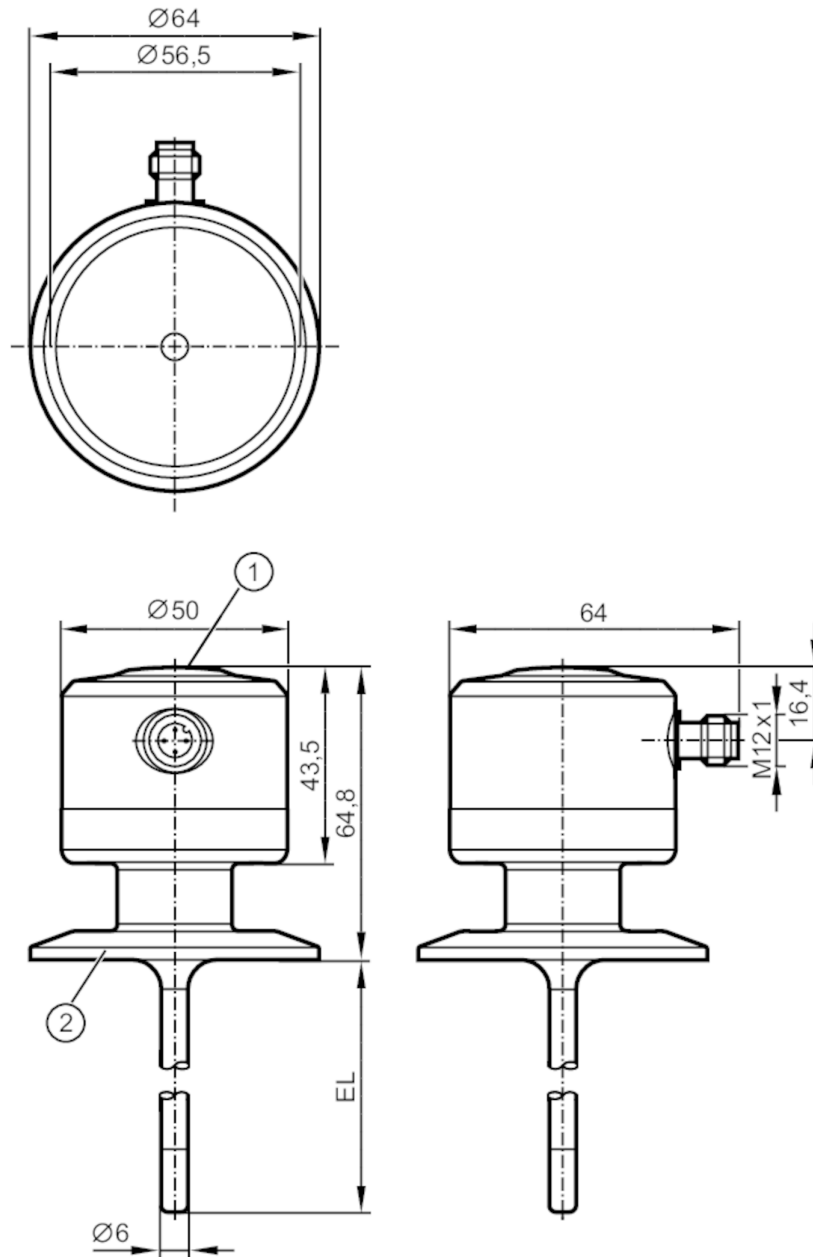


TCC931



Temperature transmitter

TCC100K1EC02-A-DKG/US



- 1 LED
- 2 Process connection



Product characteristics

Number of inputs and outputs	Number of digital outputs: 1; Number of analog outputs: 1	
Measuring range	-25...160 °C	-13...320 °F
Communication interface	IO-Link	
Process connection	Clamp DN50 (2") DIN 32676 (ISO 2852)	
Installation length EL [mm]	100	

Application

Special feature	gold-plated contacts
Measuring element	1 x Pt 1000

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Reference element	1 x NTC	
Media	liquids and gases	
Pressure rating	160 bar	16 MPa
Minimum installation depth [mm]	15	

Electrical data

Operating voltage [V]	18...32 DC; (cULus - Class 2 source required)	
Current consumption [mA]	10; (24 V)	
Protection class	III	
Reverse polarity protection	yes	
Power-on delay time [s]	6	
Integrated watchdog	yes	

