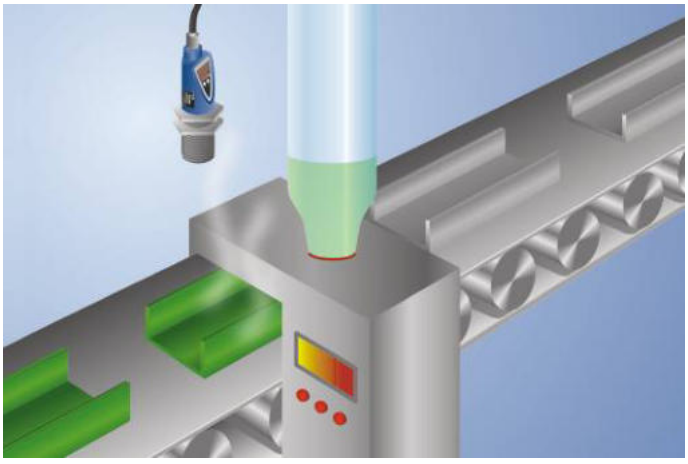
Temperature Sensor
for Contactless Measurement

TIF352U0089 LASER

Part Number

- **Analog output**
- **Degree of emission adjustable or teachable from 0,1...1**
- **Integrated laser alingment 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 °C can be measured. Via the 4-digit 7-segment display the sensor can be adjusted easily and the measured temperature can be displayed.

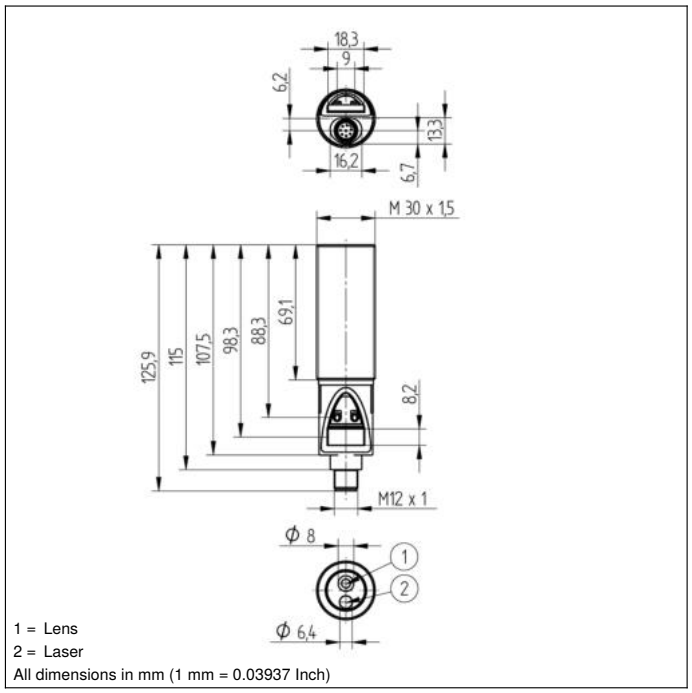


Technical Data

Sensor-specific data	
Working Range	-25...350 °C
Measuring Range	375 °C
Resolution	0,1 °C
Spectral Sensitivity	8...14 µm
Linearity Deviation (-25 °C < Tobj ≤ 350 °C)	3,4 K
Linearity Deviation (-20 °C < Tobj ≤ 200 °C)	0,7 K
Switching Hysteresis	1 K
Opening Angle	10 °
Degree of Emission	0,1...1
Service Life (T = +25 °C)	100000 h
Laser Class (EN 60825-1)	1
Electrical Data	
Supply Voltage	18...30 V DC
Current Consumption (Ub = 24 V)	< 60 mA
Switching Frequency	15 Hz
Response Time	0,065...30 s
Temperature Drift (-20 °C < Tu ≤ 0 °C)	< 0,63 °C/K
Temperature Drift (0 °C < Tu ≤ 60 °C)	< 0,14 °C/K
Temperature Range	-20...60 °C
Number of Switching Outputs	2
Switching Output/Switching Current	200 mA
Analog Output	0...10 V/4...20 mA
Reproducibility	2,5 K
Short Circuit Protection	yes
Reverse Polarity and Overload Protection	yes
Interface	RS-232
Protection Class	III
Mechanical Data	
Setting Method	Menu
Housing Material	Stainless Steel; Plastic
Degree of Protection	IP67
Connection	M12 × 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

