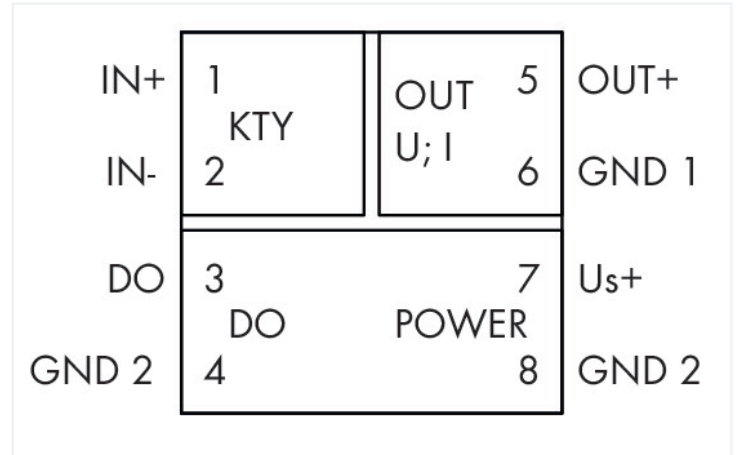
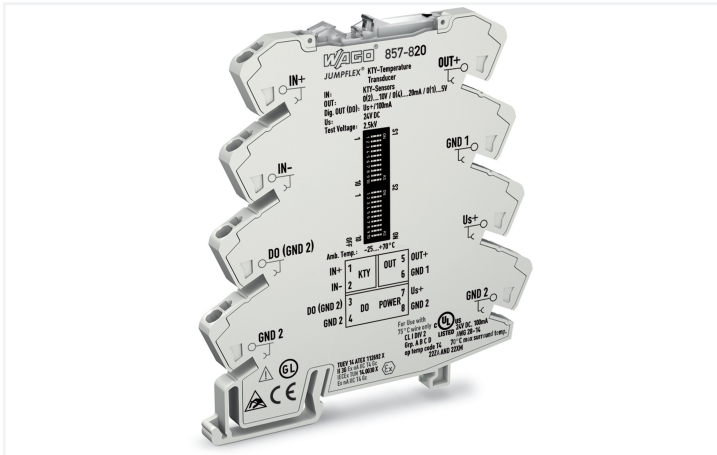


Data Sheet | Item Number: 857-820

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



<https://www.wago.com/857-820>

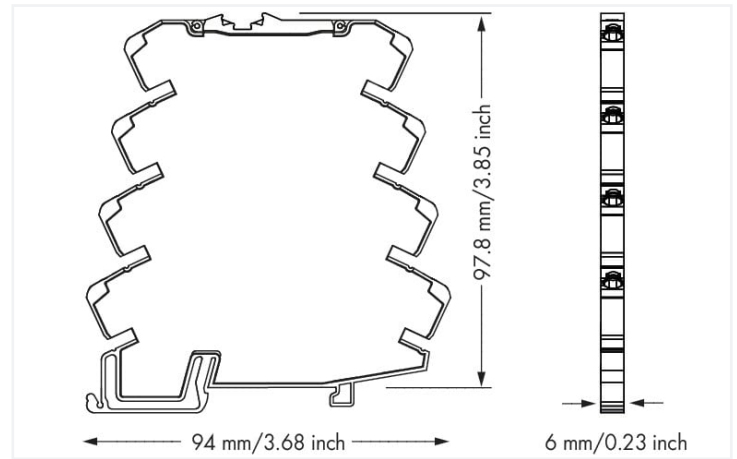


Color: ■ light gray

DIP Switch S1		DIP Switch S2	
Screen Type	End Temperature	Start Temperature	End Temperature
1 2 3 4	1 2 3 4 5 6 7 8 °C	1 2 3 4 5 6 7 8 °C	1 2 3 4 5 6 7 8 °C
<ul style="list-style-type: none"> KTY81-121, KTY82-121 KTY81-122, KTY82-122 KTY81-150, KTY82-150 KTY81-210, KTY82-210, KTY82-210, KTY82-220 KTY81-221, KTY82-221 KTY81-222, KTY82-222 KTY81-250, KTY82-250 KTY83-115, KTY83-120 KTY83-121 KTY83-122 KTY83-150 KTY83-151 KTY84-100, KTY84-150 KTY84-151 KTY91, KTY93, ST13, ST20 	<ul style="list-style-type: none"> 0 50 100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 	<ul style="list-style-type: none"> 0 50 100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 	<ul style="list-style-type: none"> 0 50 100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000

