Data sheet | Item number: 857-811
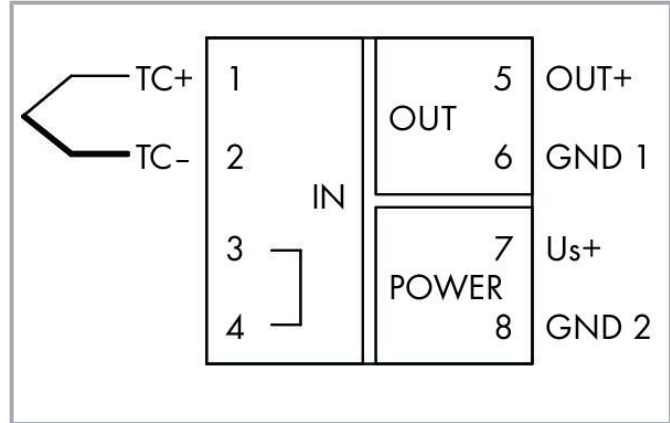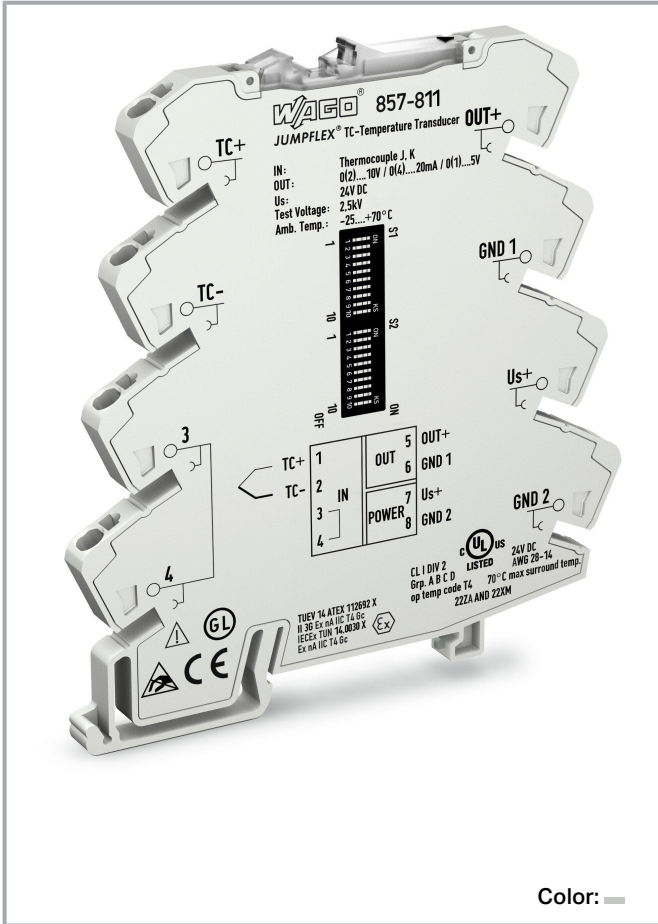
Temperature signal conditioner for thermocouples; Current and voltage output signal; Configuration via software; Supply voltage: 24 VDC; 6 mm module width; light gray
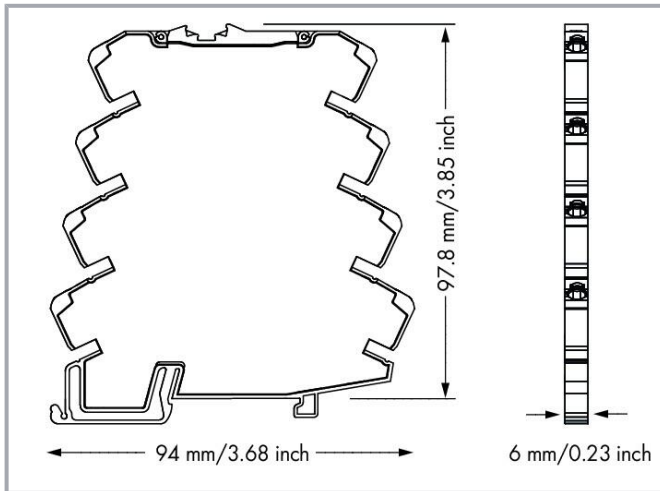
www.wago.com/857-811

