

Temperature Sensor for Contactless Measurement

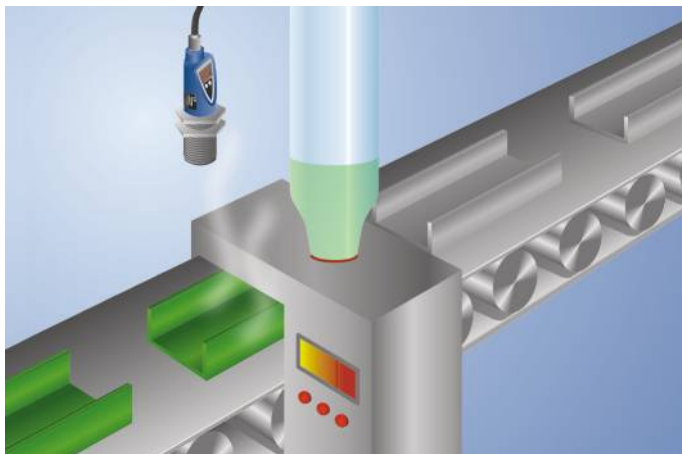
TIF352U0089

Part Number



- Analog output
- Degree of emission adjustable or teachable from 0,1...1
- Integrated laser alignment aid
- Target performance-value comparison through 2 adjustable switching outputs

This temperature sensor has a spectral sensitivity of 8...14 μm . It receives the emitted radiation within this range and processes this to output signals. Temperatures from -25 to $350\text{ }^{\circ}\text{C}$ can be measured. Via the 4-digit 7-segment display the sensor can be adjusted easily and the measured temperature can be displayed.



Technical Data

Sensor-specific data

Temperature Measurement Range	-25...350 $^{\circ}\text{C}$
Measuring Range	375 $^{\circ}\text{C}$
Resolution	0,1 $^{\circ}\text{C}$
Spectral Sensitivity	8...14 μm
Linearity Deviation ($-25\text{ }^{\circ}\text{C} < T_{\text{obj}} \leq 350\text{ }^{\circ}\text{C}$)	3,4 K
Linearity Deviation ($-20\text{ }^{\circ}\text{C} < T_{\text{obj}} \leq 200\text{ }^{\circ}\text{C}$)	0,7 K
Reproducibility	2,5 K
Switching Hysteresis	1 K
Opening Angle	10 $^{\circ}$
Degree of Emission	0,1...1
Service Life ($T = +25\text{ }^{\circ}\text{C}$)	100000 h
Laser Class (EN 60825-1)	1

Electrical Data

Supply Voltage	18...30 V DC
Current Consumption ($U_b = 24\text{ V}$)	< 60 mA
Switching Frequency	15 Hz
Response Time	0,065...30 s
Temperature Drift ($-20\text{ }^{\circ}\text{C} < T_u \leq 0\text{ }^{\circ}\text{C}$)	< 0,63 $^{\circ}\text{C/K}$
Temperature Drift ($0\text{ }^{\circ}\text{C} < T_u \leq 60\text{ }^{\circ}\text{C}$)	< 0,14 $^{\circ}\text{C/K}$
Temperature Range	-20...60 $^{\circ}\text{C}$
Number of Switching Outputs	2
Switching Output/Switching Current	200 mA
Analog Output	0...10 V
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Overload Protection	yes
Interface	RS-232
Protection Class	III

Mechanical Data

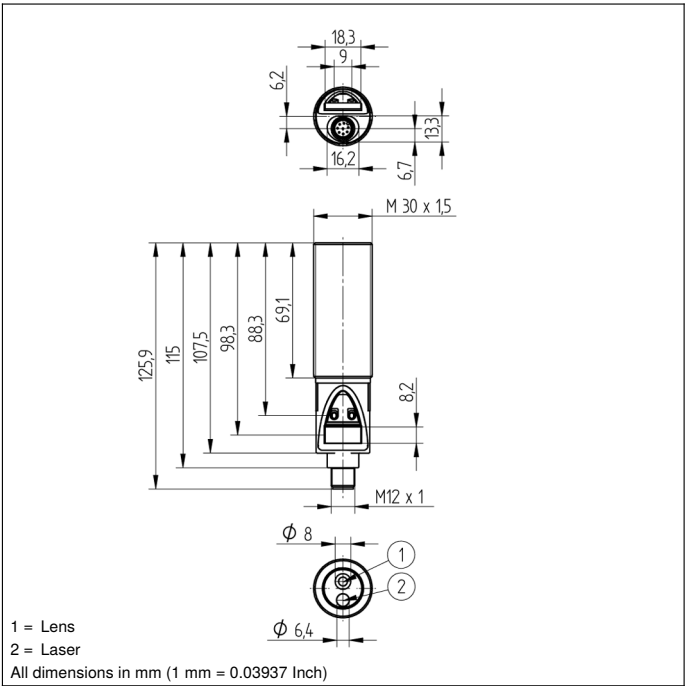
Setting Method	Menu
Housing Material	Plastic, ABS
Housing Material	Stainless steel, V2A (1.4305 / 303)
Degree of Protection	IP67
Connection	M12 $\times$ 1; 8-pin

