



## • A250C+ FO PL

350°C to 1350°C

### Features

- Wide temperature ranges from 350°C to 1350°C
- Fast Response Time
- Spectral range 1.5/1.6 μm
- Integrated OLED Display & Parameterizing Keys
- Laser targeting light for high precision targeting
- Two color model (Switchable to single color mode)
- Analog output options 0...20mA, 4...20mA
- RS-485 Serial interface
- User friendly PC software for communication
- Green LED for pyrometer status indication
- Red LED for Laser ON/OFF indication (PL)

### Standard Scope of Supply

- 2.5 Mtr mono fibre optic cable
- Optical head OH (I), OH(II), OH(II)variable or OH(III) variable (Select while ordering)
- Laser pilot light(PL)
- Analog output 4...20mA, 0..20mA
- Digital Interface RS-485
- 5 mtr long connection cable with connector
- Calibration certificate, Software & Operation manual

### Optional

- Mechanical & Electrical Accessories
- Extra Length of Fiber Cable and Connection Cable

### Applications

- Preheating
- Annealing
- Tempering
- Welding
- Forging
- Hardening
- Melting
- Sintering
- Soldering
- Rolling
- Brazing
- Normalizing

## • A250C+ FO PL

Digital Fiber Optic IR Pyrometer in Two Color with Mono Fiber Optic Cable



A250C+ FO PL is a highly accurate digital two color pyrometer to provide high performance and low maintenance of non contact temperature measurement in demanding industrial and R&D environments. The Pyrometer 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.

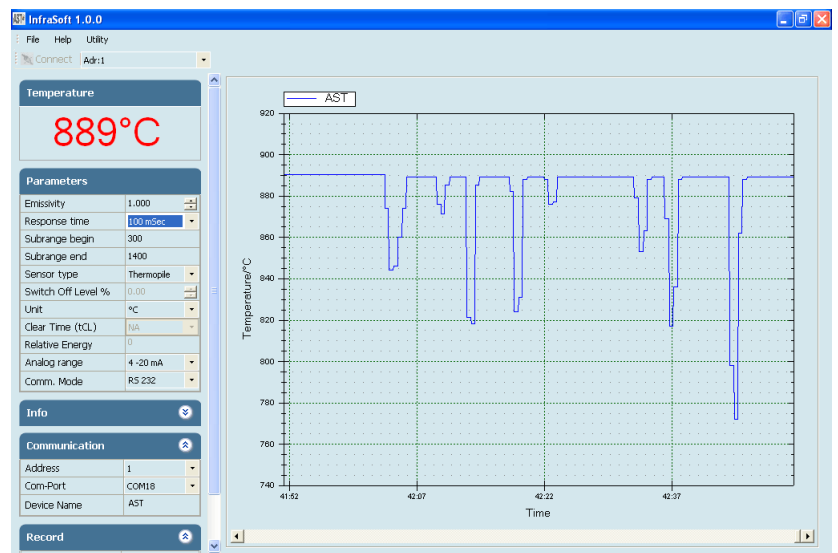
The IR pyrometer parameters can be selected via the keypad on the back panel. The settings are displayed on the OLED Display. In the measuring mode, real time temperature is displayed. The pyrometer is equipped with RS-485 output; analog outputs 0/4....20mA.

### 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)





## Technical Specifications

| Model  | A250C+ FO PL  |                |
|--|---|----------------|
| Temperature Range<br>(Analog sub-range adjustable) | 350°C - 1000°C<br>450°C - 1350°C  |                |
| Spectral Range                                     | 1.5/1.6 $\mu\text{m}$   |                |
| Photodetector Type                                 | InGaAS/InGaAS   |                |
| Distance to Spot Size Ratio                        | 100:1 OH(I)<br>100:1 OH(II)<br>100:1 OH(II) - Variable  | 350°C - 1000°C |
|  | 200:1 OH(I)<br>200:1 OH(II) -<br>200:1 OH(II) - Variable  | 450°C - 1350°C |
| Emissivity ( $\epsilon$ )                          | 0.1....1.0 adjustable (Single color mode)   |                |
| Emissivity Slop ( $\epsilon_1/\epsilon_2$ )        | 0.75....1.25 slop adjustable (Two color mode)   |                |
| Response Time                                      | 100 msec adjustable upto 10 sec   |                |
| Accuracy   | $\pm 0.5\%$ of the measured value + 1°C   |                |
| Repeatability                                      | 0.1% of reading in °C + 1°C   |                |
| Sighting Options                                   | Laser Pilot Light(PL)   |                |
| Analog Output                                      | 0-20mA, 4-20mA (User selectable)  |                |
| Digital Output                                     | RS-485  |                |
| Operating Temp. Range                              | 0°C.....70°C<br>Optical Head and Fiber 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, Relay set point & hysteresis, etc. |                |
| Adjustable Parameters and Features via Keypad      | Emissivity, Response Time, Clear Time (Peak Picker), Analog Output, Analog Scale (Sub range), Unit Of Temperature(°C/°F), Communication mode (Comm. mode), Relay set point & hysteresis, address, etc.        |                |
| Relay output                                       | One Relay output with hysteresis 60V DC / 42 AC RMS, 0.4 A  |                |
| Power Supply                                       | 12V to 28V DC with reverse voltage protection   |                |
| Power Consumption                                  | Max 4.0 watt  |                |
| Laser Power  | <1 m watt (only PL model)   |                |
| 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                                | 1200g, Dia= $\varnothing$ 56mm; Length=188.5mm  |                |

