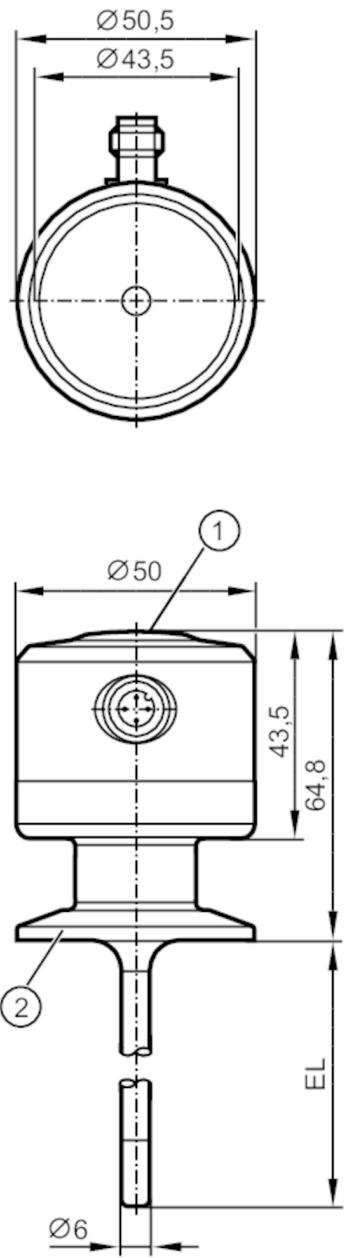


# TCC831

## Temperature transmitter

TCC100K1EC01-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 DN25...DN40 (1...1,5") 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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## Temperature transmitter

TCC100K1EC01-A-DKG/US

Reference element		1 x NTC
Media		liquids and gases
Pressure rating	[bar]	160
<b>Electrical data</b>		
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
<b>Inputs / outputs</b>		
Number of inputs and outputs		Number of digital outputs: 1; Number of analogue outputs: 1
<b>Outputs</b>		
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
<b>Measuring/setting range</b>		
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
<b>Resolution</b>		
Resolution of analogue output	[K]	0.05
<b>Accuracy / deviations</b>		
Precision analogue output	[K]	± 0,2
Precision IO-Link	[K]	± 0,2
Temperature coefficient analogue output		< ± 0,02; (in case of deviation from the reference condition 25 ± 5 °C)
	[% of the span / 10 K]	

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## Temperature transmitter

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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)	
<b>Response times</b>		
Dynamic response T05 / T09 [s]		1,5 / 4
<b>Software / programming</b>		
Parameter setting options		Display unit; scaling of the analogue output; calibration check limit; switching logic diagnostic output; simulation mode
<b>Interfaces</b>		
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 [K] temperature		0.01
Supported DeviceIDs	Type of operation	DeviceID
	default	1129
<b>Operating conditions</b>		
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
<b>Tests / approvals</b>		
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 <a href="http://www.factory-certificate.ifm">www.factory-certificate.ifm</a>	
UL approval	UL Approval no.	K021
	File number UL	E217884
<b>Mechanical data</b>		
Weight [g]		358.9
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 DN25...DN40 (1...1.5") 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
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Remarks
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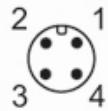
Remarks	MS = set measuring span
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	operating voltage "supply class 2" according to cULus
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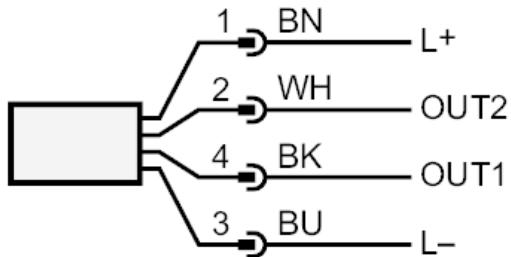
Pack quantity	1 pcs.
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Electrical connection
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Connector: 1 x M12; coding: A; Contacts: gold-plated



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