Output Signal	Measurement Range Underflow	Measurement Range Overflow	Wire Break	Short Circuit
0...20mA	Lower limit of output range	Upper limit of output range	Upper limit of output range	Lower limit of output range
0...10mA	Lower limit of output range	Upper limit of output range	Upper limit of output range	Lower limit of output range
0...10V	Lower limit of output range	Upper limit of output range	Upper limit of output range	Lower limit of output range
0...5V	Lower limit of output range	Upper limit of output range	Upper limit of output range	Lower limit of output range
1...5V	Lower limit of output range	Upper limit of output range	Upper limit of output range	Lower limit of output range

DIP Switch S2	Digital Output DO
9 10	Measurement Range Overflow Indication
	DO (High)
	DO (Low)
	U ₊ - GND (Pull-up)



Dimensions in mm

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

Technical data

Configuration		Input	
Configuration options	DIP switch	Input signal type	KTY sensors
		Input voltage (max.)	±30 VDC
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

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
---------------------------	------------------------------

Power 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_{DD})

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 mm ² / 28 ... 14 AWG
Fine-stranded conductor	0.34 ... 2.5 mm ² / 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
Insulation material (main housing)	Polyamide (PA66)
Flammability class per UL94	V0
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 9.0	EC002919
ETIM 8.0	EC002919
PU (SPU)	1 pcs
Packaging type	Bag
Country of origin	DE
GTIN	4050821053002
Customs tariff number	85437090300

Environmental Product Compliance

CAS-No.	1317-36-8 7439-92-1 79-94-7 1303-86-2
REACH Candidate List Substance	2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol Diboron trioxide Lead Lead monoxide
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-091fbfcb17ce
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



Approval	Standard	Certificate Name
EAC GZO Almaty Standart	TP TC 020/2011	EAC CoC 03081
UL Underwriters Laboratories Inc. (ORDINARY LOCATIONS)	UL 508	E175199 Sec.4

Declarations of conformity and manufacturer's declarations

Approval	Standard	Certificate Name
EU-Declaration of Conformity WAGO GmbH & Co. KG	-	-

Approvals for marine applications



Approval	Standard	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

Approvals for hazardous areas



Approval	Standard	Certificate Name
ATEX TUEV Nord Cert GmbH	EN 60079-0	TUEV14ATEX112692X (II 3G Ex ec IIC T4 Gc)
CCC CNEX	CNCA-C23-01	2020312310000210 (Ex ec IIC T4 Gc)
IECEx TUEV Nord Cert GmbH	-	IECEX TUN14.0030X
UKEx WAGO GmbH & Co. KG	EN 60079-0	WAGO22UKEX004X
UL Underwriters Laboratories Inc. (HAZARDOUS LOCATIONS)	ANSI/ISA 12.12.01	E198726

Downloads

Environmental Product Compliance

Compliance Search	
Environmental Product Compliance 857-820	↓

Documentation

Bid Text			
857-820	19.02.2019	xml 5.81 KB	↓
857-820	20.02.2019	docx 17.26 KB	↓

Instruction Leaflet			
CCC Ex (Additional information)	26.04.2023	pdf 140.99 KB	↓
Messumformer und Trennverstärker		pdf 1808.06 KB	↓

CAD/CAE-Data

CAD data

2D/3D Models 857-820



CAE data

EPLAN Data Portal
857-820



WSCAD Universe
857-820



ZUKEN Portal 857-820



1 Compatible Products

1.1 Optional Accessories

1.1.1 Interface module

1.1.1.1 Interface adapters



[Item No.: 857-980](#)

Interface adapter; 16-pole; analog

1.1.2 Jumper

1.1.2.1 Jumper



[Item No.: 281-482](#)

Jumper; 2-way; insulated; gray



[Item No.: 859-410/000-006](#)

Jumper; for jumper slot; 10-way; insulated; blue



[Item No.: 859-410](#)

Jumper; for jumper slot; 10-way; insulated; light gray



[Item No.: 859-410/000-005](#)

Jumper; for jumper slot; 10-way; insulated; red



[Item No.: 859-410/000-029](#)

Jumper; for jumper slot; 10-way; insulated; yellow



[Item No.: 859-402/000-006](#)

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



[Item No.: 859-402](#)

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



[Item No.: 859-402/000-005](#)

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



[Item No.: 859-402/000-029](#)

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



[Item No.: 859-403/000-006](#)

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



[Item No.: 859-403](#)

