

Convir FL Series Non-Contact Fibre-Optic Temperature Sensor

- ◆ Especially suited for temperature measurement:
 - With vacuum-equipment
 - In hazardous areas
 - In induction heating processes
 - Of metal surfaces, ceramics and many others
- ◆ Temperature range from 300°C to 2500°C
- ◆ Adjustable emissivity from 0.2 to 1.00
- ◆ Adjustable optics
- ◆ LED pilot-light
- ◆ Optical unit operates in ambient temperatures up to 250°C
- ◆ Response time of 20ms

The new Convir FL series of fibre-optic infrared temperature sensors are ideal for installations where traditional sensors cannot operate, for example near induction heaters, in vacuums or in areas with high ambient temperatures.

The FL series sensors offer temperature ranges from 300°C to 2500°C, with adjustable emissivity and an ultra fast response time of just 20ms.

Two optical heads are available; the LVO25 is designed for use over short distances with very small spot sizes, and the LVO35 head is intended for longer distance measurements. Both of these optical heads use a manually adjustable focal distance to help provide the best possible measurement spot size at any distance. A white LED light can be shone through the lens of either sensing head showing the area being measured to help with precise alignment and focusing.

The sensing heads of the FL series sensors can operate in ambient temperatures up to 250°C without the need for additional cooling.

The FL models can be configured using a USB interface at the rear of the instrument. This allows the emissivity, temperature range and response time of the instrument to be set to suit individual applications.

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MODEL	FL-SI-18	FL-SI-25	FL-GAI-13	FL-GAI-18
Temperature Range	650 to 1800°C	800 to 2500°C	300 to 1300°C	350 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
Optics	Varo Optics	Varo Optics	Varo Optics	Varo Optics
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
LED Pilot Light	Yes	Yes	Yes	Yes
Peak Picker	Yes	Yes	Yes	Yes
USB Interface	Yes	Yes	Yes	Yes
Power Supply	24V DC ± 25%	24V DC ± 25%	24V DC ± 25%	24V DC ± 25%

MECHANICAL	SENSING HEAD	ELECTRONICS MODULE
Construction	Stainless Steel	Stainless Steel
Dimensions	LVO25: Ø25 mm* LVO35: Ø35 mm*	Ø40 mm x 113 mm
Fibre Optic Cable Protection	Stainless steel 1.5 m (standard), up to 5 m optional	

*For length see Optical Head tables below

ENVIRONMENTAL	SENSING HEAD	ELECTRONICS MODULE
Environmental Rating	IP65	IP65
Ambient Temperature Range	0 to 250°C	0 to 70°C

OPTICAL HEAD LVO 25

Measuring Distance (mm)	80	120	160	200	240	300
Spot Size Diameter (mm)	1.6	2.0	2.4	2.8	3.4	4.3
Length of Sensing Head (mm)	63.2	58.1	55.4	54.0	53.1	52.1

OPTICAL HEAD LVO 35

Measuring Distance (mm)	250	300	400	600	800	1000
Spot Size Diameter (mm)	2.5	4.5	5.5	7.0	9.0	11.0
Length of Sensing Head (mm)	76.3	74.5	71.3	69.1	67.4	66.6