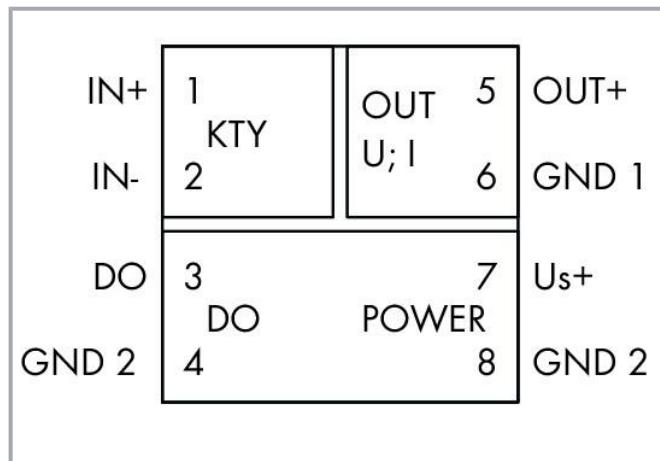
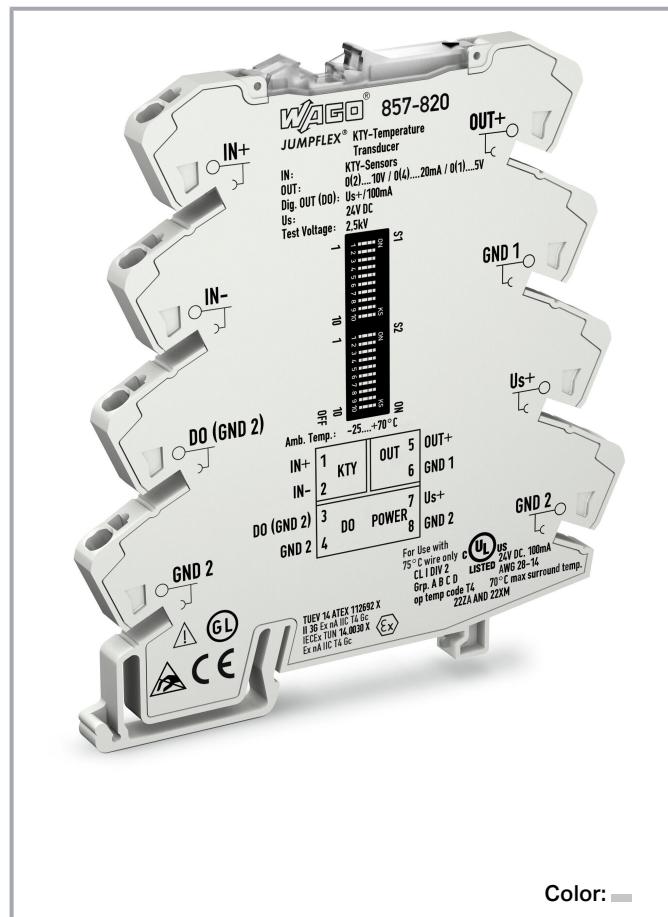