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



[Item No.: 859-403/000-005](#)

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



[Item No.: 859-403/000-029](#)

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



[Item No.: 859-404/000-006](#)

Jumper; for jumper slot; 4-way; insulated; blue



[Item No.: 859-404](#)

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



[Item No.: 859-404/000-005](#)

Jumper; for jumper slot; 4-way; insulated; red



[Item No.: 859-404/000-029](#)

Jumper; for jumper slot; 4-way; insulated; yellow



[Item No.: 859-405/000-006](#)

Jumper; for jumper slot; 5-way; insulated; blue



[Item No.: 859-405](#)

Jumper; for jumper slot; 5-way; insulated; light gray



[Item No.: 859-405/000-005](#)

Jumper; for jumper slot; 5-way; insulated; red



[Item No.: 859-405/000-029](#)

Jumper; for jumper slot; 5-way; insulated; yellow



[Item No.: 859-406/000-006](#)

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



[Item No.: 859-406](#)

Jumper; for jumper slot; 6-way; insulated; light gray



[Item No.: 859-406/000-005](#)

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



[Item No.: 859-406/000-029](#)

Jumper; for jumper slot; 6-way; insulated; signal yellow



[Item No.: 859-407/000-006](#)

Jumper; for jumper slot; 7-way; insulated; blue



[Item No.: 859-407](#)

Jumper; for jumper slot; 7-way; insulated; light gray



[Item No.: 859-407/000-005](#)

Jumper; for jumper slot; 7-way; insulated; red

1.1.2.1 Jumper



Item No.: 859-407/000-029

Jumper; for jumper slot; 7-way; insulated; yellow



Item No.: 859-408/000-006

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



Item No.: 859-408

Jumper; for jumper slot; 8-way; insulated; light gray



Item No.: 859-408/000-005

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



Item No.: 859-408/000-029

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



Item No.: 859-409/000-006

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



Item No.: 859-409

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



Item No.: 859-409/000-005

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



Item No.: 859-409/000-029

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

1.1.3 Marking

1.1.3.1 Marker



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



Item No.: 793-502

WMB marking card; as card; MARKED; 1 ... 10 (10x); not stretchable; Horizontal marking; snap-on type; white



Item No.: 793-566

WMB marking card; as card; MARKED; 1 ... 50 (2x); not stretchable; Horizontal marking; snap-on type; white



Item No.: 793-503

WMB marking card; as card; MARKED; 11 ... 20 (10x); not stretchable; Horizontal marking; snap-on type; white



Item No.: 793-504

WMB marking card; as card; MARKED; 21 ... 30 (10x); not stretchable; Horizontal marking; snap-on type; white



Item No.: 793-505

WMB marking card; as card; MARKED; 31 ... 40 (10x); not stretchable; Horizontal marking; snap-on type; white



Item No.: 793-506

WMB marking card; as card; MARKED; 41 ... 50 (10x); not stretchable; Horizontal marking; snap-on type; white



Item No.: 793-501

WMB marking card; as card; not stretchable; plain; snap-on type; white



Item No.: 2009-115

WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white

1.1.3.2 Marking strip



Item No.: 2009-110

Marking strips; for Smart Printer; on reel; not stretchable; plain; snap-on type; white

1.1.4 Power supply

1.1.4.1 Power supply



Item No.: 787-2852

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

1.1.5 Relay module

1.1.5.1 Relay module

**Item No.: 857-304**

Relay module; Nominal input voltage: 24 VDC; 1 changeover contact; Limiting continuous current: 6 A; Yellow status indicator; Module width: 6 mm; gray

1.1.6 Screwless end stop

1.1.6.1 Mounting accessories

**Item No.: 249-117**

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

**Item No.: 249-197**

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

**Item No.: 249-116**

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

1.1.7 Terminal blocks

1.1.7.1 Supply module

**Item No.: 857-979**

Supply and through module

1.1.7.2 Through terminal block

**Item No.: 857-979**

Supply and through module

1.1.8 Tool

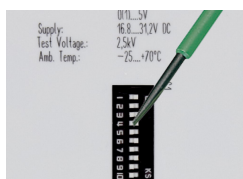
1.1.8.1 Operating tool

**Item No.: 210-720**

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

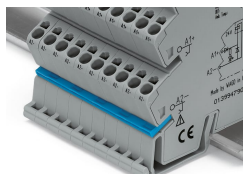
Installation Notes

Configuring



Configuration via DIP switch

Commoning



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