Color:

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Housing dimensions: 94 mm/3.68 inch, 97.8 mm/3.85 inch, 6 mm/0.23 inch

857-811 — DIP Switch Adjustability (● = ON, Default)

DIP Switch S1

Cold Junction Compensation	Sensor Type		Output Signal					Measurement Range Underflow	Measurement Range Overflow	Wire Break
1	2	3	4	5	6	7	8			
ein	J					0…20 mA		Lower limit of output range - 5 % *	Upper limit of output range + 2.5 % *	Upper limit of output range + 5 % *
● aus	● K	●				4…20 mA				
			●			0…10 mA	●	Lower limit of output range	Upper limit of output range + 2.5 %	Upper limit of output range + 5 %
			●	●		2…10 mA				
				●		0…10 V	●	Lower limit of output range	Upper limit of output range	Upper limit of output range + 5 %
			●	●		2…10 V				
				●	●	0…5 V	● ●	Lower limit of output range	Upper limit of output range	Lower limit of output range
			●	●	●	1…5 V				

DIP 9 and 10 n.c.
* acc. to NAMUR NE 43

DIP Switch S2

Start Temperature						End Temperature																																		
1	2	3	4	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F
				0	32							1000	1832					●		225	437						●	625	1157					●	●	1025	1877
●				-200	-328	●						0	32	●					●	250	482	●					●	650	1202	●				●	●	1050	1922
	●			-175	-283		●					10	50		●				●	275	527		●				●	675	1247		●			●	●	1075	1967
●	●			-150	-283	●	●					20	68	●	●				●	300	572	●	●				●	700	1292	●	●			●	●	1100	2012
		●		-125	-193			●				30	86			●			●	325	617			●			●	725	1337			●		●	●	1125	2057
●		●		-100	-148	●		●				40	104	●		●			●	350	662	●		●			●	750	1382	●		●		●	●	1150	2102
	●	●		-90	-130		●	●				50	122		●	●			●	375	707		●	●			●	775	1427		●	●		●	●	1175	2147
●	●	●		-80	-112	●	●	●				60	140	●	●	●			●	400	752	●	●	●			●	800	1472	●	●	●		●	●	1200	2192
			●	-70	-94				●			70	158				●		●	425	797				●		●	825	1517				●	●	●	1225	2237
●			●	-60	-76	●			●			80	176	●			●		●	450	842	●			●		●	850	1562	●			●	●	●	1250	2282
	●		●	-50	-58		●		●			90	194		●		●		●	475	887		●		●		●	875	1607		●		●	●	●	1275	2327
●	●		●	-40	-40	●	●		●			100	212	●	●		●		●	500	932	●	●		●		●	900	1652	●	●		●	●	●	1300	2372
		●	●	-30	-22			●	●			125	257			●	●		●	525	977			●	●		●	925	1697			●	●	●	●	1325	2417
●		●	●	-20	-4	●		●	●			150	302	●		●	●		●	550	1022	●		●	●		●	950	1742	●		●	●	●	●	1350	2462
	●	●	●	-10	14		●	●	●			175	347		●	●	●		●	575	1067		●	●	●		●	975	1787		●	●	●	●	●	1375	2507
●	●	●	●	0	32	●	●	●	●			200	392	●	●	●	●		●	600	1112	●	●	●	●		●	1000	1832	●	●	●	●	●	●	1400	2552

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 of type J and K (E, R, N, S, T, B, C) and converts the temperature signal into a standard analog signal.

Features:

- PC configuration interface
- For thermocouples of type J and K (E, R, N, S, T, B, C)
- 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
Notes

Note	Additional setting options as well as output signal inversion via WAGO Interface Configuration Software or WAGO Interface Configuration App

Technical data

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

Configuration

Configuration options	DIP switch
	WAGO Interface Configuration Software
	WAGO Interface Configuration App

Input

Input signal type	TC sensors

Input (TC sensors)

Sensor types (TC)	Type J
	Type K
Temperature measurement range (TC)	-210 … 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

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

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Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 40 mA

Safety and protection

Protection type	IP20

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	36 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