Safety-relevant Data

MTTFd (EN ISO 13849-1)	712,08 a
Analog Output	●
Switchable to NC/NO	●
Configurable as PNP/NPN	●
Connection Diagram No.	530
Control Panel No.	U2
Suitable Connection Equipment No.	89
Suitable Mounting Technology No.	130

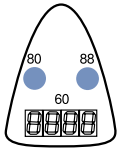
Complementary Products

Interface Cable S232W3
Software

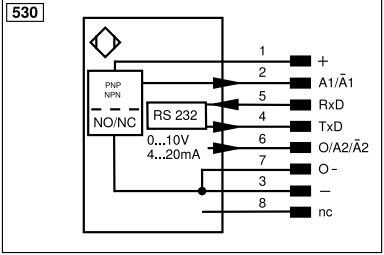


Ctrl. Panel

U2

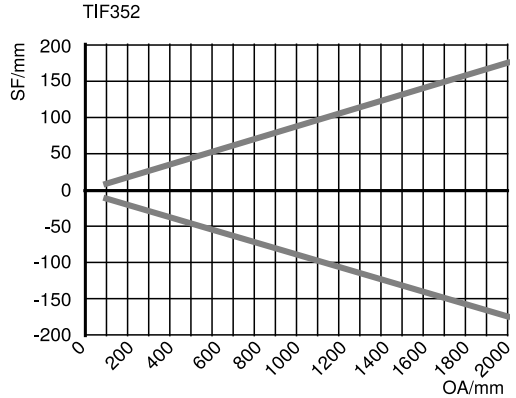


60 = display
80 = Mode Button/Switching Status Indicator
88 = Plus Button/Error Indicator/Switching Status Indicator



Legend			
+	Supply Voltage +	nc	Not connected
-	Supply Voltage 0 V	U	Test Input
~	Supply Voltage (AC Voltage)	Ū	Test Input inverted
A	Switching Output (NO)	W	Trigger Input
Ā	Switching Output (NC)	W-	Ground for the Trigger Input
V	Contamination/Error Output (NO)	O	Analog Output
Ŷ	Contamination/Error Output (NC)	O-	Ground for the Analog Output
E	Input (analog or digital)	BZ	Block Discharge
T	Teach Input	Amv	Valve Output
Z	Time Delay (activation)	a	Valve Control Output +
S	Shielding	b	Valve Control Output 0 V
RxD	Interface Receive Path	SY	Synchronization
TxD	Interface Send Path	SY-	Ground for the Synchronization
RDY	Ready	E+	Receiver-Line
GND	Ground	S+	Emitter-Line
CL	Clock	±	Grounding
E/A	Output/Input programmable	SnR	Switching Distance Reduction
IO-Link	IO-Link	Rx+/-	Ethernet Receive Path
PoE	Power over Ethernet	Tx+/-	Ethernet Send Path
IN	Safety Input	Bus	Interfaces-Bus A(+)/B(-)
OSSD	Safety Output	La	Emitted Light disengageable
Signal	Signal Output	Mag	Magnet activation
BI_D+/-	Ethernet Gigabit bidirect. data line (A-D)	RES	Input confirmation
ENo RS422	Encoder 0-pulse 0/0 (TTL)	EDM	Contact Monitoring
PT	Platinum measuring resistor	ENARs422	Encoder A/Ā (TTL)
		ENBrs422	Encoder B/B̄ (TTL)
		ENA	Encoder A
		ENb	Encoder B
		AMIN	Digital output MIN
		AMAX	Digital output MAX
		AOK	Digital output OK
		SY In	Synchronization In
		SY OUT	Synchronization OUT
		OLt	Brightness output
		M	Maintenance
		rsv	Reserved
		Wire Colors according to DIN IEC 60757	
		BK	Black
		BN	Brown
		RD	Red
		OG	Orange
		YE	Yellow
		GN	Green
		BU	Blue
		VT	Violet
		GY	Grey
		WH	White
		PK	Pink
		GNYE	Green/Yellow

Visual Field



OA = Distance to Object
SF = Visual field width