Data sheet | Item number: 857-820

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



www.wago.com/857-820



Color: ■■■

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

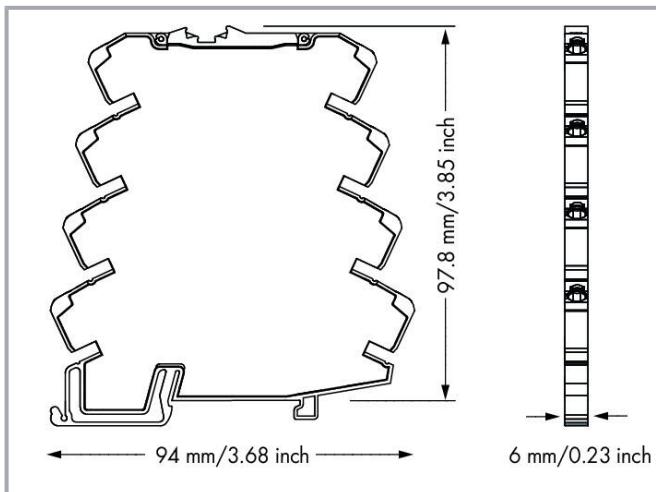
WAGO GmbH & Co. KG
Hansastra. 27

32423 Minden

Phone: +49 571 887-0 | Fax: +49 571 887-169

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857-820 DIP Switch Adjustability									
DIP Switch S1				Default					
Sensor Type				Start Temperature					
1	2	3	4	1	2	3	4	5	6
•	•	•	•	KTY81-110, KTY81-120, KTY82-110, KTY82-120	0	100	•	•	•
•	•	•	•	KTY81-121, KTY82-121	0	0	•	•	210
•	•	•	•	KTY81-122, KTY82-122	-55	50	10	•	220
•	•	•	•	KTY81-150, KTY82-150	-50	50	20	•	230
•	•	•	•	KTY81-210, KTY81-220, KTY82-210, KTY82-220	-40	50	30	•	240
•	•	•	•	KTY81-221, KTY82-221	-30	50	40	•	250
•	•	•	•	KTY81-222, KTY82-222	-20	50	50	•	260
•	•	•	•	KTY81-250, KTY82-250	-10	50	60	•	270
•	•	•	•	KTY83-110, KTY83-120,	0	50	70	•	280
•	•	•	•	KTY83-121	0	60	80	•	290
•	•	•	•	KTY83-122	0	70	90	•	300
•	•	•	•	KTY83-150	0	80	100	•	220
•	•	•	•	KTY83-151	0	90	110	•	230
•	•	•	•	KTY84-130, KTY84-150	0	100	120	•	240
•	•	•	•	KTY84-151	0	110	130	•	250
•	•	•	•	KTY16, KTY19, ST13, ST20	0	120	140	•	260

DIP Switch S1				Output Signal	9	10	Measurement Range Underflow	Measurement Range Overflow	Wire Break	Short Circuit
6		7	8	0...20 mA	Lower limit of output range -5 %**		Upper limit of output range +2.5 %*	Upper limit of output range 5 %*	Lower limit of output range -12.5 %**	Lower limit of output range -12.5 %**
•		•	•	4...20 mA	Lower limit of output range 0 ... 10 mA		Upper limit of output range +2.5 %	Upper limit of output range +5 %	Upper limit of output range -5 %	Upper limit of output range -5 %
•		•	•	2...10 mA	Lower limit of output range 0 ... 10 V		Upper limit of output range +2.5 %	Upper limit of output range +5 %	Upper limit of output range -5 %	Upper limit of output range -5 %
•		•	•	2...10 V	Lower limit of output range 0 ... 5 V		Upper limit of output range +2.5 %	Upper limit of output range +5 %	Lower limit of output range -5 %	Lower limit of output range -5 %
•		•	•	0...5 V	Lower limit of output range 1...5 V		Upper limit of output range +2.5 %	Upper limit of output range +5 %	Lower limit of output range -5 %	Lower limit of output range -5 %

DIP Switch S2				Digital Output D0	
9 10				Measurement Range Overflow Indication	
•				DO not active	
•				GND → U _o (rising)	
•				U _o → GND (falling)	

* but not when lower limit of output range = 0V or 0mA

** acc. to NAMUR NE 43

Item description

Short description:

WAGO's KTY temperature signal conditioner records signals from KTY sensors featuring all standard characteristics and converts the temperature signal into a standard analog signal at the output.

Features:

- Supports all standard KTY sensors
- Calibrated measurement range switching
- 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	KTY sensors
Input voltage (max.)	±30 VDC

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

WAGO GmbH & Co. KG

Hansastraße 27

32423 Minden

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Input (KTY sensors)

Sensor types (KTY)	KTY81-110 KTY81-120 KTY81-121 KTY81-122 KTY81-150 KTY81-210 KTY81-220 KTY81-221 KTY81-222 KTY81-250 KTY82-110 KTY82-120 KTY82-121 KTY82-122 KTY82-150 KTY82-220 KTY82-221 KTY82-222 KTY82-250 KTY83-110 KTY83-120 KTY83-121 KTY83-122 KTY83-150 KTY83-151 KTY84-130 KTY84-150 KTY84-151 KTY16 KTY19 ST13 ST20
Sensor connection	2-wire

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)	$\geq 2 \text{ k}\Omega$
Load impedance (current output)	$\leq 600 \Omega$

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

Output (digital)

Switching voltage (DO) max.	Supply voltage applied
Continuous current (DO) max.	100 mA (no internal restriction)

Signal Processing

Step response (typ.)	50 ms
----------------------	-------

Measurement Error

Transmission error (typ.)	≤ 0.1 % of upper-range value
---------------------------	------------------------------

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 ($+ I_{DO}$)

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

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

Mechanical Data

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

Material Data

Color	light gray
Fire load	0.418 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

Commercial data

Product Group	6 (INTERFACE ELECTRONIC)
eCl@ss 10.0	27-21-01-29
eCl@ss 9.0	27-21-01-20
ETIM 8.0	EC002919
ETIM 7.0	EC002919
PU (SPU)	1 pcs
Packaging type	bag
Country of origin	DE
GTIN	4050821053002
Customs tariff number	85437090300

