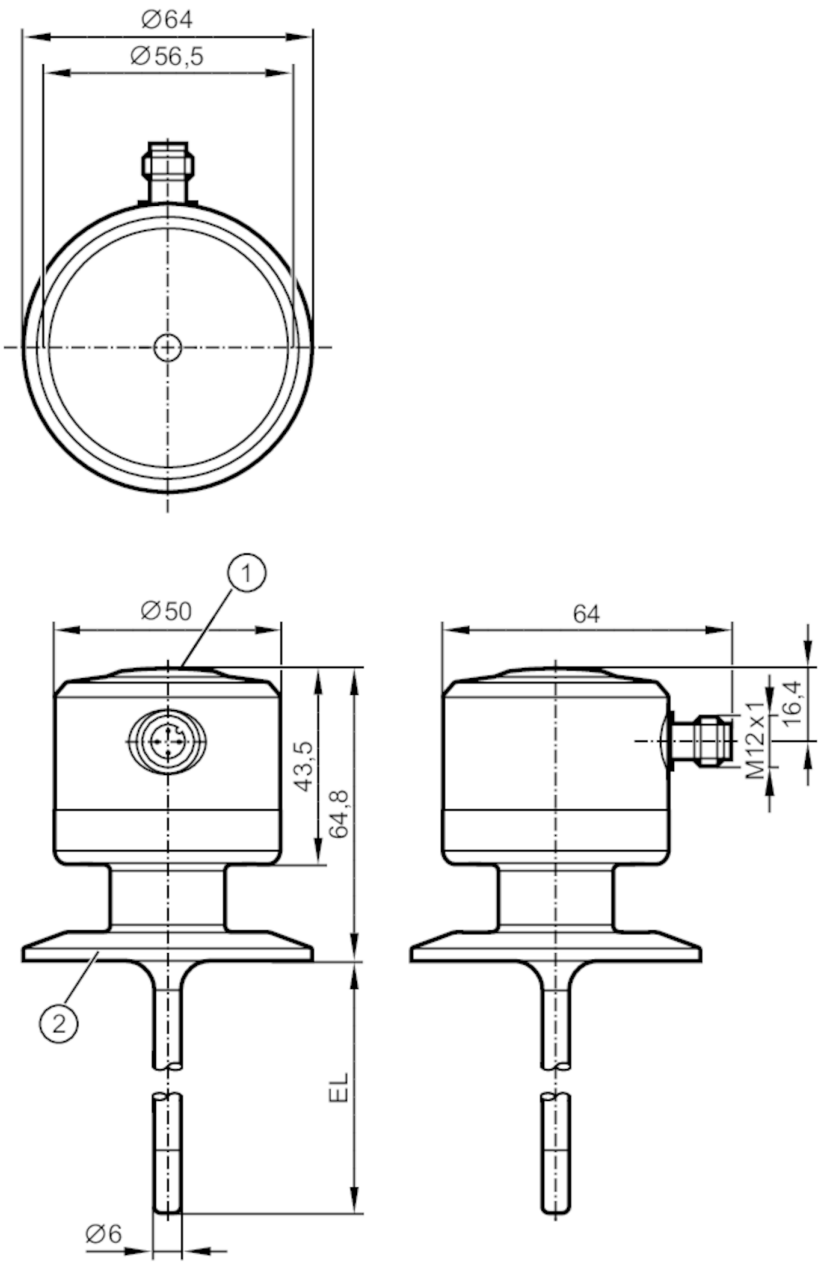
TCC931

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 analogue 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	[bar]	160
Electrical data		
Operating voltage	[V]	18...32 DC; ("supply class 2" to cULus)
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 analogue outputs: 1
Outputs		
Total number of outputs		2
Output signal		analogue 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 analogue outputs		1
Analogue current output	[mA]	4...20
Max. load	[Ω]	(Ub - 15 V) x 50
Short-circuit protection		yes
Type of short-circuit protection		pulsed
Overload protection		yes
Measuring/setting range		
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 analogue output	[K]	0.05
Accuracy / deviations		
Precision analogue output	[K]	± 0,2
Precision IO-Link	[K]	± 0,2
Temperature coefficient analogue output [% of the span / 10 K]		< ± 0,02; (in case of deviation from the reference condition 25 ± 5 °C)

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Temperature coefficient IO-Link [% of the span / 10 K]		< ± 0,01; (in case of deviation from the reference condition 25 ± 5 °C)	
Response times			
Dynamic response T05 / T09 [s]		1,5 / 4	
Software / programming			
Parameter setting options		Display unit; scaling of the analogue output; calibration check limit; switching logic diagnostic output; simulation mode	
Interfaces			
Communication interface		IO-Link	
Transmission type		COM2 (38,4 kBaud)	
IO-Link revision		1.1	
SDCI standard		IEC 61131-9 CDV	
Profiles		Digital Measuring Sensor, Common Profile, Blob Transfer	
SIO mode		yes	
Required master port type		A	
Process data analogue		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 68000-2-27	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 no.	K021	
	File number UL	E217884	
Mechanical data			
Weight [g]		416	
Dimensions [mm]		Ø 50 / L = 164.8	
Materials		stainless steel (316L/1.4404); PEI; FKM; PFA	
Materials (wetted parts)		stainless steel (316L/1.4404); PEEK	
Process connection		Clamp DN50 (2") DIN 32676 (ISO 2852)	
Surface characteristics Ra/Rz of the wetted parts		Ra: < 0.8	
Probe diameter [mm]		6	

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Installation length EL	[mm]	100

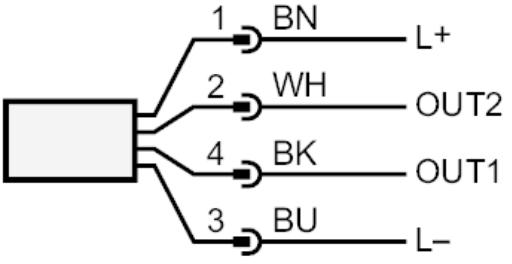
Remarks

Remarks	MS = set measuring span
	operating voltage "supply class 2" according to cULus
Pack quantity	1 pcs.

Electrical connection

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

Connection



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