

• A450C+ FO PL

600°C to 3200°C

Features

- Wide temperature ranges from 600°C to 3200°C
- Fast Response Time
- Spectral range 0.7 μm1.15 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/RTU Modbus Serial interface(User Selectable)
- User friendly PC software for communication
- Green LED for pyrometer status indication
- Red LED for Laser ON/OFF indication (PL)

Standard Scope of Supply

- Pyrometer with OLED Display & Parameterizing Keys
- 2.5 Mtr mono fibre optic cable
- Optical head OH (I), OH(II), OH(II)variable or OH(III) variable
- Laser pilot light(PL)
- Analog output 4...20mA, 0..20mA
- Digital Interface RS-485/RTU Modbus Serial Interface(User Selectable)
- 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
- Melting
- Annealing
- Sintering
- Tempering
- Soldering
- Welding
- Rolling
- Forging
- Brazing
- Hardening
- Normalizing



• A450C+ FO PL

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



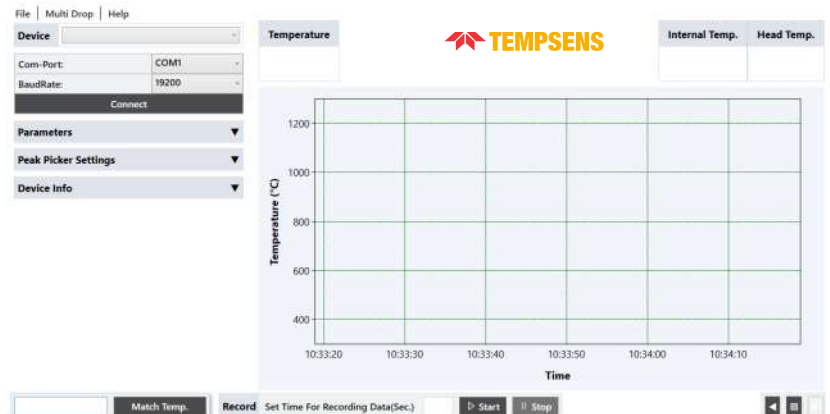
A450C+ FO PL is a highly accurate digital two color pyrometer to provide high performance and low maintenance of non contact temperature measurement in demanding industrial and R&D environments. The Pyrometer measures the temperature of an object by calculating the ratio of the energies at two different 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”

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



Technical Specifications

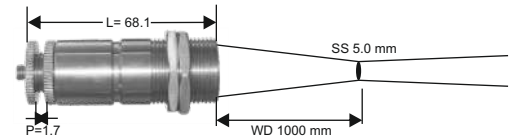
Model	A450C+ FO PL
Temperature Range (Analog sub-range adjustable)	600°C - 1600°C 800°C - 2500°C 1000°C - 3200°C
Spectral Range	0.7 1.15 µm
Photodetector Type	Si/Si
Distance to Spot Size Ratio	100:1 OH(I) 200:1 OH(II) 200:1 OH(II) - Variable 400:1 OH(III) - Variable
Emissivity (ε)	0.1....1.0 adjustable (Single color mode)
Emissivity Slop (ε1/ε2)	0.75....1.25 slop 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 Options	Laser Pilot Light(PL)
Analog Output	0-20mA, 4-20mA (User Selectable)
Digital Output	RS-485/RTU Modbus Serial Interface (User Selectable)
Operating Temp. Range	0°C.....70°C Optical Head and Fiber Optic Cable upto 250°C
Storage Temp. Range	-20°C...70°C
Adjustable Parameters and Features via Software and Android app	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= Ø 56mm; Length=188.5mm

Spot Sizes

Optical Head	Working Distances (mm)	600°C - 1600°C 800°C - 2500°C 1000°C - 3200°C
		Spot Sizes(mm)
 Optical Head - I	120	1.2
	260	2.6
	700	7
 Optical Head - II	90	0.5
	200	1
	600	3
	4500	23

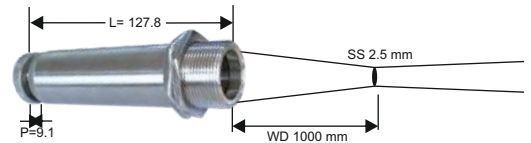
*All Dimensions in mm

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 A450C+ 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 A450C+ 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

