



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 BELVPELV)	
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/settling range		
Measuring range	0...999.5 °C	32...1831 °F
Set point SP	1...999.5 °C	34...1831 °F
Reset point rP	0...999.5 °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	18	
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.	
Order number	1 442	

