

TCC231



Temperature transmitter

TCC100K1ED06-A-DKG/US



1 LED



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
Process connection	Diameter Ø 6 mm	
Installation length EL [mm]	100	

Application

System	gold-plated contacts
Measuring element	1 x Pt 1000
Reference element	1 x NTC
Media	liquids and gases
Pressure rating [bar]	160

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]	(Ub - 15 V) x 50	
Short-circuit protection	yes	
Type of short-circuit protection	yes (non-latching)	
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 analog output [K]	0.05	
Accuracy / deviations		
Precision analog output [K]	± 0,2	
Precision IO-Link [K]	± 0,2	
Temperature coefficient analog output [% of the span / 10 K]	< ± 0,02; (In case of deviation from the reference condition 25 ± 5 °C)	
Temperature coefficient IO-Link [% of the span / 10 K]	< ± 0,01; (In case of deviation from the reference condition 25 ± 5 °C)	
Reaction times		
Dynamic response T05 / T09 [s]	1,5 / 4	
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	Digital Measuring Sensor, Common Profile, Blob Transfer	
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 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 number	K021
	File number UL	E217884
Mechanical data		
Weight [g]	275.6	
Dimensions [mm]	Ø 50 / L = 143.5	
Material	stainless steel (1.4404 / 316L); PEI; FKM; PFA	
Materials (wetted parts)	stainless steel (1.4404 / 316L); PEEK	
Process connection	Diameter Ø 6 mm	
Surface characteristics Ra/Rz of the wetted parts	Ra: < 0.8	
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; Contacts: gold-plated		

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Connection



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