

Accurate Sensors Technologies

Digital IR Fibre Optic Pyrometer with mono fiber optic cable

CE 250°C to 2500°C

• A250 FO-PL • A450 FO-PL

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 short response time of <2ms the pyrometer is capable of measuring fastest heating processes. 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....1300°C 300°C....1800°C	600°C...1900°C 750°C....2500°C
Spectral Range	1.6 µm	1.0 µm
Photodetector Type	InGaAs	Si
Distance to Spot Size Ratio	40:1 OH(I) 80:1 OH(II) 250°C....1300°C 100:1 OH(II) - V 100:1 OH(I) 200:1 OH(II) 300°C....1800°C 200:1 OH(II) - V	100:1 OH(I) 200:1 OH(II) 600°C...1900°C 200:1 OH(II) - V 100:1 OH(I) 200:1 OH(II) 750°C....2500°C 200:1 OH(II) - V
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	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, 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	24V DC	
Power Consumption	Max 2.5 W, 100mA	
Laser Power	<1 mW	
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
- 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
- USB 2.0 Digital output
- 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(II) - V(variable)
- Analog Output 4...20mA, 0 - 20mA, 0-10V
- USB 2.0 Digital output, USB cable
- RS-232/RS-485
- 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

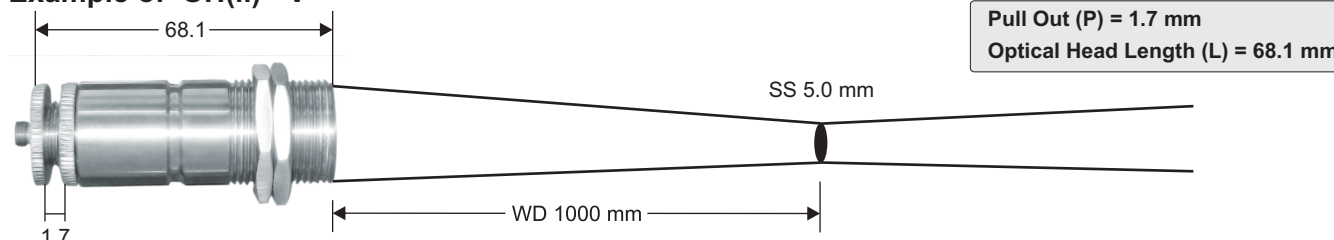
- Induction heating
- Welding
- Casting
- Forging
- Annealing
- Sintering
- Rolling mill
- Rotary kilns
- Pouring stream

Spot Sizes

Fixed Optics		A250 FO/PL	A250 FO/PL	A450 FO/PL
Optical Head	Working Distances (mm)	Spot Sizes(mm) 250°C - 1300°C	Spot Sizes(mm) 300°C - 1800°C	Spot Sizes(mm) 600°C - 1900°C 750°C - 2500°C
 Optical Head - I	120	3.0	1.2	1.2
	260	6.5	2.6	2.6
	700	17.5	7.0	7.0
 Optical Head - II	90	1.2	0.5	0.5
	200	2.5	1.0	1.0
	600	7.5	3.0	3.0
	4500	57	23	23

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 - 1300°C	18	2.5	3	4	6	8	10	15	20	25
AST A250 FO PL	300 - 1800°C	18	1.3	1.5	2	3	4	5	7.5	10	13
Spot Size(mm)	600 - 1900°C	18	1.3	1.5	2	3	4	5	7.5	10	13
AST A450 FO PL	750 - 2500°C	10	1.3	1.5	2	3	4	5	7.5	10	13

Example of OH(II) - V

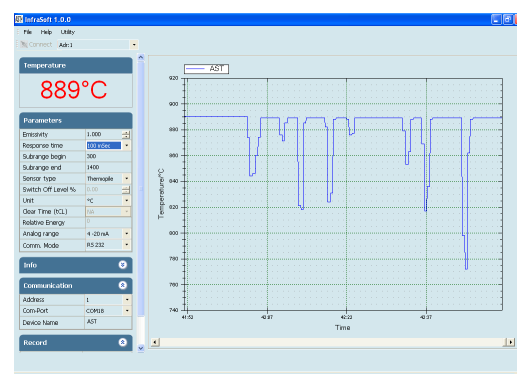


Software "Infrasoft"

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.