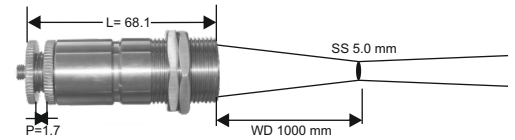
**We measure accurate temperature in extreme conditions**

## Spot Sizes

| Optical Head   | Working Distances (mm) | 350°C - 1000°C<br>450°C - 1350°C |
|--|------------------------|----------------------------------|
|  |                        | Spot Sizes(mm)                   |
| <br>Optical Head - I  | 120                    | 1.2                              |
|  | 260                    | 2.6                              |
|  | 700                    | 7                                |
| <br>Optical Head - II | 90                     | 0.5                              |
|  | 200                    | 1                                |
|  | 600                    | 3                                |
|  | 4500                   | 23                               |

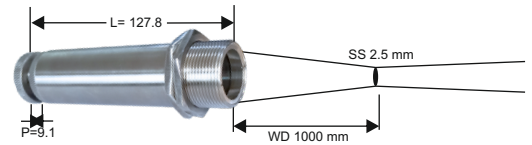
\*All Dimensions in mm

### Example of OH(II) - Variable



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

### Example of OH(III) - Variable



Pull Out (P) = 9.1 mm  
Optical Head Length (L) = 127.8 mm

| Variable Optics                 | Aperture | Optical Head - II - V (Variable) |       |      |      |      |      |       |      |      |      |      |
|---------------------------------|----------|----------------------------------|-------|------|------|------|------|-------|------|------|------|------|
| Working Distance (WD) (mm)      | 10       | 250                              | 300   | 400  | 600  | 800  | 1000 | 1500  | 2000 | 2500 | 4000 | 5000 |
| Optical Head Length L (mm)      |          | 78.9                             | 75.75 | 72.8 | 70.1 | 68.8 | 68.1 | 67.15 | 66.7 | 66.4 | 66.7 | 66.4 |
| Optical Pullout P (mm)          |          | 12.5                             | 9.35  | 6.4  | 3.7  | 2.4  | 1.7  | 0.75  | 0.3  | 0    | 0.3  | 0    |
| Spot Size (mm) AST A250C+ FO PL |          | 1.3                              | 1.5   | 2.0  | 3.0  | 4.0  | 5.0  | 7.5   | 10.0 | 13.0 | 28.0 | 38.0 |

| Variable Optics                 | Aperture | Optical Head - III - V (Variable) |       |       |      |       |       |       |      |       |  |
|---------------------------------|----------|-----------------------------------|-------|-------|------|-------|-------|-------|------|-------|--|
| Working Distance (WD) (mm)      | 12       | 340                               | 400   | 600   | 800  | 1000  | 1500  | 2000  | 3000 | 5000  |  |
| Optical Head Length L (mm)      |          | 158.7                             | 150.3 | 136.8 | 131  | 127.8 | 123.8 | 121.9 | 120  | 118.7 |  |
| Optical Pullout P (mm)          |          | 40.0                              | 31.60 | 18.1  | 12.3 | 9.1   | 5.10  | 3.20  | 1.30 | 0     |  |
| Spot Size (mm) AST A250C+ FO PL |          | 0.80                              | 1.0   | 1.5   | 2.0  | 2.5   | 3.75  | 5.0   | 7.50 | 12.5  |  |

\*All Dimensions in mm

## Accessories

Air purge unit  
for OH II, OH II Variable & OH III Variable  
Reference No. 8200 - 01



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



Adjustable Mounting  
for OH II, OH II Variable & OH III Variable  
Reference No. 8200 - 03



