Infrared temperature sensor TW2000

URL:https://www.sxplc.com/infrared-temperature-sensor-tw2000

Product data sheet

Product characteristics

Number of inputs and outputs	Number of digital outputs: 1; Number of analog outputs: 1	
Measuring range	0...999.5 °C	32...1831 °F
Communication interface	IO-Link	

Application

Application	asphalt; coated metal; liquids; glass; rubber; wood; ceramics; plastics; lacquers; food products; paper; fabric

Electrical data

Operating voltage [V]	18...32 DC; (to SELV/PELV)
Current consumption [mA]	< 50
Min. insulation resistance [MΩ]	100; (50 V DC)
Protection class	III
Reverse polarity protection	yes
Power-on delay time [s]	< 1

Inputs / outputs

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

Inputs

Test input	type 3 (IEC 61131-2)

Outputs

Total number of outputs	2
Output signal	switching signal; analog signal; IO-Link; (configurable)
Electrical design	PNP
Number of digital outputs	1
Output function	normally open / closed; (configurable)
Max. voltage drop switching output DC [V]	2.5
Permanent current rating of switching output DC [mA]	150
Number of analog outputs	1
Analog current output [mA]	4...20
Max. load [Ω]	500
Short-circuit protection	yes
Type of short-circuit protection	yes (non-latching)
Short-circuit proof	yes
Overload protection	yes

Monitoring range

Wave length range [µm]	8...14

Measuring/setting range

Measuring range	0...999.5 °C	32...1831 °F
Set point SP	1...999.5 °C	34...1831 °F
Reset point rP	0...998.5 °C	32...1829 °F
Analog start point	0...949.5 °C	32...1741.1 °F
Analog end point	50...999.5 °C	122...1831 °F
In steps of	0.5 °C	1 °F

Resolution	
Resolution of switching output [K]	0.5
Resolution of analog output [K]	0.2; (+ 0.03 % of the set measuring span)
Resolution of display [K]	0.5

Accuracy / deviations

Accuracy [K]	< ± 1 %; (of measured value, min. 2 K (degree of emission = 1, T = 23 °C))
Repeatability [K]	1

Reaction times

Response time [ms]	100

Software / programming

Adjustment of the switch point	Programming buttons
Parameter setting options	Analog range; normally open / closed; switch-on/switch-off delay; Damping; Peakhold; emissivity; simulation function

Interfaces

Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.1	
SDCI standard	IEC 61131-9	
SIO mode	yes	
Required master port class	A	
Process data analog	16	
Process data binary	1	
Min. process cycle time [ms]	3.6	
Supported DeviceIDs	**Type of operation** default	**DeviceID** 716

Operating conditions

Ambient temperature [°C]	0...65
Storage temperature [°C]	-20...80
Max. relative air humidity [%]	95; (non condensing)
Protection	IP 65

Tests / approvals

EMC	DIN EN 61000-6-2 DIN EN 61000-6-4	
Shock resistance	DIN EN 60068-2-27	30 g (11 ms)
Vibration resistance	DIN EN 60068-2-6	5 g (10...2000 Hz)
MTTF [years]	88.4	

Mechanical data

Weight [g]	411.5
Housing	Threaded type
Dimensions [mm]	M30 x 1.5
Thread designation	M30 x 1.5
Material	threaded sleeve: stainless steel (1.4305 / 303); polyester
Lens material	Infrared transparent crystal lens with anti-reflex coating

Displays / operating elements

Display	Display unit Switching status Function display Measured values	2 x LED, yellow 1 x LED, yellow 7-segment LED display, 4-digit 7-segment LED display, 4-digit
Operating elements	3	Pushbuttons

Accessories

Items supplied	lock nuts: 2

Remarks

Remarks	Use a screened cable to protect infrared temperature sensors from interference. The screen must be connected to the housing of the sensor via the connector.
Pack quantity	1 pcs