

# Digital Fibre Optic IR Pyrometer in two color with mono fiber optic cable

## € 800°C to 3200°C

### A450C FO-PL

**A450C FO-PL** is a highly accurate digital two colour radiation Fibre Optic IR Pyrometer from FO-PL series. This device measures the temperature of an object by calculating the ratio of the energies at two different wavelength bands. The ratio technique eliminates and reduces errors in temperature measurement caused by changes in Emissivity, Surface finish and energy absorbing materials such as water vapour etc.

The Fibre Optic Pyrometers are widely used in high ambient temperature applications without cooling upto 250°C and also in processes involving electromagnetic interferences.



### Technical specifications

Model	A450C FO-PL
Temperature Range (Analog sub-range adjustable)	800°C....2500°C 1000°C....3200°C
Spectral Range	0.7 µm...1.15 µm
Photodetector Type	Si/Si
Distance to Spot Size Ratio	100:1 OH(I) 800°C....2500°C 200:1 OH(II) 100:1 OH(I) 1000°C....3200°C 200:1 OH(II)
Emissivity (ε)	0.1....1.0 adjustable(Single Color mode)
Emissivity Slope (ε1 / ε2)	0.75...1.25 slope adjustable (Two color mode)
Response Time	20 msec adjustable upto 10 sec
Accuracy	± 0.5% of the measured value + 1°C
Repeatability	0.1% of reading in °C + 1°C
Sighting Option	Laser Pilot Light (PL)
Analog Output	0-20mA, 4-20mA, 0-10V (User selectable)
Digital Output	USB 2.0 RS-232/RS-485 (User selectable) *At a time only one digital output possible
Operating Temp. Range	Pyrometer 0°C.....70°C Optical head and Fibre Optic Cable upto 250°C
Storage Temp. Range	-20°C...70°C
Adjustable Parameters and Features via Software	Emissivity, Emissivity Slope, Response Time, Clear Time( Peak Picker), Analog Output, Analog Scale(Sub range), Sensor type (Switches b/w 2-color or single color), Switch off level, Unit Of Temperature(°C/°F), Communication mode(Comm.mode), Record feature etc
Power Supply	24V DC
Power Consumption	Max 2.5 watt
Laser Power	<1 m watt
Protection Class	IP65
Housing	Stainless Steel
Isolation	Power supply, *Digital output and Analog output are galvanically isolated against each other * Not applicable for USB 2.0 digital output
Operating Humidity	10-95%, Non-Condensing Conditions
Weight & Dimensions	600g Dia= Ø 49.5 mm; Length=118mm

### Features

- Pyrometer with Rugged mono fiber optics withstands ambient up to 250°C
- Two Color model
- Spectral range 0.7 µm...1.15 µm
- Wide temperature range from 800°C....3200°C
- Useful In applications involving electromagnetic fields.
- Analog output options 0...20mA or 4...20mA or 0-10 V
- High Optical Resolution
- Laser targeting light for high precision targeting
- USB 2.0 Digital output
- RS -232/RS-485 serial interface

### Standard Scope of Supply

- Pyrometer with Laser Pilot Light(PL) for targeting purpose
- 2.5 mtr Mono Fibre optic cable
- Optical head (I) or (II)
- Analog Output 4...20mA, 0 - 20mA, 0-10V
- USB 2.0 Digital output, USB cable
- RS-232/RS-485 serial interface
- 5 mtr long connection cable with connector
- Calibration Certificate, PC Software & Operation manual



### Optional

- Mechanical and Electrical Accessories
- Extra Lengths of Fiber Cable and Connection cable

### Applications

- Induction heating
- Welding
- Casting
- Forging
- Annealing
- Sintering
- Rolling mill
- Rotary kilns
- Pouring stream

## Spot Sizes

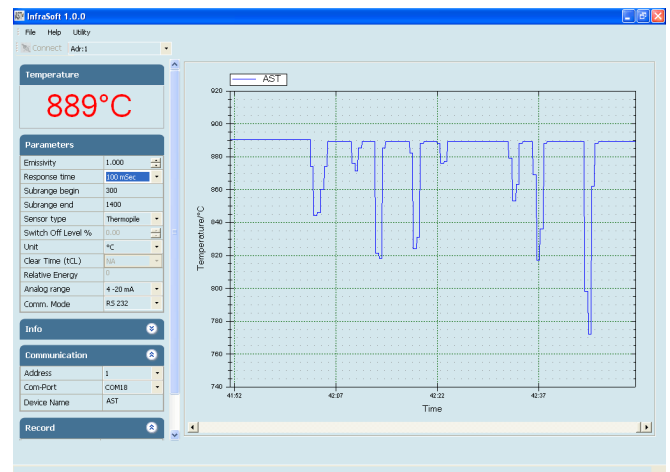
		800°C - 2500°C	1000°C - 3200°C
Optical Head	Working Distances (mm)	Spot Sizes(mm)	Spot Sizes(mm)
 Optical Head - I	120	1.2	1.2
	260	2.6	2.6
	700	7	7
 Optical Head - II	90	0.5	0.5
	200	1	1
	600	3	3
	4500	23	23

