b-4634-b7a2-589c69c41520
SCIP notification number (Germany)	ba87344e-9f0c-4f92-8d9b-a3c90deeb4cc
SCIP notification number (Hungary)	62c2d5b3-a430-476c-810d-c2fb1e4d555
SCIP notification number (Italy)	7dccf9c7-af48-427e-8cf4-62ec1fcf9737
SCIP notification number (Netherlands)	9d300dab-2d6b-4501-8a24-bc26ad68f589
SCIP notification number (Poland)	0dd42d60-44a1-435a-b52e-47b29f5d6be4
SCIP notification number (Romania)	64b5849a-efc7-4fa8-9d9c-d6e400e9cc32
SCIP notification number (Sweden)	be28f513-6c89-4361-b6f3-1dba6122eca2

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

## Approvals / Certificates

### General approvals

Logo	Approval	Additional Approval Text	Certificate name
	CCC CNEX	CNCA-C23-01	202031231000210 (Ex ec IIC T4 Gc)
	EAC Brjansker Zertifizierungsstelle	TP TC 020/2011	EAC_Certificate_RU_C- DE.AM02.B.00115_19

### Declarations of conformity and manufacturer's declarations

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

### Approvals for marine applications

Logo	Approval	Additional Approval Text	Certificate name
	BV Bureau Veritas S.A.	Rules for class. of Steel Ships	40179_B0
	DNV DNV Germany GmbH	DNV-CG-0339,Aug.2021	TAA00001D1
	PRSI Polski Rejestr Statków	-	TE/2186 /880590/18

### Approvals for hazardous areas

Logo	Approval	Additional Approval Text	Certificate name
	ATEX TUEV Nord Cert GmbH	EN 60079-0	TÜV_14_ATEX_112692_X (II 3 G Ex nA IIC T4 Gc)

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

	CCC CNEX	CNCA-C23-01	2020312310000210 (Ex ec IIC T4 Gc)
	EAC Brjansk Zertifizierungsstelle	TP TC 012/2011	EAC RU C-DE.AM02.B. 00144/19 (2 Ex nA IIC T4 Gc X)
	IECEx TUEV Nord Cert GmbH	IEC 60079-0	IECEX_TUN_14.0030_X
	UKEx WAGO GmbH & Co. KG	EN 60079-0	WAGO22UKEX004X
	UL Underwriters Laboratories Inc. (HAZARDOUS LOCATIONS)	ANSI/ISA 12.12.01	E198726

## Optional accessories

### Jumpers

#### Jumper

	<b>Item no.: 859-408</b> Jumper; for jumper slot; 8-way; insulated; light gray	<a href="http://www.wago.com/859-408">www.wago.com/859-408</a>
	<b>Item no.: 281-482</b> Jumper; 2-way; insulated; gray	<a href="http://www.wago.com/281-482">www.wago.com/281-482</a>
	<b>Item no.: 859-404/000-005</b> Jumper; for jumper slot; 4-way; insulated; red	<a href="http://www.wago.com/859-404/000-005">www.wago.com/859-404/000-005</a>
	<b>Item no.: 859-404/000-006</b> Jumper; for jumper slot; 4-way; insulated; blue	<a href="http://www.wago.com/859-404/000-006">www.wago.com/859-404/000-006</a>
	<b>Item no.: 859-405/000-005</b> Jumper; for jumper slot; 5-way; insulated; red	<a href="http://www.wago.com/859-405/000-005">www.wago.com/859-405/000-005</a>

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

	<b>Item no.: 859-405/000-029</b> Jumper; for jumper slot; 5-way; insulated; yellow	<a href="http://www.wago.com/859-405/000-029">www.wago.com/859-405/000-029</a>
	<b>Item no.: 859-405</b> Jumper; for jumper slot; 5-way; insulated; light gray	<a href="http://www.wago.com/859-405">www.wago.com/859-405</a>
	<b>Item no.: 859-404/000-029</b> Jumper; for jumper slot; 4-way; insulated; yellow	<a href="http://www.wago.com/859-404/000-029">www.wago.com/859-404/000-029</a>
	<b>Item no.: 859-406</b> Jumper; for jumper slot; 6-way; insulated; light gray	<a href="http://www.wago.com/859-406">www.wago.com/859-406</a>
	<b>Item no.: 859-405/000-006</b> Jumper; for jumper slot; 5-way; insulated; blue	<a href="http://www.wago.com/859-405/000-006">www.wago.com/859-405/000-006</a>
	<b>Item no.: 859-406/000-005</b> Jumper; for jumper slot; 6-way; insulated; red	<a href="http://www.wago.com/859-406/000-005">www.wago.com/859-406/000-005</a>
	<b>Item no.: 859-409/000-029</b> Jumper; for jumper slot; 9-way; insulated; yellow	<a href="http://www.wago.com/859-409/000-029">www.wago.com/859-409/000-029</a>
	<b>Item no.: 859-410/000-005</b> Jumper; for jumper slot; 10-way; insulated; red	<a href="http://www.wago.com/859-410/000-005">www.wago.com/859-410/000-005</a>
	<b>Item no.: 859-410/000-029</b> Jumper; for jumper slot; 10-way; insulated; yellow	<a href="http://www.wago.com/859-410/000-029">www.wago.com/859-410/000-029</a>
	<b>Item no.: 859-410</b> Jumper; for jumper slot; 10-way; insulated; light gray	<a href="http://www.wago.com/859-410">www.wago.com/859-410</a>
	<b>Item no.: 859-410/000-006</b> Jumper; for jumper slot; 10-way; insulated; blue	<a href="http://www.wago.com/859-410/000-006">www.wago.com/859-410/000-006</a>
	<b>Item no.: 859-403/000-005</b> Jumper; for jumper slot; 3-way; insulated; red	<a href="http://www.wago.com/859-403/000-005">www.wago.com/859-403/000-005</a>
	<b>Item no.: 859-402/000-029</b> Jumper; for jumper slot; 2-way; insulated; yellow	<a href="http://www.wago.com/859-402/000-029">www.wago.com/859-402/000-029</a>