Inputs / outputs

Number of inputs and outputs	Number of digital outputs: 1; Number of analog outputs: 1	
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Outputs

Total number of outputs	2	
Output signal	analog signal; IO-Link; (calibration check status)	
Electrical design	PNP/NPN	
Number of digital outputs	1	
Output function	normally closed; (diagnostic signal)	
Max. voltage drop switching output DC [V]	2	
Permanent current rating of switching output DC [mA]	100	
Diagnostic output	calibration check status and error diagnostics	
Number of analog outputs	1	
Analog current output [mA]	4...20	
Max. load [Ω]	$(U_b - 15 \text{ V}) \times 50$	
Short-circuit protection	yes	
Type of short-circuit protection	yes (non-latching)	
Overload protection	yes	

Measuring/setting range

Probe length L [mm]	100	
Measuring range	-25...160 °C	-13...320 °F
Note on measuring range	scalable	
Factory setting	-10...150 °C / 14...302 °F	
Calibration check limit [K]	0.5...3	
In steps of [K]	0.05	

Resolution

Resolution of analog output [K]	0.05	
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Accuracy / deviations

Precision analog output [K]	$\pm 0,2$	
Precision IO-Link [K]	$\pm 0,2$	
Temperature coefficient analog output	$< \pm 0,02$; (In case of deviation from the reference condition $25 \pm 5 \text{ °C}$)	

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[% of the span / 10 K]	
Temperature coefficient IO-Link	< ± 0,01; (In case of deviation from the reference condition 25 ± 5 °C)
[% of the span / 10 K]	

Reaction times

Dynamic response T05 / T09 [s]	1,5 / 4
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Software / programming

Parameter setting options	Display unit; scaling of the analog output; calibration check limit; switching logic diagnostic output; simulation mode
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Interfaces

Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.1	
SDCI standard	IEC 61131-9 CDV	
Profiles	BLOB	Binary Large Object transfer
	Common - I&D	Identification and Diagnosis
	Function	Measurement data, standard resolution
SIO mode	yes	
Required master port class	A	
Process data analog	1	
Process data binary	1	
Min. process cycle time [ms]	4.4	
IO-Link resolution temperature [K]	0.01	
Supported DeviceIDs	Type of operation	DeviceID
	default	1129

Operating conditions

Ambient temperature [°C]	-25...70
Note on ambient temperature	max. internal device temperature: 125 °C
Storage temperature [°C]	-40...100
Protection	IP 68; IP 69K

Tests / approvals

EMC	DIN EN 61000-6-2	
	DIN EN 61000-6-3	
Shock resistance	DIN EN 60068-2-27	50 g (11 ms)
Vibration resistance	DIN EN 60068-2-6	35 g (10...2000 Hz)
MTTF [years]	329	
Note on approval	Factory certificate available as download at www.factory-certificate.ifm	
UL approval	UL approval number	K021
	File number UL	E217884

Mechanical data

Weight [g]	416
Housing	tubular
Dimensions [mm]	Ø 50 / L = 164.8
Material	stainless steel (1.4404 / 316L); PEI; FKM; PFA
Materials (wetted parts)	stainless steel (1.4404 / 316L); PEEK

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Process connection	Clamp DN50 (2") DIN 32676 (ISO 2852)
Surface characteristics Ra/Rz of the wetted parts	Ra < 0.8 µm
Probe diameter [mm]	6
Installation length EL [mm]	100

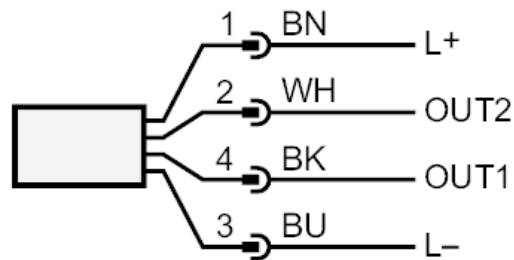
Remarks	
Remarks	MS = set measuring span cULus - Class 2 source required
Pack quantity	1 pcs.

Electrical connection

Connector: 1 x M12; coding: A; Contacts: 4, gold-plated



Connection



OUT2: analog output
OUT1: Diagnostic output / IO-Link