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

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

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	4045454502751
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)	39d60789-37a2-4a66-a06f-7c7f8a10d8cc
SCIP notification number (Belgium)	839765f2-15bb-40bd-b39c-8a73199934de
SCIP notification number (Bulgaria)	1cde91b8-5091-408d-9093-f1d3008820c6
SCIP notification number (Czech Republic)	4d65e327-26db-44fc-93c9-6946bd1b15fb
SCIP notification number (Denmark)	661a195a-7a2b-4aef-80eb-6e99479e1e20
SCIP notification number (Finland)	b053dd87-750c-413a-8616-fc696f129101
SCIP notification number (France)	f94ba55d-8b7b-4d76-9739-3324614e69e4
SCIP notification number (Germany)	14efcac0-8b3d-4124-8001-b3362fc49162
SCIP notification number (Hungary)	0a14abcc-c9cb-4f3c-8927-c68a11ef1679

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SCIP notification number (Italy)	2f3a6dab-0c74-4463-98c9-b502e68634c5
SCIP notification number (Netherlands)	285ec729-31c3-4eec-9db3-11d1ee0192b0
SCIP notification number (Poland)	13f7b5dc-ea69-4da8-b142-e157d6158392
SCIP notification number (Romania)	7267164b-dd29-4c11-a609-6329ebd49ec0
SCIP notification number (Sweden)	96f6098d-e2d4-40c2-95b8-4a0614b313a4

Approvals / Certificates

General approvals

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

Approvals for marine applications

Logo	Approval	Additional Approval Text	Certificate name
BV	**BV** Bureau Veritas S.A.	Rules for class. of Steel Ships	40179_B0
DNV	**DNV** DNV Germany GmbH	DNV-CG-0339,Aug.2021	TAA00001D1
PRS	**PRS** 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!

PTB 0102 Ex

CCC CNEX	CNCA-C23-01		2020312310000210 (Ex ec IIC T4 Gc)
EAC Brjansker 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

Cables and pluggable connectors

Communication cable

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

[www.wago.com/750-923 /000-001](http://www.wago.com/750-923/000-001)

Terminal blocks

Supply module

Item no.: 857-979
Supply and through module

www.wago.com/857-979

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

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

Marking accessories

Marking strip

Item no.: 2009-110
Marking strips; for Smart Printer; on reel; not stretchable; plain; snap-on type; white

www.wago.com/2009-110

Marker

Item no.: 2009-115
WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white

www.wago.com/2009-115

Item no.: 793-501
WMB marking card; as card; not stretchable; plain; snap-on type; white

www.wago.com/793-501
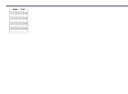
Item no.: 793-502
WMB marking card; as card; MARKED; 1 ... 10 (10x); not stretchable; Horizontal marking; snap-on type; white

www.wago.com/793-502

Item no.: 793-503
WMB marking card; as card; MARKED; 11 ... 20 (10x); not stretchable; Horizontal marking; snap-on type; white

www.wago.com/793-503

Item no.: 793-504
WMB marking card; as card; MARKED; 21 ... 30 (10x); not stretchable; Horizontal marking; snap-on type; white

www.wago.com/793-504

Item no.: 793-505
WMB marking card; as card; MARKED; 31 ... 40 (10x); not stretchable; Horizontal marking; snap-on type; white

www.wago.com/793-505

Item no.: 793-506
WMB marking card; as card; MARKED; 41 ... 50 (10x); not stretchable; Horizontal marking; snap-on type; white

www.wago.com/793-506

Item no.: 793-566
WMB marking card; as card; MARKED; 1 ... 50 (2x); not stretchable; Horizontal marking; snap-on type; white

www.wago.com/793-566

Item no.: 793-5501
WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; white

www.wago.com/793-5501

Interface module

Interface adapters

Item no.: 857-980
Interface adapter; 16-pole; analog

www.wago.com/857-980

Communication

Bluetooth

Item no.: 750-921
Bluetooth® Adapter

www.wago.com/750-921

Communication cable

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

www.wago.com/750-923

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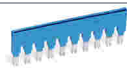
Jumpers