Environmental Product Compliance

CAS-No.	7439-92-1 79-94-7
---------	----------------------

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

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)	34941bc9-8e48-46c9-a7b2-4825f5329246
SCIP notification number (Belgium)	75a377f0-35a3-4b2e-b165-bce77bd274cc
SCIP notification number (Bulgaria)	5cf1a5be-e025-43b0-825a-1b18a8f7f565
SCIP notification number (Czech Republic)	bdb21d8c-e1b4-4b2d-9bfa-0c6300dbc530
SCIP notification number (Denmark)	095db8cb-41af-4e82-af2d-44fdbf1dd68e
SCIP notification number (Finland)	cc1af7e7-ac8e-4237-9b82-3be1333c8700
SCIP notification number (France)	2c3fa22b-66cf-465e-924f-b8524df6b7d3
SCIP notification number (Germany)	4e95591a-ceaf-4f18-a2eb-555acfd521ee
SCIP notification number (Hungary)	40a070aa-3e73-4134-802a-93e9ee82407c
SCIP notification number (Italy)	8848a2d7-75d7-4e9e-9370-a97d25b26a7c
SCIP notification number (Netherlands)	e1443cd2-bc18-43af-bdba-091fbfcbb17ce
SCIP notification number (Poland)	f67dea86-39d8-4962-9e6f-233cd0e10f47
SCIP notification number (Romania)	0d661d8e-e744-421d-ab87-6acc1b302ed5
SCIP notification number (Sweden)	9854cc75-067c-44e6-9b84-fc9b27e877de

Approvals / Certificates

General approvals

Logo	Approval	Additional Approval Text	Certificate name
	CCC	CNCA-C23-01	2020312310000210
	CNEX		(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	-	-

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

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
	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)
	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

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

Optional accessories

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

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

	Item no.: 859-410/000-005 Jumper; for jumper slot; 10-way; insulated; red	www.wago.com/859-410/000-005
	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

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



Item no.: 859-404

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

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



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

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

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

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32423 Minden

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 **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; www.wago.com/793-502 white

 **Item no.: 793-503**

WMB marking card; as card; MARKED; 11 ... 20 (10x); not stretchable; Horizontal marking; snap-on type; www.wago.com/793-503 white

 **Item no.: 793-504**

WMB marking card; as card; MARKED; 21 ... 30 (10x); not stretchable; Horizontal marking; snap-on type; www.wago.com/793-504 white

 **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 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 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 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 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

Relay module

Relay module

 **Item no.: 857-304**

Relay module; Nominal input voltage: 24 VDC; 1 changeover contact; Limiting continuous current: 6 A; www.wago.com/857-304 Yellow status indicator; Module width: 6 mm; 2,50 mm²; gray

Interface module

Interface adapters

 **Item no.: 857-980**

Interface adapter; 16-pole; analog

www.wago.com/857-980

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

Terminal blocks

Supply module

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



Item no.: 857-979

Supply and through module

www.wago.com/857-979

Screwless end stop

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



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

857-820	2019 Feb 20	docx 17.7 kB	Download
docx - Datei			

857-820	2019 Feb 19	xml 5.9 kB	Download
X81 - Datei			

Instruction Leaflet

CCC Ex (Additional information) 857-***	2023 Apr 26	pdf 144.4 kB	Download
Messumformer und Trennverstärker Temperaturmessumformer KTY DIP-Schalter			

Additional Information

Disposal and Recycling Electrical and electronic equipment, Batteries, Packaging	V 1.1.0 2022 Aug 18	pdf 2.2 MB	Download
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CAD/CAE-Data

CAD data

2D/3D Models 857-820

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

CAE data

EPLAN Data Portal 857-820

URL

Download

WSCAD Universe 857-820

URL

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ZUKEN Portal 857-820

URL

Download

Environmental Product Compliance

Compliance Search

Environmental Product Compliance 857-820

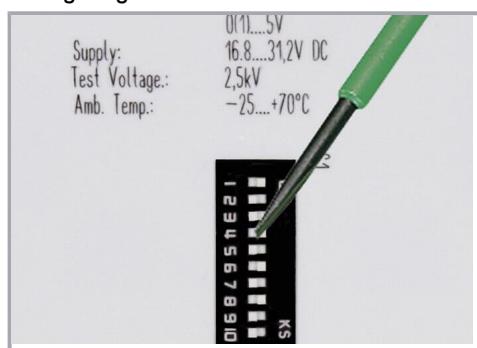
URL

Download

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

Installation Notes

Configuring



Configuration via DIP switch

Commoning

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

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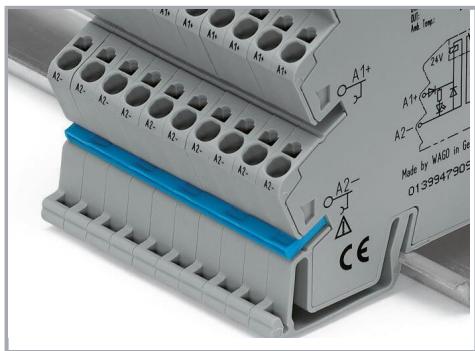
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Commoning, not discrete wiring – Same outline allows use of a single in-line, push-in jumper.

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

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