

**A250 FO-PL & A450 FO-PL** are highly accurate digital Fibre Optic industrial IR Pyrometers, for non contact temperature measurement in demanding applications. The Fibre Optic Pyrometers are widely used in high ambient temperature applications without cooling and also in processes involving electromagnetic interferences. With very fast response time of 2ms. The Pyrometer is provided with Bluetooth V2.0 for communication between pyrometer & android mobile, RS-232 & RS-485 for communication between Pyrometer & PC software. The parameters such Emissivity, Response time, Analog output, Sub range, Peak picker can be adjusted remotely via PC software.



## Technical Specifications

Model	A250 FO-PL	A450 FO-PL
Temperature Range (Analog sub-range adjustable)	250°C....1800°C 300°C....2500°C	600°C...2500°C
Spectral Range	1.6 µm	1.0 µm
Photodetector Type	InGaAs	Si
Distance to Spot Size Ratio	100:1 OH(I) 200:1 OH(II) 200:1 OH(II) - Variable	100:1 OH(I) 200:1 OH(II) 200:1 OH(II) -Variable
Emissivity (ε)	0.1....1.0 adjustable	
Response Time	2 msec adjustable upto 10 sec (for Analog)	
Accuracy	± 0.3% 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	Bluetooth V2.0 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, Response Time, Clear Time(Peak Picker), Analog Output, Analog Scale (Sub Range), Unit Of Temperature(°C/°F),Communication mode(Comm.mode), Record feature etc	
Power Supply	12V to 28V DC with reverse polarity protection	
Power Consumption	Max 2.5 W	
Laser Power	<1 mW	
Protection Class	IP65	
Housing	Stainless Steel	
Isolation	Power supply, *Digital output and Analog output are galvanically isolated against each other	
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
- Spectral range 1.0 µm....1.6 µm
- Wide temperature range from 250°C....2500°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
- Bluetooth V2.0 and RS-232/RS-485 Serial interface
- Fixed and variable optics available

## Standard Scope of Supply

- Pyrometer with Laser Pilot Light(PL) for targeting purpose
- 2.5 mtr Mono Fibre optic cable
- Optical head OH(I), OH(II) or OH(III) - V(variable)
- Analog Output 4...20mA, 0 - 20mA, 0-10V
- Bluetooth V2.0
- RS-232/RS-485 digital interface(user selectable)
- 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

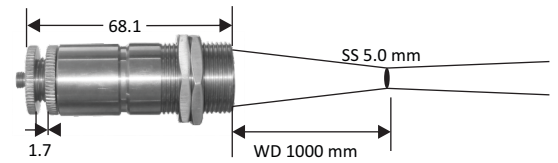
## Applications

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

## Spot Sizes

Fixed Optics		A250 FO/PL	A450 FO/PL
Optical Head	Working Distances (mm)	Spot Sizes(mm) 250°C - 1800°C/ 300°C - 2500°C	Spot Sizes(mm) 600°C - 2500°C
	120	1.2	1.2
	260	2.6	2.6
	700	7.0	7.0
Optical Head - I	Aperture(mm)	10.0(250 - 1800°C) 6.0(300 - 2500°C)	10.0
	90	0.5	0.5
	200	1.0	1.0
	600	3.0	3.0
	4500	23	23
	Optical Head - II	Aperture(mm)	18.0(250°C .... 1800°C) 11.0(300°C .... 2500°C)

Example of OH(II) - Variable



Pull Out (P) = 1.7 mm  
Optical Head Length (L) = 68.1 mm

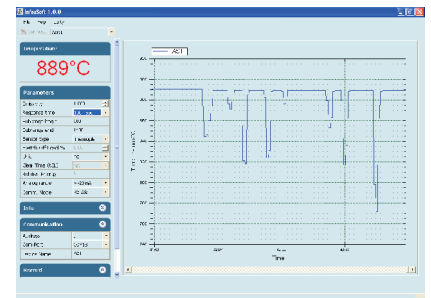
Variable Optics		Optical Head - II - V (Variable)									
Working Distance (mm)		0	250	300	400	600	800	1000	1500	2000	2500
Optical Head Length L (mm)		66.4	78.9	75.75	72.8	70.1	68.8	68.1	67.15	66.7	66.4
Optical Pullout P(mm)		0	12.5	9.35	6.4	3.7	2.4	1.7	0.75	0.3	0
Spot Size(mm)	250 - 1800°C	18	1.3	1.5	2.0	3.0	4.0	5.0	7.5	10.0	13.0
AST A250 FO PL	300 - 2500°C	11	1.3	1.5	2.0	3.0	4.0	5.0	7.5	10.0	13.0
Spot Size(mm)	600 - 2500°C	10	1.3	1.5	2	3	4	5	7.5	10	13
AST A450 FO PL											

## Software "Infrasoft"

### AST 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).



### AST Infrasmart

AST Infrasmart is an android application used to communicate a pyrometer with mobile devices. This application works via bluetooth after pairing with mobile.