Adjustable Mounting for Optical Head-I  
Reference No. 8200 - 04



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



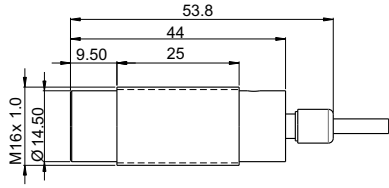
Temperature Indicator with  
retransmission output 4..20mA  
Reference No. 9000 - 01



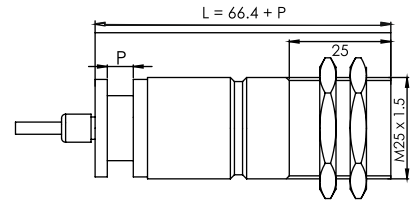
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# Pyrometer Drawing

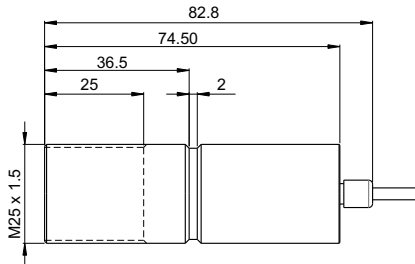
OH1



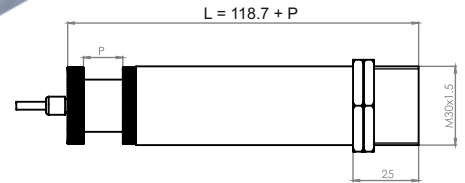
OH2-V



OH2



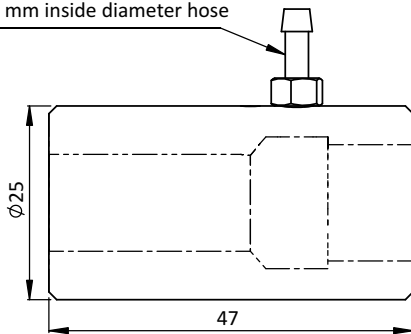
OH3-V



\*All Dimensions in mm

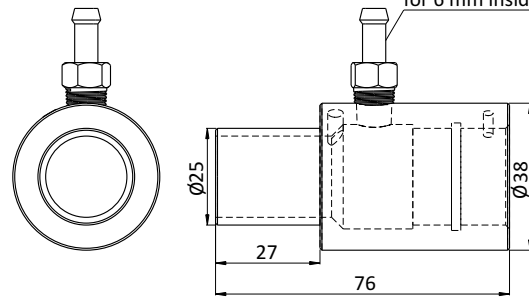
# Pyrometer Accessories Drawings

for 3 mm inside diameter hose

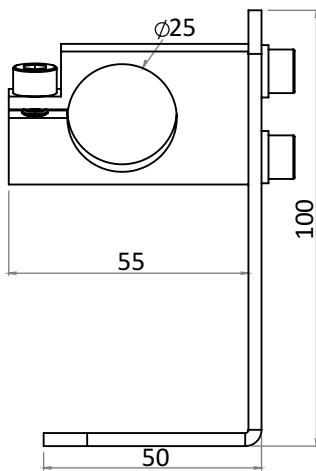


Air Purge Unit for Optical Head I  
(Reference no: 8200-02)

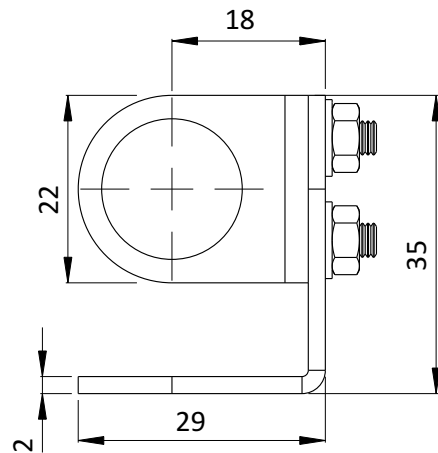
for 6 mm inside diameter hose



Air Purge Unit for OH II, OH II Variable & OH III Variable  
(Reference no: 8200-01)



Adjustable Mounting for OH II, OH II Variable & OH III Variable  
(Reference no: 8200-03)



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

**Accurate Sensors Technologies Pvt. Ltd.**  
Misgav Industrial Park, Misgav 20174 Israel  
Phone : +972-4-9990025, Fax : +972-4-9990031  
E-mail : info@accuratesensors.com

**Accurate Sensing Technologies Pvt. Ltd.**  
188A, B-169 (Part), B-188 (A), Road No. - 5, M. I. A.,  
Madri, Udaipur (Rajasthan) - 313003  
Phone : +91-9352506032  
Email : sales@astinfrared.com

