

# 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 and interface cable
- ◆ 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.



Technical Data	TL-S-18	TL-S-25	TL-GA-13	TL-GA-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 $\mu\text{m}$	0.8 to 1.1 $\mu\text{m}$	1.45 to 1.8 $\mu\text{m}$	1.45 to 1.8 $\mu\text{m}$
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 (10 ms)	yes	yes	yes	yes
Optics	I, II, III	IS, IIS, IIIS	I, II, III	I, II, III
Power Supply	24V DC	24V DC	24V DC	24V DC

Technical Data	TL-T4-10	TL-T5-12	TL-T5-25	TL-T14-09
Temperature Range	200 °C to 1000 °C	100 °C to 1200 °C	400 °C to 2500 °C	-32 °C to 900 °C
Spectral Range	3.9 $\mu\text{m}$	5.14 $\mu\text{m}$	5.14 $\mu\text{m}$	8 to 14 $\mu\text{m}$
Field-of-View	33 : 1	50 : 1	50 : 1	50 : 1
Accuracy	1 %	1 %	1 %	1 %
Repeatability	0.5 %	0.5 %	0.5 %	0.5 %
Response Time $t_{90}$	100 ms	100 ms	100 ms	100 ms
Emissivity	0.20 to 1.00	0.20 to 1.00	0.20 to 1.00	0.20 to 1.00
Integrated LED Pilot Light	-	-	-	-
Integrated Peak Picker (10 ms)	-	-	-	-
Optics	IV, V, VI	IV, V, VI	IV, V, VI	VII, VIII, IX
Power Supply	24V DC	24V DC	24V DC	24V DC

Response time, emissivity, peak picker mode and measuring subranges are adjustable via interface with a PC.

#### Spot size diameter M (mm) at distance a (mm)

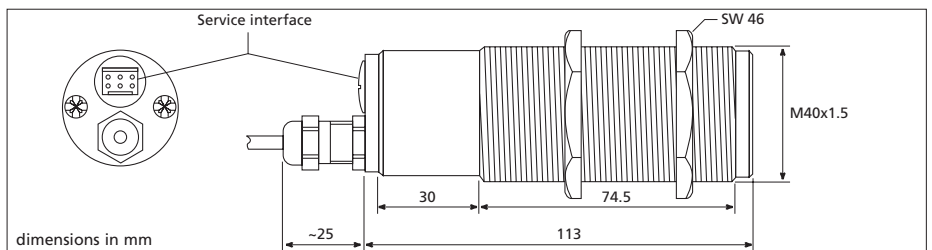
OPTICS TYPE	a = 0 (Aperture)	600	1000	1500	2000
OPTICS I	13	6	15	26	36
OPTICS II	16	10	9	15	22
OPTICS III	17	13	11	11	17
OPTICS IS	13	4	12	23	34
OPTICS IIS	16	7	5	12	19
OPTICS IIIS	17	10	7	7	14

#### Spot size diameter M (mm) at distance a (mm)

OPTICS	a = 0 (Aperture)	100	200	300	OPTICS	a = 0 (Aperture)	100	200	300
IV	15	2,5	18	35	VII	15	2	18	35
OPTICS	a = 0 (Aperture)	300	600	1000	OPTICS	a = 0 (Aperture)	300	600	1000
V	15	6	22	45	VIII	15	6	22	45
OPTICS	a = 0 (Aperture)	1200	2500	4000	OPTICS	a = 0 (Aperture)	800	1500	2500
VI	15	24	50	80	IX	15	16	36	68

#### ACCESSORIES

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



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