

TL Series

High Performance Non-Contact Infrared Temperature Sensor



- Temperature ranges to 2500°C
- Adjustable emissivity from 0.05 to 1.00
- Accuracy to $\pm 0.5\%$
- 4 to 20 mA output
- Fast 20 ms to 100 ms response time
- Configurable via optional software, USB interface and cable
- Large choice of optics
- Different spectral ranges available to suit a wide range of applications

GENERAL SPECIFICATIONS - Medium to high temperature sensors

Model	TL-SI-18	TL-SI-25	TL-GAI-13	TL-GAI-18
Temperature Range	650°C to 1800°C	800°C to 2500°C	300°C to 1300°C	350°C to 1800°C
Spectral Range	0.8 to 1.1 μm	0.8 to 1.1 μm	1.45 to 1.8 μm	1.45 to 1.8 μm
Field-of-view	100 : 1	150 : 1	100 : 1	100 : 1
Accuracy	0.5 %	0.5 %	0.5 %	0.5 %
Repeatability	0.1 %	0.1 %	0.1 %	0.1 %
Response Time t90	20 ms	20 ms	20 ms	20 ms
Emissivity	0.05 to 1.00	0.05 to 1.00	0.05 to 1.00	0.05 to 1.00
Integrated LED Pilot Light	Yes	Yes	Yes	Yes
Integrated Peak Picker (10ms)	Yes	Yes	Yes	Yes
USB Interface	Yes	Yes	Yes	Yes
Optics (see table)	A, B or C	D, E or F	A, B or C	A, B or C
Power Supply	24V DC $\pm 25\%$	24V DC $\pm 25\%$	24V DC $\pm 25\%$	24V DC $\pm 25\%$
Environmental Rating	IP65	IP65	IP65	IP65
Ambient Temperature Range	0 °C to 70°C	0 °C to 70°C	0 °C to 70°C	0 °C to 70°C

Response time, emissivity, peak picker mode and measuring subranges adjustable via USB interface module

DIAMETER OF TARGET SPOT MEASURED VERSUS DISTANCE FROM SENSOR

For TL-SI-18, TL-GAI-13 and TL-GAI-18 models								
OPTICS	DISTANCE (mm)							
	0	100	300	600	1000	1500	2000	4000
A	13	11.8	9.5	(6)	15	26	36	76
B	16	15	13	10	(9)	15	22	50
C	17	16.3	15	13	11	(11)	17	41

For TL-SI-25 model								
OPTICS	DISTANCE (mm)							
	0	100	300	600	1000	1500	2000	4000
D	13	11.5	8.5	(4)	12	23	34	78
E	16	14.5	11.5	7	(5)	12	19	47
F	17	15.8	13.5	10	7	(7)	14	42

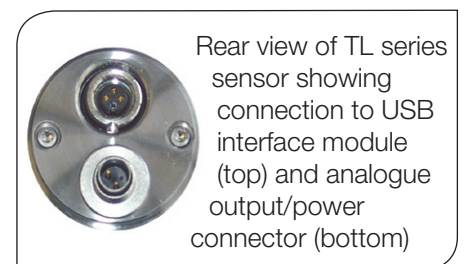
(n) indicates minimum spot size within field of view

The TL Series of high-performance infrared temperature sensors offers a wide choice of temperature ranges and optics to suit the most demanding applications.

The 4 to 20 mA output is compatible with almost any indicator, controller, recorder, alarm unit or other process instrument.

TL Series sensors are available with many different spectral ranges, enabling them to be used in almost any application, no matter how demanding, and no matter what type of material is involved.

All models are configurable via optional software, cable and USB interface module.



