

Accurate Sensors Technologies

Highly Accurate On-Line Infrared Non-Contact Pyrometer

• 250°C to 3000°C

• A250 PL/TL • A450 PL/TL

A250 PL/TL and **A450 PL/TL** are specially designed IR Pyrometers of A Series family for non contact temperature measurement in demanding industrial environments. The Pyrometers are highly accurate and compact by nature with stainless steel housing to provide high operational safety for harsh industrial environments. The Pyrometers are designed for high temperature applications between 250°C....3000°C.

The parameters like Emissivity, Analog Output, Sub Range, Response Time and Peak Picker etc can be preset ex-works or adjustable via Software Infracore. The Pyrometers are provided with Digital USB 2.0 output with cable and RS-232/RS-485 for communication between the Pyrometer and PC software. For USB 2.0 connector, no external power supply is required. (24V DC is required for operation of Analog Output, Laser, RS-232/RS-485 Serial interface)

Technical Specifications

Model	A250 PL/TL	A450 PL/TL
Temperature Range (Analog sub-range adjustable)	250°C....1000°C 300°C....1300°C 350°C....1800°C 500°C....3000°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	50:1 (250°C....1000°C) 100:1 (300°C....1300°C) 200:1 (350°C....1800°C) 200:1 (500°C....3000°C)	200:1 (600°C....1900°C) 200:1 (750°C....2500°C)
Emissivity (ε)	0.1....1.0 adjustable	
Response Time	2 msec adjustable upto 10 sec	
Accuracy	± 0.3% of the measured value + 1°C	
Repeatability	0.1% of reading in °C + 1°C	
Sighting Options	Laser Pilot Light (PL) / Through The Lens (TL)	
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	0°C.....70°C 0°C.....200°C (With water cooling jacket)	
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 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

- Wide temperature ranges from 250°C to 3000°C.
- Spectral Range 1.0 μm....1.6 μm
- Fast response time within milliseconds
- Analog output options available like 0...20mA, 4...20mA and 0...10V
- Laser or Through the Lens view finder sighting options
- USB 2.0 Digital output and RS-232/RS-485 Serial interface
- User friendly PC software for communication
- Small Spot Sizes
- Accessories for mounting and cooling options

Standard Scope of Supply

- Pyrometer with Laser pilot light(PL)/Through the lens(TL) sighting(user can select while ordering)
- Analog output 4...20mA, 0...20mA, 0...10V
- USB 2.0 Digital output, USB Cable
- Digital Interface RS-232 / RS-485(user selectable)
- 5 mtr long connection cable with connector
- 1.5 mtr. Communication Cable
- Calibration certificate, Software & Operation manual

Optional

- Mechanical & Electrical Accessories
- Extra Cable Lengths
- Single Analog Input 4...20mA for emissivity adjustment or background ambient compensation (to be specified while ordering)

Applications

- Induction Heating
- Casting
- Annealing
- Welding
- Forging
- Sintering
- Melting
- Rolling mills
- Hardening

Spot Sizes

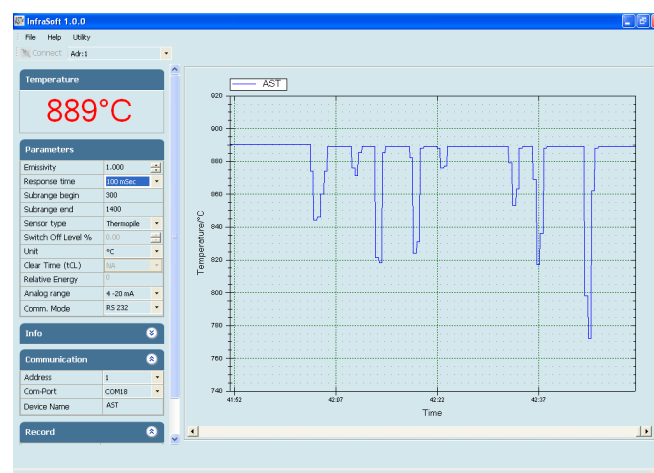
Manufactured working distances WD (mm)	Spot Sizes(mm)			
	AST A250 250°C - 1000°C (50:1)	AST A250 300°C - 1300°C (100:1)	AST A250 350°C - 1800°C 500°C - 3000°C (200:1)	AST A450 600°C - 1900°C 750°C - 2500°C (200:1)
350	7	3.5	1.75	1.75
500	10	5	2.5	2.5
700	14	7	3.5	3.5
800	16	8	4	4
1000	20	10	5	5
1500	30	15	7.5	7.5
2000	40	20	10	10
2500	50	25	12.5	12.5
3000	60	30	15	15
5000	100	50	25	25
Aperture(A)	11	11	11 (350 - 1800°C) 4 (500 - 3000°C)	12(600 - 1900°C) 5(750 - 2500°C)

Software "Infrasoft"