Jumper

	Item no.: 859-408 Jumper; for jumper slot; 8-way; insulated; light gray	www.wago.com/859-408
	Item no.: 281-482 Jumper; 2-way; insulated; gray	www.wago.com/281-482
	Item no.: 859-404/000-005 Jumper; for jumper slot; 4-way; insulated; red	www.wago.com/859-404 /000-005
	Item no.: 859-404/000-006 Jumper; for jumper slot; 4-way; insulated; blue	www.wago.com/859-404 /000-006
	Item no.: 859-405/000-005 Jumper; for jumper slot; 5-way; insulated; red	www.wago.com/859-405 /000-005
	Item no.: 859-405/000-029 Jumper; for jumper slot; 5-way; insulated; yellow	www.wago.com/859-405 /000-029
	Item no.: 859-405 Jumper; for jumper slot; 5-way; insulated; light gray	www.wago.com/859-405
	Item no.: 859-404/000-029 Jumper; for jumper slot; 4-way; insulated; yellow	www.wago.com/859-404 /000-029
	Item no.: 859-406 Jumper; for jumper slot; 6-way; insulated; light gray	www.wago.com/859-406
	Item no.: 859-405/000-006 Jumper; for jumper slot; 5-way; insulated; blue	www.wago.com/859-405 /000-006
	Item no.: 859-406/000-005 Jumper; for jumper slot; 6-way; insulated; red	www.wago.com/859-406 /000-005
	Item no.: 859-409/000-029 Jumper; for jumper slot; 9-way; insulated; yellow	www.wago.com/859-409 /000-029
	Item no.: 859-410/000-005 Jumper; for jumper slot; 10-way; insulated; red	www.wago.com/859-410 /000-005

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

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	Item no.: 859-410/000-029 Jumper; for jumper slot; 10-way; insulated; yellow	www.wago.com/859-410 /000-029
	Item no.: 859-410 Jumper; for jumper slot; 10-way; insulated; light gray	www.wago.com/859-410
	Item no.: 859-410/000-006 Jumper; for jumper slot; 10-way; insulated; blue	www.wago.com/859-410 /000-006
	Item no.: 859-403/000-005 Jumper; for jumper slot; 3-way; insulated; red	www.wago.com/859-403 /000-005
	Item no.: 859-402/000-029 Jumper; for jumper slot; 2-way; insulated; yellow	www.wago.com/859-402 /000-029
	Item no.: 859-403/000-029 Jumper; for jumper slot; 3-way; insulated; yellow	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
	Item no.: 859-408/000-005 Jumper; for jumper slot; 8-way; insulated; red	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
	Item no.: 859-409 Jumper; for jumper slot; 9-way; insulated; light gray	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
	Item no.: 859-403 Jumper; for jumper slot; 3-way; insulated; light gray	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
	Item no.: 859-404 Jumper; for jumper slot; 4-way; insulated; light gray	www.wago.com/859-404

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

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	Item no.: 859-409/000-006 Jumper; for jumper slot; 9-way; insulated; blue	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
	Item no.: 859-402 Jumper; for jumper slot; 2-way; insulated; light gray	www.wago.com/859-402
	Item no.: 859-402/000-005 Jumper; for jumper slot; 2-way; insulated; red	www.wago.com/859-402 /000-005
	Item no.: 859-406/000-006 Jumper; for jumper slot; 6-way; insulated; blue	www.wago.com/859-406 /000-006
	Item no.: 859-406/000-029 Jumper; for jumper slot; 6-way; insulated; signal yellow	www.wago.com/859-406 /000-029
	Item no.: 859-407/000-006 Jumper; for jumper slot; 7-way; insulated; blue	www.wago.com/859-407 /000-006
	Item no.: 859-407/000-005 Jumper; for jumper slot; 7-way; insulated; red	www.wago.com/859-407 /000-005
	Item no.: 859-407/000-029 Jumper; for jumper slot; 7-way; insulated; yellow	www.wago.com/859-407 /000-029
	Item no.: 859-407 Jumper; for jumper slot; 7-way; insulated; light gray	www.wago.com/859-407

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

Mounting

Mounting accessories

	Item no.: 249-116 Screwless end stop; 6 mm wide; for DIN-rail 35 x 15 and 35 x 7.5; gray	www.wago.com/249-116
	Item no.: 249-117 Screwless end stop; 10 mm wide; for DIN-rail 35 x 15 and 35 x 7.5; gray	www.wago.com/249-117