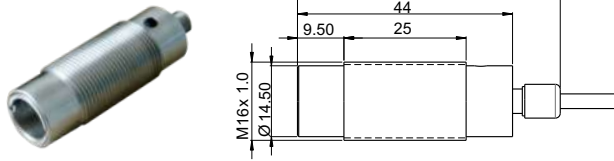


Temperature Indicator with
retransmission output 4..20mA
Reference No. 9000 - 01

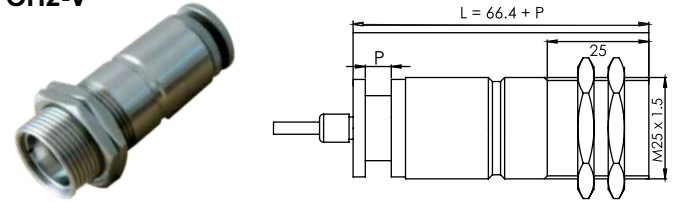


Pyrometer Drawing

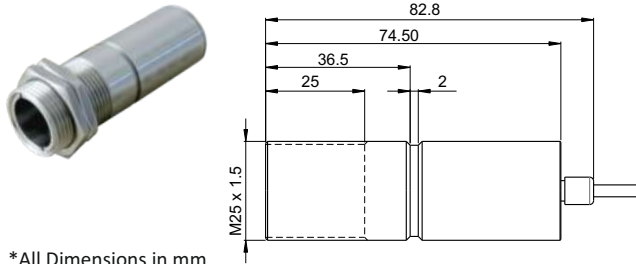
OH1



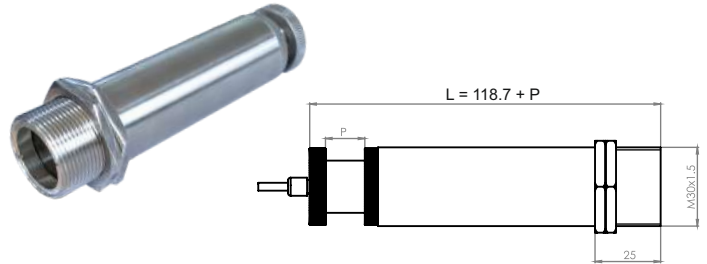
OH2-V



OH2



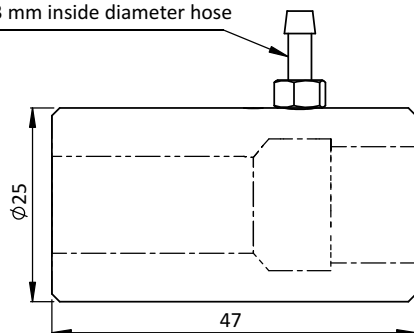
OH3-V



*All Dimensions in mm

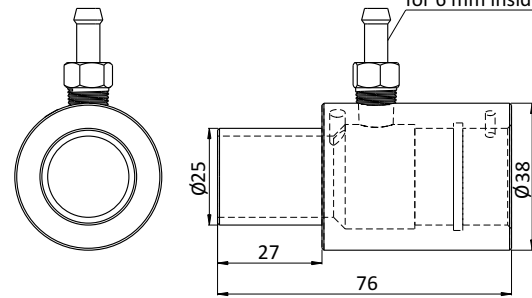
Pyrometer Accessories Drawings

for 3 mm inside diameter hose

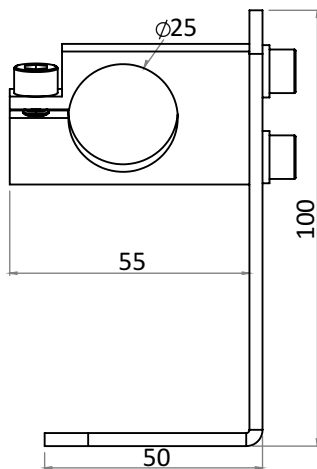


Air Purge Unit for Optical Head I
(Reference no: 8200-02)

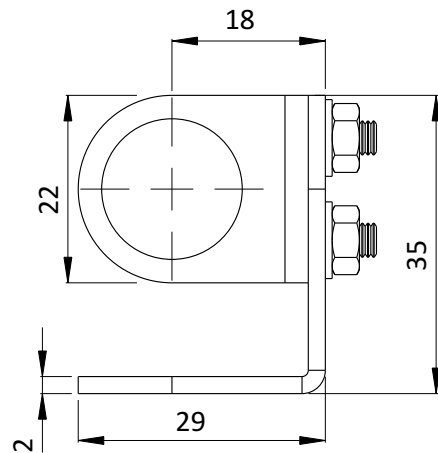
for 6 mm inside diameter hose



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)

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