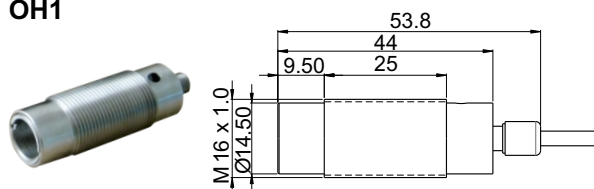
Some of the parameters adjustable via software are

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

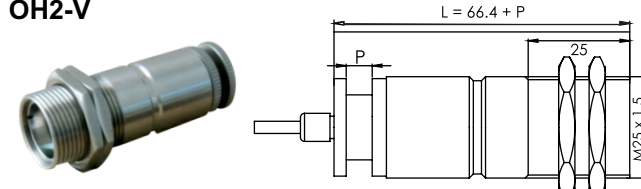


Pyrometer Drawing

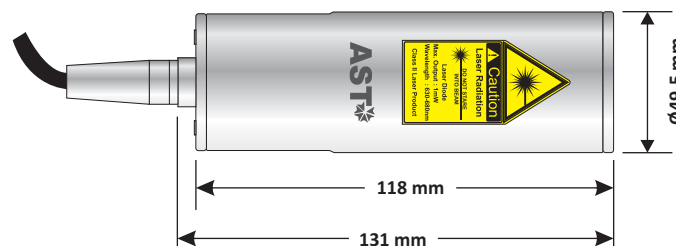
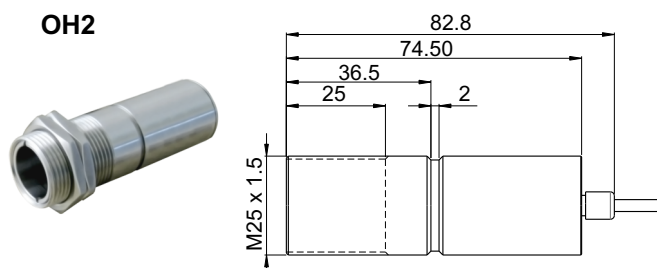
OH1



OH2-V



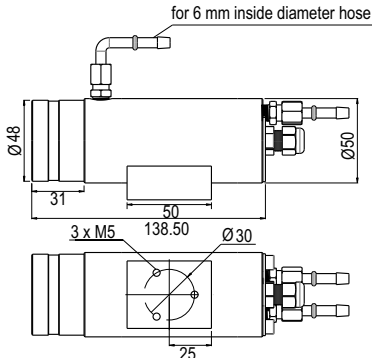
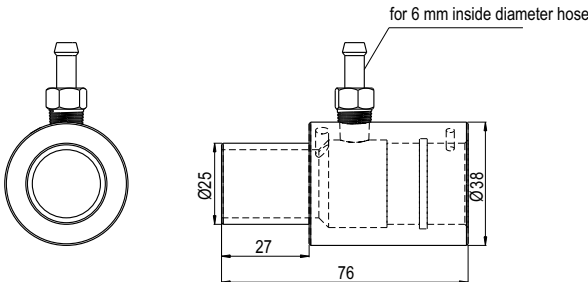
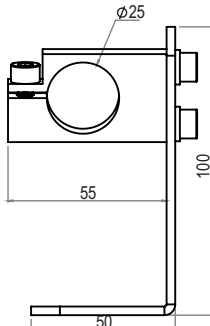
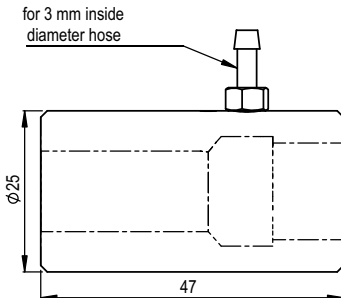
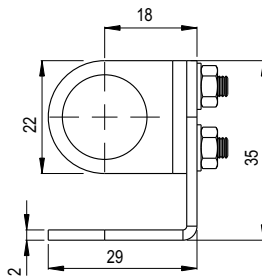
OH2



Accessories

Air purge unit for optical head II 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, 0.75Amp	Temperature Indicator with retransmission output 4..20mA Reference No. 9000 - 01	Converter RS-485 ↔ RS-232 Reference No. 9000-03
			

Pyrometer Accessories Drawing

 for 6 mm inside diameter hose Ø48 31 50 138.50 Ø50 3 x M5 Ø30 25 Water Cooling Jacket & Air Purge Unit for Optical Head II (Reference no: 8000-01)	 for 6 mm inside diameter hose Ø25 27 76 Ø38 Air Purge Unit for Optical Head II (Reference no: 8200-01)	
 Ø25 55 100 50 Adjustable Mounting for Optical Head II (Reference no: 8200-03)	 for 3 mm inside diameter hose Ø25 47 Air Purge Unit for Optical Head I (Reference no: 8200-02)	 18 22 2 29 35 Adjustable Mounting for Optical Head I (Reference no: 8200-04)