## Software “Infrasoft”

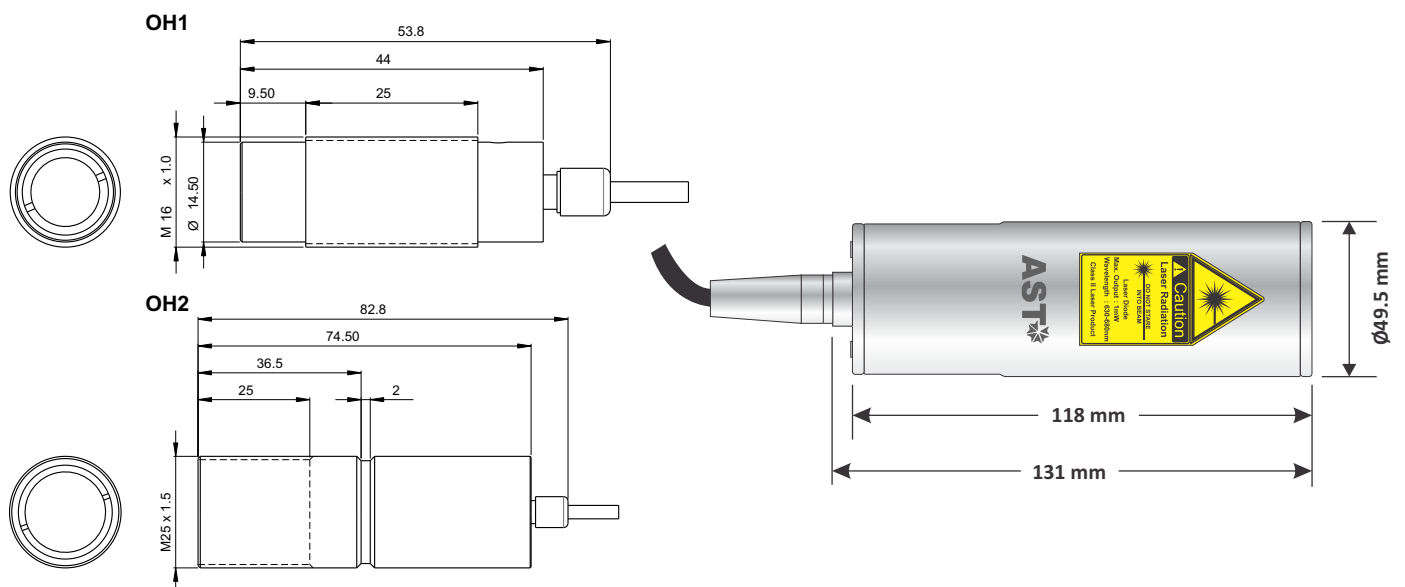
AST “Infrasoft “ software is under standard scope of supply. It offers possibilities of connecting three pyrometers simultaneously for parameter setting, view real time graph, offline graph and to evaluate measuring data. Communication between the pyrometer and the software is implemented via a cable connected between the pyrometer and the PC serial port. It comes with record feature, spot size calculator and parameter settings features.

Some of the parameters adjustable via software are









- Emissivity, Response Time
- Clear Time(Peak Picker)
- Analog Output
- Sub Range
- Unit Of Temperature(°C/°F)
- Communication mode(Comm.mode)



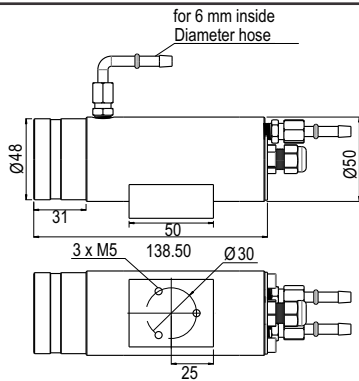
## Pyrometer Drawing



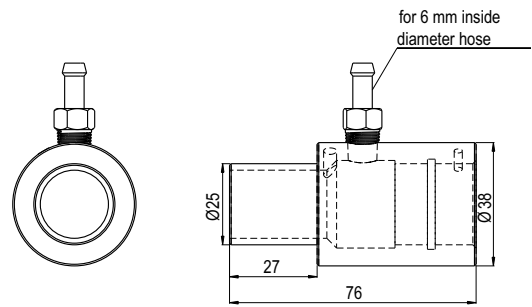
# Accessories

<p>Air purge unit for optical head II Reference No. 8200 - 01</p>	<p>Air purge unit for optical head-I Reference No. 8200 - 02</p>	<p>Adjustable Mounting for optical head II Reference No. 8200 - 03</p>	<p>Adjustable mounting for optical head-I Reference No. 8200 - 04</p>
			
<p>Display with Parameterizer (P-120) Reference No. 9001 - 01</p>	<p>Power supply Input 110/230V AC Reference No. 9000 - 02 Output 24 V DC, 0.75Amp</p>	<p>Temperature Indicator with retransmission output 4..20mA Reference No. 9000 - 01</p>	<p>Converter RS-485 ↔ RS-232 Reference No. 9000-03</p>
			

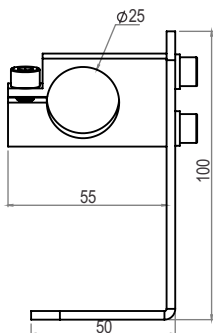
## Pyrometer Accessories Drawing



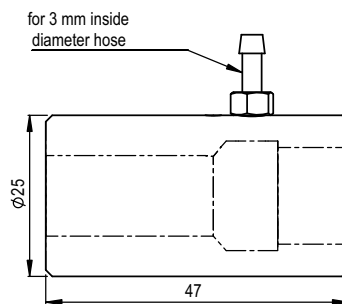
Water Cooling Jacket & Air Purge Unit for Optical Head II  
(Reference no: 8000-01)



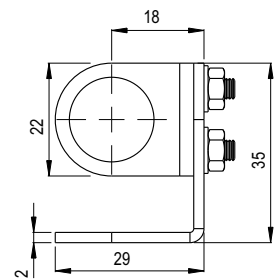
Air Purge Unit for Optical Head II  
(Reference no: 8200-01)



Adjustable Mounting for Optical Head II  
(Reference no: 8200-03)



Air Purge Unit for Optical Head I  
(Reference no: 8200-02)



Adjustable Mounting for Optical Head I  
(Reference no: 8200-04)



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