Rear view of TL series sensor showing connection to USB interface module (top) and analogue output/power connector (bottom)

GENERAL SPECIFICATIONS - Low to medium temperature sensors

Model	TL-TI4-10	TL-TI5-12	TL-TI14-09
Temperature Range	200°C to 1000°C	100°C to 1200°C	-32°C to 900°C
Spectral Range	3.9 µm	5.14 µm	8 to 14 µm
Field-of-view	33 : 1	50 : 1	50 : 1
Accuracy	1 %	1 %	1 %
Repeatability	0.5 %	0.5 %	0.5 %
Response Time t90	100 ms	100 ms	100 ms
Emissivity	0.20 to 1.00	0.20 to 1.00	0.20 to 1.00
Integrated LED Pilot Light	No	No	No
Integrated Peak Picker (10ms)	No	No	No
USB Interface	Yes	Yes	Yes
Optics (see table)	G, H or I	G, H or I	J, K or L
Power Supply	24V DC ± 25%	24V DC ± 25%	24V DC ± 25%
Environmental Rating	IP65	IP65	IP65
Ambient Temperature Range	0 °C to 70°C	0 °C to 70°C	0 °C to 70°C

Response time, emissivity, peak picker mode and measuring subranges adjustable via USB interface module

DIAMETER OF TARGET SPOT MEASURED VERSUS DISTANCE FROM SENSOR

For TL-TI4-10 and TL-TI5-12 models								
OPTICS	DISTANCE (mm)							
	0	100	300	600	1000	1500	2000	4000
G	15	(2.5)	35	86	154	239	324	664
H	15	12	(6)	22	45	74	103	219
I	15	15.8	17.3	19.5	22.5	30	40	80

(n) indicates minimum spot size within field of view

For TL-TI14-09 model								
OPTICS	DISTANCE (mm)							
	0	100	300	600	1000	1500	2000	4000
J	15	(2)	35	86	154	239	324	664
K	15	12	(6)	22	45	74	103	219
L	15	15.1	15.4	15.8	22	36	52	116

(n) indicates minimum spot size within field of view

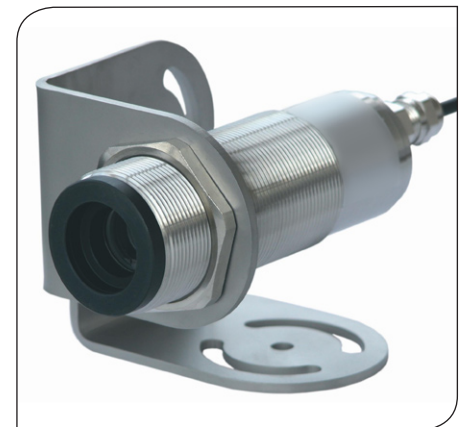
ACCESSORIES

- Air/water cooled jacket
- Stainless steel air purge unit
- Configuration software with interface cable and module
- Handheld configuration tool with interface cable
- Vacuum adapter
- Adjustable mounting bracket
- Fixed mounting bracket
- Laser pilot light unit

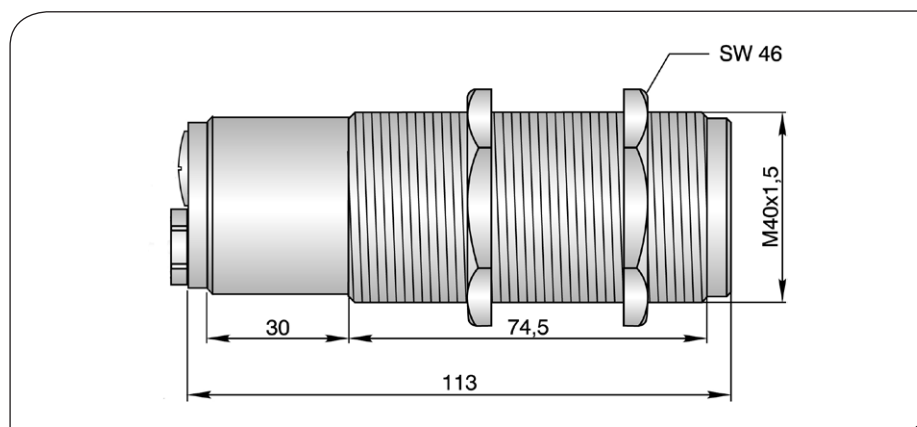
TL SERIES SENSOR WITH FIXED BRACKET



TL SERIES SENSOR WITH ADJUSTABLE BRACKET



TL SERIES SENSOR DIMENSIONS



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