

2902049

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Configurable temperature transducer with plug-in connection technology for connecting 2, 3, and 4-conductor resistance thermometers and resistance-type sensors. Configurable via DIP switch or software. Screw connection technology, standard configuration

Product description

Configurable, 3-way isolated temperature transducer with plug-in connection technology. The device is suitable for the connection of resistance thermometers and remote resistance-type sensors with 2, 3, and 4-conductor connection technology. The measured values are converted into a linear and freely adjustable current or voltage signal. You can configure the device using one of the free software solutions. Default settings can also be made directly on the device by simply using the DIP switches (see configuration table). The measuring transducer supports fault monitoring and NFC communication.

Commercial data

Item number	2902049
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	C404
Product key	CK1421
Catalog page	Page 82 (C-5-2019)
GTIN	4046356649759
Weight per piece (including packing)	123.1 g
Weight per piece (excluding packing)	110 g
Customs tariff number	85437090
Country of origin	DE



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Technical data

Notes

EMC note	EMC: class A product see manufacturaria declaration in the
EMC note	EMC: class A product, see manufacturer's declaration in the download area
duct properties	
Product type	Temperature transmitter
Product family	MINI Analog Pro
Туре	Signal conditioner
Configuration	DIP switches
	Software
	Арр
sulation characteristics	
Overvoltage category	II.
Pollution degree	2
ctrical properties	
Electrical isolation	3-way isolation
Protective circuit	Transient protection
Step response (0–99%)	200 ms (2-conductor)
	500 ms (3-conductor)
	500 ms (4-conductor)
Maximum temperature coefficient	0.01 %/K
Transmission error resistance-type sensor	2 Ω
Transmission error resistance thermometer	0.1 % * 350 K / set measuring range; 0.1 % > 350 K (Pt/Ni)
	0.3 % * 200 K / set measuring range; 0.3 % > 200 K (Cu)
lectrical isolation Input/output/power supply	
Rated insulation voltage	300 V _{rms}
Test voltage	3 kV AC (50 Hz, 60 s)
Insulation	Reinforced insulation according to IEC/EN 61010-1
upply	
Supply voltage range	9.6 V DC 30 V DC (The DIN rail connector (ME 6,2 TBUS-2 1,5/5-ST-3,81 GN, item no. 2869728) can be used to bridge the supply voltage. It can be snapped onto a 35 mm DIN rail in accordance with EN 60715)
Typical current consumption	32 mA (24 V DC)
	63 mA (12 V DC)
Power consumption	≤ 850 mW (at I _{OUT} = 20 mA, 9.6 V DC, 600 Ω load)



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Input data

Signal		
Number of inputs	1	
Measurement		
Number of inputs	1	
Configurable/programmable	Yes	
Sensor types (RTD) that can be used	Pt, Ni, Cu sensors	
Temperature measuring range	-200 °C 850 °C (Range depends on sensor type, range can be set freely via software or in increments from -150°C to 850°C via DIP switches)	
Temperature measuring range	≥ 20 K	
Sensor input current	approx. 200 μA	
Max. permissible overall conductor resistance	≤ 25 Ω (Per line, RTD in 3- or 4-conductor technology)	
	≤ 50 Ω (adjustable, RTD in 2-conductor technology)	
Linear resistance measuring range	0 Ω 4000 Ω (Minimum measuring span: 10% of the selected measuring range)	
Connection technology	2-, 3-, 4-conductor	

Output data

Signal: Voltage/current

Number of outputs	1
Configurable/programmable	Yes
Voltage output signal	0 V 5 V (via DIP switch)
	1 V 5 V (via DIP switch)
	0 V 10 V (via DIP switch)
	10 V 0 V (via DIP switch)
	0 V 10.5 V (can be set via software)
Max. voltage output signal	approx. 12.3 V
Non-load voltage	< 17.5 V
Current output signal	0 mA 20 mA (via DIP switch)
	4 mA 20 mA (via DIP switch)
	20 mA 0 mA (via DIP switch)
	20 mA 4 mA (via DIP switch)
	0 mA 21 mA (can be set via software)
Max. current output signal	24.6 mA
Short-circuit current	< 31.5 mA
Load/output load voltage output	≥ 10 kΩ
Load/output load current output	≤ 600 Ω (at 20 mA)
Ripple	< 10 mV _{rms}
	< 10 mV _{rms} (at 600 Ω)
Resolution, outputs (voltage)	1 mV