APK file for this android application will be provided with device.

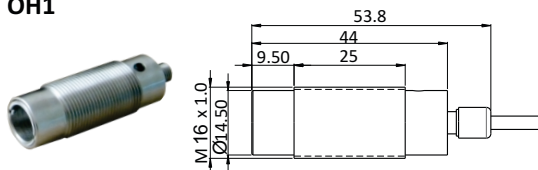
Number of parameters set through the application are :

- Emmissivity
- Response time
- Clear Time
- Unit of Temperature
- Analog Output
- Communication Mode
- Sensor Type
- Sub Range
- Data Logging

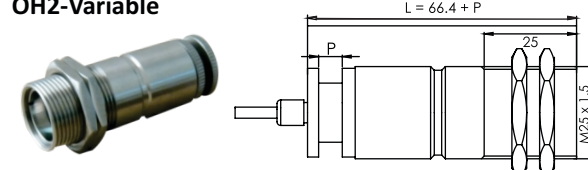


## Pyrometer Drawing

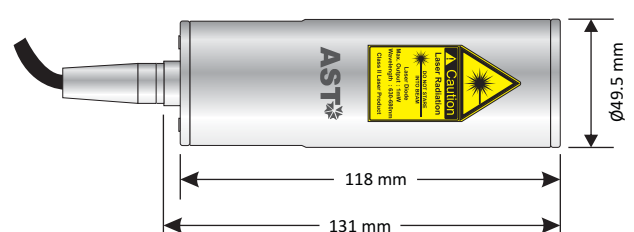
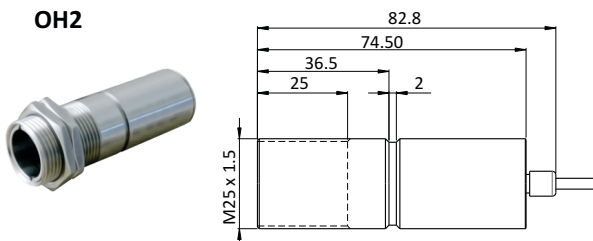
OH1



OH2-Variable



OH2



\* All Dimensions in mm

We measure accurate temperature in extreme conditions

# Accessories

Air purge unit  
for optical head II & II Variable  
Reference No. 8200 - 01



Air purge unit for optical head-I  
Reference No. 8200 - 02



Adjustable Mounting  
for optical head II  
Reference No. 8200 - 03



Adjustable mounting for optical head-I  
Reference No. 8200 - 04



Display with Parameterizer (P-120)  
Reference No. 9001 - 01



Power supply Input 110/230V AC  
Reference No. 9000 - 02  
Output 24 V DC, 0.7Amp



Temperature Indicator with  
retransmission output 4..20mA  
Reference No. 9000 - 01

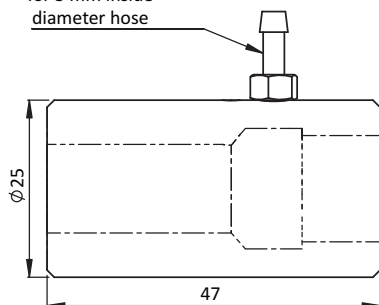


Converter RS-485 RS-232  
Reference No. 9000-03



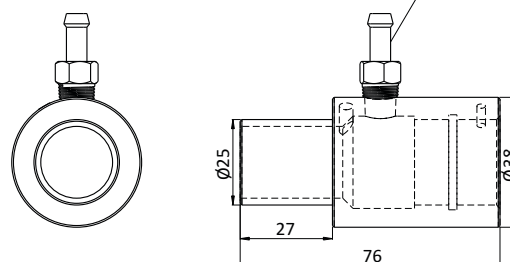
## Pyrometer Accessories Drawing

for 3 mm inside  
diameter hose

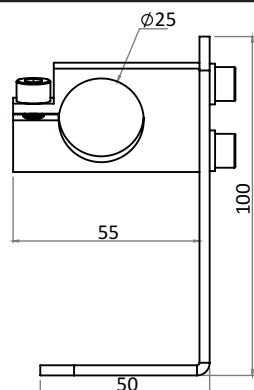


**Air Purge Unit for Optical Head I**  
(Reference no: 8200-02)

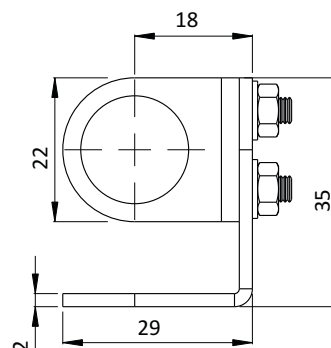
for 6 mm inside diameter hose



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



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



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

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