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

**Item no.: 859-403/000-029**

Jumper; for jumper slot; 3-way; insulated; yellow

[www.wago.com/859-403/000-029](http://www.wago.com/859-403/000-029)

**Item no.: 859-403/000-006**

Jumper; for jumper slot; 3-way; insulated; blue

[www.wago.com/859-403/000-006](http://www.wago.com/859-403/000-006)

**Item no.: 859-408/000-005**

Jumper; for jumper slot; 8-way; insulated; red

[www.wago.com/859-408/000-005](http://www.wago.com/859-408/000-005)

**Item no.: 859-408/000-029**

Jumper; for jumper slot; 8-way; insulated; yellow

[www.wago.com/859-408/000-029](http://www.wago.com/859-408/000-029)

**Item no.: 859-409**

Jumper; for jumper slot; 9-way; insulated; light gray

[www.wago.com/859-409](http://www.wago.com/859-409)

**Item no.: 859-408/000-006**

Jumper; for jumper slot; 8-way; insulated; blue

[www.wago.com/859-408/000-006](http://www.wago.com/859-408/000-006)

**Item no.: 859-403**

Jumper; for jumper slot; 3-way; insulated; light gray

[www.wago.com/859-403](http://www.wago.com/859-403)

**Item no.: 859-409/000-005**

Jumper; for jumper slot; 9-way; insulated; red

[www.wago.com/859-409/000-005](http://www.wago.com/859-409/000-005)

**Item no.: 859-404**

Jumper; for jumper slot; 4-way; insulated; light gray

[www.wago.com/859-404](http://www.wago.com/859-404)

**Item no.: 859-409/000-006**

Jumper; for jumper slot; 9-way; insulated; blue

[www.wago.com/859-409/000-006](http://www.wago.com/859-409/000-006)

**Item no.: 859-402/000-006**

Jumper; for jumper slot; 2-way; insulated; blue

[www.wago.com/859-402/000-006](http://www.wago.com/859-402/000-006)

**Item no.: 859-402**

Jumper; for jumper slot; 2-way; insulated; light gray

[www.wago.com/859-402](http://www.wago.com/859-402)

**Item no.: 859-402/000-005**

Jumper; for jumper slot; 2-way; insulated; red

[www.wago.com/859-402/000-005](http://www.wago.com/859-402/000-005)

**Item no.: 859-406/000-006**

Jumper; for jumper slot; 6-way; insulated; blue

[www.wago.com/859-406/000-006](http://www.wago.com/859-406/000-006)

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

	<b>Item no.: 859-406/000-029</b> Jumper; for jumper slot; 6-way; insulated; signal yellow	<a href="http://www.wago.com/859-406/000-029">www.wago.com/859-406/000-029</a>
	<b>Item no.: 859-407/000-006</b> Jumper; for jumper slot; 7-way; insulated; blue	<a href="http://www.wago.com/859-407/000-006">www.wago.com/859-407/000-006</a>
	<b>Item no.: 859-407/000-005</b> Jumper; for jumper slot; 7-way; insulated; red	<a href="http://www.wago.com/859-407/000-005">www.wago.com/859-407/000-005</a>
	<b>Item no.: 859-407/000-029</b> Jumper; for jumper slot; 7-way; insulated; yellow	<a href="http://www.wago.com/859-407/000-029">www.wago.com/859-407/000-029</a>
	<b>Item no.: 859-407</b> Jumper; for jumper slot; 7-way; insulated; light gray	<a href="http://www.wago.com/859-407">www.wago.com/859-407</a>
<b>Interface module</b>		
Interface adapters		
	<b>Item no.: 857-980</b> Interface adapter; 16-pole; analog	<a href="http://www.wago.com/857-980">www.wago.com/857-980</a>
<b>Terminal blocks</b>		
Supply module		
	<b>Item no.: 857-979</b> Supply and through module	<a href="http://www.wago.com/857-979">www.wago.com/857-979</a>
<b>Marking accessories</b>		
Marking strip		
	<b>Item no.: 2009-110</b> Marking strips; for Smart Printer; on reel; not stretchable; plain; snap-on type; white	<a href="http://www.wago.com/2009-110">www.wago.com/2009-110</a>
Marker		
	<b>Item no.: 2009-115</b> WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white	<a href="http://www.wago.com/2009-115">www.wago.com/2009-115</a>
	<b>Item no.: 793-501</b> WMB marking card; as card; not stretchable; plain; snap-on type; white	<a href="http://www.wago.com/793-501">www.wago.com/793-501</a>
	<b>Item no.: 793-502</b> WMB marking card; as card; MARKED; 1 ... 10 (10x); not stretchable; Horizontal marking; snap-on type; white	<a href="http://www.wago.com/793-502">www.wago.com/793-502</a>
	<b>Item no.: 793-503</b> WMB marking card; as card; MARKED; 11 ... 20 (10x); not stretchable; Horizontal marking; snap-on type; white	<a href="http://www.wago.com/793-503">www.wago.com/793-503</a>
	<b>Item no.: 793-504</b> WMB marking card; as card; MARKED; 21 ... 30 (10x); not stretchable; Horizontal marking; snap-on type; white	<a href="http://www.wago.com/793-504">www.wago.com/793-504</a>

