

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 400°C to 1200°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 1ms



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 can measure temperatures from 400°C to 1200°C, with adjustable emissivity and an ultra fast response time of just 1ms. 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 emissivity setting of the FL models can be quickly and easily changed using a simple rotary switch on the rear of the instrument. This adds extra flexibility to the FL models, allowing them to measure most materials and eliminating the need to remove them from service to configure them for new target materials.

GENERAL SPECIFICATIONS

Temperature Range	400°C to 1200°C
Spectral Range	1.58 to 1.8 µm
Accuracy	±0.75% of measurement range
Repeatability	0.5% of measurement range
Response Time t99	1 ms
Emissivity Adjustable	0.20 to 1.0
Output	4 to 20 mA
Power Supply	24 V DC ±25% (maximum ripple 50 mV)

MECHANICAL

Construction
Dimensions

SENSING HEAD

Stainless Steel
LVO25: Ø25 mm*
LVO35: Ø35 mm*

ELECTRONICS MODULE

Stainless Steel
Ø40 mm x 113 mm

*For length see Optical Head tables below

Fibre Optic Cable Protection

Stainless steel 1.5 m (standard), up to 15 m optional

ENVIRONMENTAL

Environmental Rating
Ambient Temperature Range

SENSING HEAD

IP65
0 to 250°C

ELECTRONICS MODULE

IP65

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



SOUTHERN TEMPERATURE SENSORS LTD.

Temperature Sensors, Accessories and Components

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