

TCC291



Temperature transmitter

TCC350K1ED06-A-DKG/US



1 LED



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 adapter $\varnothing 6$ mm	
Installation length EL [mm]	350	

Application

Special feature	Gold-plated contacts	
Measuring element	1 x Pt 1000	
Reference element	1 x NTC	
Media	liquids and gases	
Pressure rating	160 bar	16 MPa

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	



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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]	(U _b - 15 V) x 50	
Short-circuit protection	yes	
Type of short-circuit protection	pulsed	
Overload protection	yes	
Measuring/setting range		
Probe length L [mm]	350	
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)	
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	



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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]	315.6
Housing	cylindrical
Dimensions [mm]	Ø 50 / L = 393.5
Materials	stainless steel (316L/1.4404); PEI; FKM; PFA
Materials (wetted parts)	stainless steel (316L/1.4404); PEEK
Process connection	clamp adapter Ø 6 mm
Surface characteristics Ra/Rz of the wetted parts	Ra: < 0.8
Probe diameter [mm]	6
Installation length EL [mm]	350

Remarks

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

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Electrical connection

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



Connection



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