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

 **Item no.: 793-505**

WMB marking card; as card; MARKED; 31 ... 40 (10x); not stretchable; Horizontal marking; snap-on type; [www.wago.com/793-505](http://www.wago.com/793-505)  
white

 **Item no.: 793-506**

WMB marking card; as card; MARKED; 41 ... 50 (10x); not stretchable; Horizontal marking; snap-on type; [www.wago.com/793-506](http://www.wago.com/793-506)  
white

 **Item no.: 793-566**

WMB marking card; as card; MARKED; 1 ... 50 (2x); not stretchable; Horizontal marking; snap-on type; [www.wago.com/793-566](http://www.wago.com/793-566)  
white

 **Item no.: 793-5501**

WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on [www.wago.com/793-5501](http://www.wago.com/793-5501)  
type; white

**Power supplies**

Power supply unit



**Item no.: 787-2852**

Switched-mode power supply; 1-phase; 24 VDC output voltage; 1 A output current

[www.wago.com/787-2852](http://www.wago.com/787-2852)

**Tool**

Operating tool



**Item no.: 210-720**

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

[www.wago.com/210-720](http://www.wago.com/210-720)

**Mounting**

Mounting accessories



**Item no.: 249-116**

Screwless end stop; 6 mm wide; for DIN-rail 35 x 15 and 35 x 7.5; gray

[www.wago.com/249-116](http://www.wago.com/249-116)



**Item no.: 249-117**

Screwless end stop; 10 mm wide; for DIN-rail 35 x 15 and 35 x 7.5; gray

[www.wago.com/249-117](http://www.wago.com/249-117)



**Item no.: 249-197**

Screwless end stop; 14 mm wide; for DIN-rail 35 x 15 and 35 x 7.5; gray

[www.wago.com/249-197](http://www.wago.com/249-197)

**Downloads**

**Documentation**

**Bid Text**

857-810

2019 Feb 20

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857-810

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Email: [info.de@wago.com](mailto:info.de@wago.com) | Web: [www.wago.com](http://www.wago.com)

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#### Instruction Leaflet

CCC Ex (Additional information)

857-\*\*\*

2023 Apr 26

pdf  
144.4 kB

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Messumformer und Trennverstärker

Temperaturmessumformer Thermoelemente Typ J, K DIP-Schalter

pdf  
2.4 MB

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#### Additional Information

Disposal and Recycling

Electrical and electronic equipment, Batteries, Packaging

V 1.1.0

2022 Aug 18

pdf  
2.2 MB

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#### CAD/CAE-Data

##### CAD data

2D/3D Models 857-810

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##### CAE data

EPLAN Data Portal 857-810

[URL](#)

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WSCAD Universe 857-810

[URL](#)

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ZUKEN Portal 857-810

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#### Environmental Product Compliance

##### Compliance Search

Environmental Product Compliance 857-810

[URL](#)

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Temperature signal conditioner for thermocouples; Current and voltage output signal; Configuration via DIP switch; Supply voltage: 24 VDC; 6 mm module width; light gray

#### Installation Notes

##### Configuring

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

WAGO GmbH & Co. KG

Hansastra. 27

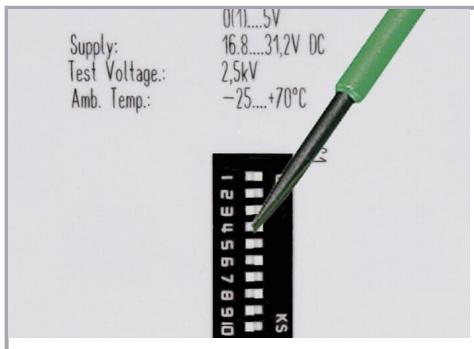
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Do you have any questions about our products?

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Configuration via DIP switch

#### Commoning



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

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