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

WAGO

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

Downloads

Documentation

Bid Text

857-811 docx - Datei	2019 Feb 20	docx 17.8 kB	Download
857-811 X81 - Datei	2019 Feb 19	xml 6.4 kB	Download

Instruction Leaflet

CCC Ex (Additional information) 857-***	2023 Apr 26	pdf 144.4 kB	Download
Messumformer und Trennverstärker TemperaturmessumformerThermoelemente Typ J, K DIP-Schalter / FDT/DTM Software		pdf 2.4 MB	Download

Additional Information

Disposal and Recycling Electrical and electronic equipment, Batteries, Packaging	V 1.1.0 2022 Aug 18	pdf 2.2 MB	Download

Engineering-Software

Configuration and Commissioning Software

WAGO Interface Configuration Software G2 SMALL The full setup only includes the WAGO Interface Configuration Software G2.	1.00.10.01 2022 Jan 20	exe 31.0 MB	Download
WAGO Interface Configuration Software G2 FULL The full setup, in addition to the WAGO Interface Configuration Software G2, includes the installation for the Microsoft .NET Framework.	1.00.10.01 2022 Jan 20	exe 114.9 MB	Download

CAD/CAE-Data

CAD data

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

2D/3D Models 857-811		URL	Download

CAE data

EPLAN Data Portal 857-811	URL	Download
WSCAD Universe 857-811	URL	Download
ZUKEN Portal 857-811	URL	Download

Environmental Product Compliance

Compliance Search

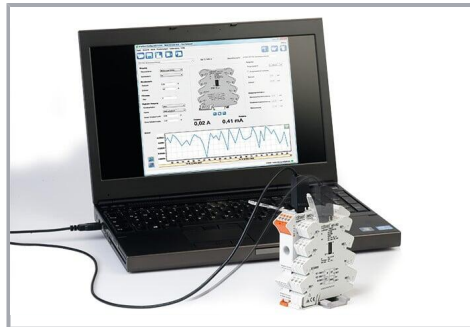| Environmental Product Compliance 857-811	URL	Download

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

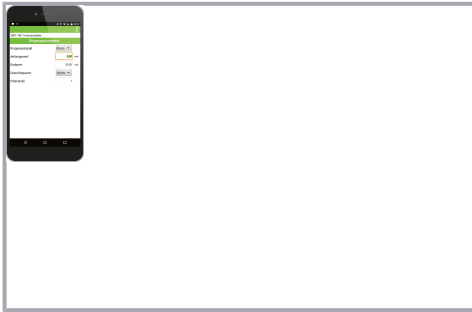## Installation Notes

Configuring
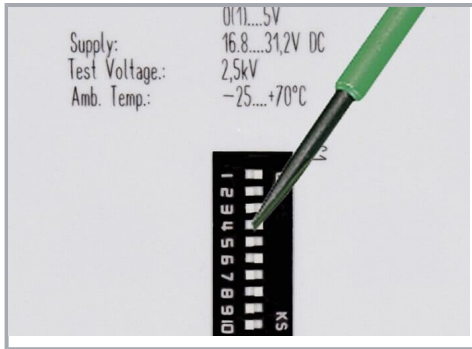
Configuration via DIP switch
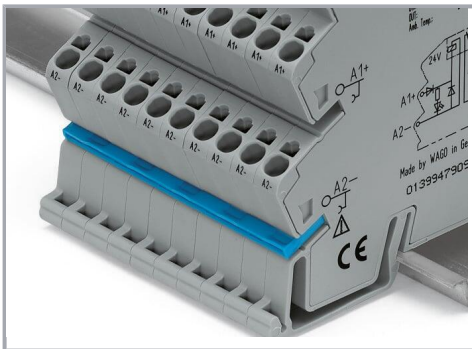

Configuration via WAGO Interface Configuration Software

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

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Configuration via WAGO Interface
Configuration App

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!

WAGO GmbH & Co. KG

Hansastr. 27

32423 Minden

Phone: +49571 887-0 | Fax: +49571 887-169

Email: info.de@wago.com | Web: www.wago.com

Do you have any questions about our products?

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