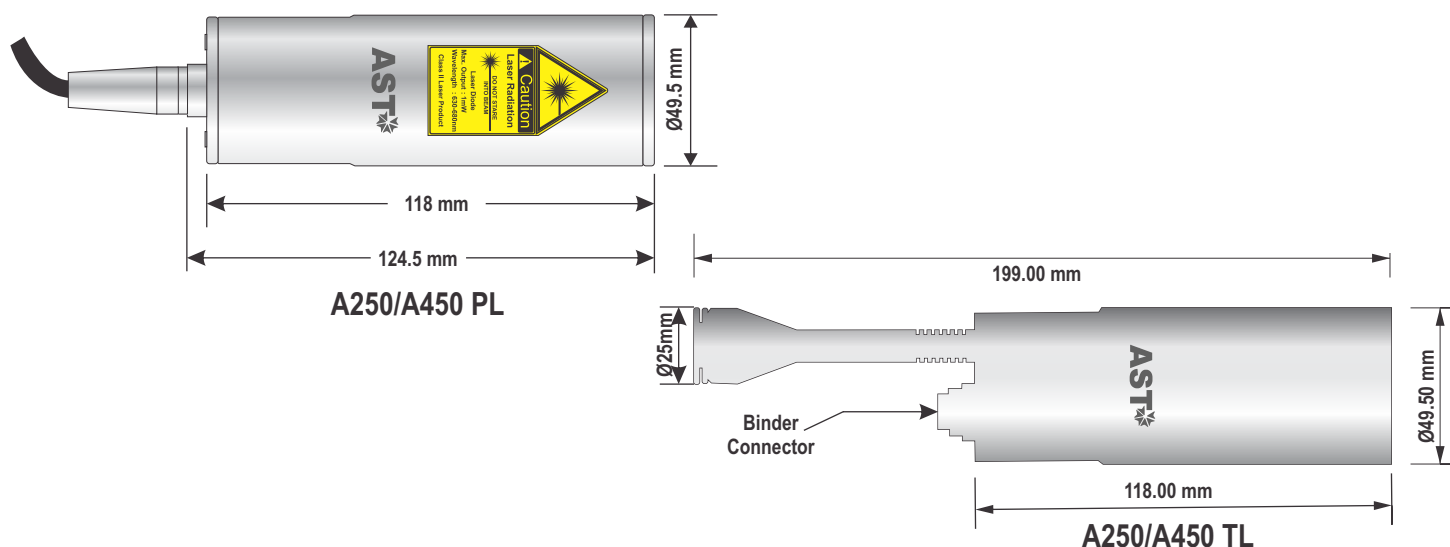
AST "Infrasoft" software is under standard scope of supply. It offers possibilities of connecting three pyrometers simultaneously for parameter setting, view real time graph, offline graph and to evaluate measuring data. Communication between the pyrometer and the software is implemented via a cable 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

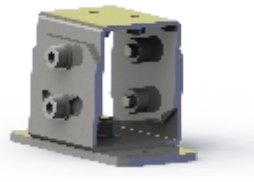
- Emissivity, Response Time,
- Clear Time(Peak Picker),
- Analog Output,
- Sub Range,
- Unit Of Temperature(°C/°F),
- Communication mode(Comm.mode).



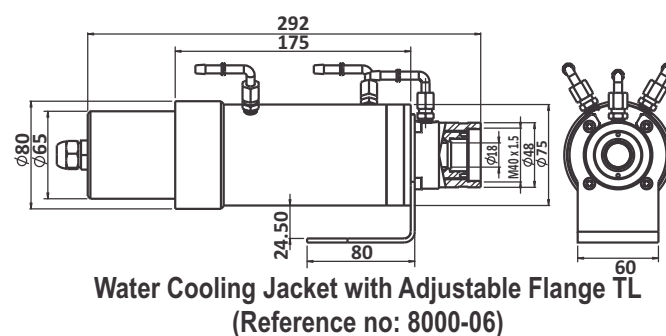
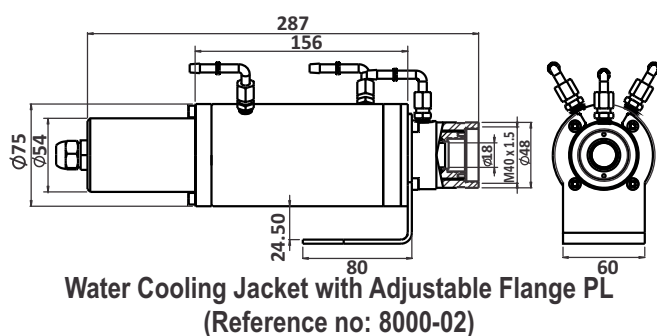
Pyrometer Drawing



Accessories

Water Cooling Jacket with Adjustable Flange (Reference no: 8000-02 for PL) (Reference no: 8000-06 for TL)	Adjustable Mounting Stand (Reference no: 8000-07)	Air Purge Unit (Reference no: 8000-04)	Adjustable Mounting Support (Reference no: 8000-05)
			
Display & Parameterizer P-120 (Reference no: 9001-01)	Converter RS-232 ↔ RS-485 (Reference no: 9000-03)	Power Supply Unit (Reference no: 9000-02)	Temperature Indicator (Reference no: 9000-01)
			

Pyrometer Accessories Drawings



FOR 6 mm INSIDE
DIAMETER HOSE