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Ambient conditions

Degree of protection

Ambient temperature (operation)

Ambient temperature (storage/transport)

esolution, outputs (current)	2 μΑ
ehavior in the event of a sensor error	configurable
ection data	
Connection method	Screw connection
Stripping length	10 mm
Screw thread	M3
Conductor cross section rigid	0.2 mm ² 1.5 mm ² (with ferrule)
	0.14 mm ² 2.5 mm ² (without ferrule)
Conductor cross section flexible	0.14 mm² 2.5 mm²
Conductor cross section AWG	24 12 (flexible)
ightening torque	0.5 Nm 0.6 Nm
ata	
x installation (EPL)	Gc
,	Div. 2
a: IFS interface Connection method	Micro USB type B
aling	
Status display	Green LED (supply voltage)
error indication	Red LED
Troi indication	IVed EED
nsions	
Vidth	6.2 mm
leight	109.81 mm
Depth	119.2 mm
rial specifications	
	gray (RAL 7042)
Color	* * * * * * * * * * * * * * * * * * * *
Color Fire protection for rail vehicles (DIN EN 45545-2) R22	HL 1 - HL 2
	HL 1 - HL 2 HL 1 - HL 2
ire protection for rail vehicles (DIN EN 45545-2) R22	

IP20 (not assessed by UL)

-40 °C ... 70 °C

-40 °C ... 85 °C



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Altitude	≤ 2000 m
Permissible humidity (operation)	5 % 95 % (non-condensing)
	, , , , , , , , , , , , , , , , , , ,
pprovals	
CE	
Certificate	CE-compliant
ATEX	
Identification	
Certificate	BVS 20 ATEX E 024 X
UKCA Ex (UKEX)	£ 40.05 40.740
Identification	ⓑ II 3 G Ex ec IIC T4 Gc
Certificate	PxCIF21UKEX2902049X
IECEx	
Identification	Ex ec IIC T4 Gc
Certificate	IECEx BVS 20.0017X
UL, USA/Canada	
Identification	UL 508 Listed
	Class I, Div. 2, Groups A, B, C, D T6
	Class I, Zone 2, Group IIC T6
Shipbuilding approval	DAILY CL. TA ACCOCCULA
Certificate	DNV GL TAA00002UA
EAC Ex	
Identification	⊞ ∟∫Ex ec IIC T4 Gc
Certificate	BY/112 02.01 TP012 103.01 00079
DNV GL data	
Temperature	В
Humidity	В
Vibration	A
EMC	A
Enclosure	Required protection according to the Rules shall be provided upon installation on board
лС data	
Noise immunity	EN 61000-6-2
Note	When being exposed to interference, there may be minimal
	deviations.
Electromagnetic compatibility	Conformance with EMC directive



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Standards/regulations	EN 61000-4-2
Electrostatic discharge	
Comments	Safety measures must be taken to prevent electrostatic discharge.
Electromagnetic HF field	
Designation	Electromagnetic RF field
Standards/regulations	EN 61000-4-3
Typical deviation from the measuring range final value	0.06 %
Fast transients (burst)	
Designation	Fast transients (burst)
Standards/regulations	EN 61000-4-4
Typical deviation from the measuring range final value	0.1 %
Surge current load (surge)	
Standards/regulations	EN 61000-4-5
Conducted interference	
Designation	Conducted interferences
Standards/regulations	EN 61000-4-6
Typical deviation from the measuring range final value	0.07 %
andards and regulations	
Electrical isolation	3-way isolation
ounting	
Mounting type	DIN rail mounting
Assembly instructions	The DIN rail connector can be used for bridging the supply voltage. It can be snapped onto a 35 mm EN 60715 DIN rail.
Mounting position	any



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Classifications

ECLASS

UNSPSC 21.0

	ECLASS-11.0	27210129
	ECLASS-12.0	27210129
	ECLASS-13.0	27210129
ETIM		
	ETIM 9.0	EC002919
UNSPSC		

41112100



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Environmental product compliance

REACh SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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