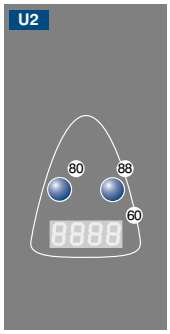
Complementary Products

Interface Cable S232W3
Software

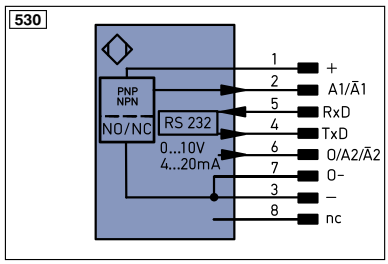


1 = Lens
2 = Laser
All dimensions in mm (1 mm = 0.03937 Inch)

Ctrl. Panel



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



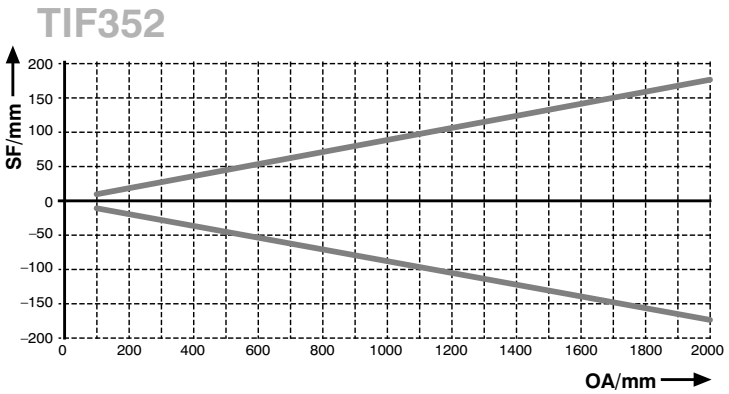
Legend

+	Supply Voltage +
–	Supply Voltage 0 V
~	Supply Voltage (AC Voltage)
A	Switching Output (NO)
Ā	Switching Output (NC)
V	Contamination/Error Output (NO)
V̄	Contamination/Error Output (NC)
E	Input (analog or digital)
T	Teach Input
Z	Time Delay (activation)
S	Shielding
RxD	Interface Receive Path
TxD	Interface Send Path
RDY	Ready
GND	Ground
CL	Clock
E/A	Output/Input programmable
	IO-Link
PoE	Power over Ethernet
IN	Safety Input
OSSD	Safety Output
Signal	Signal Output
Bl_D+/-	Ethernet Gigabit bidirect. data line (A-D)
EN0 RS422	Encoder 0-pulse 0-0̄ (TTL)
PT	Platinum measuring resistor
nc	not connected
U	Test Input
Ū	Test Input inverted
W	Trigger Input
W–	Ground for the Trigger Input
O	Analog Output
O–	Ground for the Analog Output
BZ	Block Discharge
AMV	Valve Output
a	Valve Control Output +
b	Valve Control Output 0 V
SY	Synchronization
SY–	Ground for the Synchronization
E+	Receiver-Line
S+	Emitter-Line
⏚	Grounding
SnR	Switching Distance Reduction
Rx+/–	Ethernet Receive Path
Tx+/–	Ethernet Send Path
Bus	Interfaces-Bus A(+)/B(–)
La	Emitted Light disengageable
Mag	Magnet activation
RES	Input confirmation
EDM	Contactor Monitoring
ENA RS422	Encoder A/Ā (TTL)
ENB RS422	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 757

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