

Convir 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 response time
- ◆ Configurable via optional software USB interface cable
- ◆ Manual emissivity adjustment available
- ◆ Large choice of optics
- ◆ Different spectral ranges available to suit all applications

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

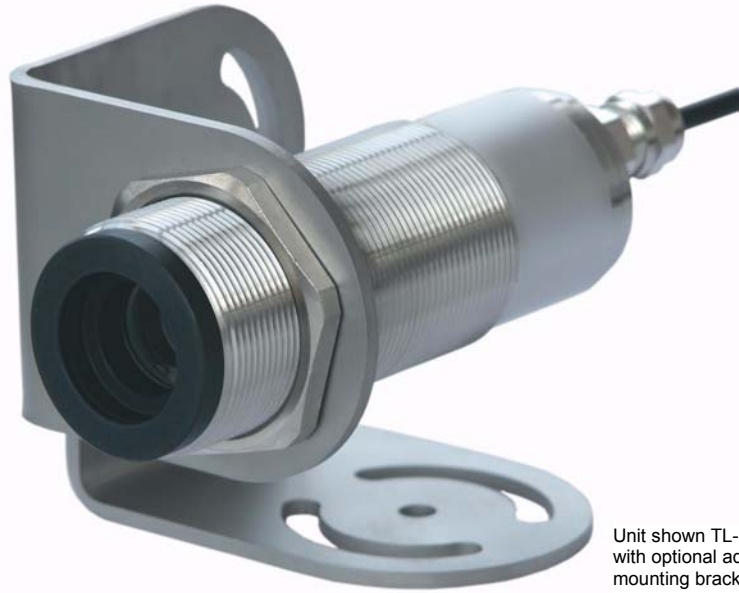
The 4 to 20 mA output is compatible with almost any indicator, controller, recorder, alarm unit or other process instrument.

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

Standard models are supplied with a USB interface for configuration via a PC. TL-TE models offer manual emissivity adjustment.

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Unit shown TL-GAI-18 with optional adjustable mounting bracket

GENERAL SPECIFICATIONS

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 t_{90}	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
Manual Emissivity Adjustment	No	No	No	No
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
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	50 : 1	50 : 1	50 : 1	
Accuracy	1 %	1 %	1 %	
Repeatability	0.5 %	0.5 %	0.5 %	
Response Time t_{90}	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	
Manual Emissivity Adjustment	No	No	No	
Optics (see table)	G, H or I	G, H or I	J, K or L	
Power Supply	24V DC $\pm 25\%$	24V DC $\pm 25\%$	24V DC $\pm 25\%$	
Environmental Rating	IP65	IP65	IP65	
Ambient Temperature Range	0 °C to 70°C	0 °C to 70°C	0 °C to 70°C	
Model	TL-TE4-10	TL-TE5-12	TL-TE14-09	
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	50 : 1	50 : 1	50 : 1	
Accuracy	1 %	1 %	1 %	
Repeatability	0.5 %	0.5 %	0.5 %	
Response Time t_{90}	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	No	No	No	
Manual Emissivity Adjustment	Yes	Yes	Yes	
Optics (see table)	G, H or I	G, H or I	J, K or L	
Power Supply	24V DC $\pm 25\%$	24V DC $\pm 25\%$	24V DC $\pm 25\%$	
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

TL-SI/GAI/TI USB INTERFACE



TL-TE MANUAL EMISSIVITY ADJUSTMENT



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

For TL-TE4-10, TL-TI4-10, TL-TE5-12 and TL-TI5-12 models								
OPTICS	DISTANCE (mm)							
	(n) indicates minimum spot size within field of view							
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

For TL-TE14-09 and TL-TI14-09 models								
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

ACCESSORIES

- ◆ Stainless steel housing
- ◆ Stainless steel air purge unit (standard design)
- ◆ Stainless steel air purge unit (heavy duty)
- ◆ Stainless steel protection glass cover
- ◆ Configuration software with interface cable
- ◆ Vacuum adapter
- ◆ Adjustable mounting bracket
- ◆ Fixed mounting bracket
- ◆ Laser pilot light unit