

# Highly Accurate Non-Contact Pyrometer With Analogue Output and Digital Interface

## CE 300°C to 1400°C AL390

**AL390** IR Pyrometer model provides the advantage of noncontact temperature measurement of metallic surfaces and in flame heated furnaces i.e through flames and flue gas. At a wavelength of 3.9um hot furnaces gases and clean burning gas flames are quite transparent and therefore permit temperatures of substances to be measured as well during heating up process in industrial furnaces with the use of infrared Pyrometer **AL390**. This format combines the high accuracy of digital signal processing with the simple connection. **AL390** IR Pyrometer is used for target temperature ranging from 300°C to 1400°C. The electronic assembly is protected by IP65 rugged stainless steel housing. **AL390** IR Pyrometer is provided with USB 2.0 for parameter setting & Data Logging.



### Technical specifications

Model	AL390
Temperature Range (Analog sub-range adjustable)	300°C....1400°C
Spectral Range	3.9 μm
Photodetector Type	Thermopile
Distance to Spot Size Ratio	50:1
Emissivity (ε)	0.1....1.2 adjustable
Response Time	60 msec adjustable upto 10sec
Accuracy	T < 500°C, ± 1.5% of measured value T ≥ 500°C, ± 1% of measured value (The instrument must be at constant ambient temperature for minimum 25-30 mins in power on condition)
Repeatability	0.3% 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	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

- Highly Accurate due to digital linearization of the output
- Temperature range from 300°C....1400°C
- Spectral range 3.9 μm
- Four wire form with Analog output 4...20mA or 0...20mA or 0...10V
- Serial communication RS-232/RS-485
- Response time 60 ms
- Very good stability
- Laser Targeting for precision targeting
- User friendly Software

### Standard Scope of Supply

- Pyrometer with Laser pilot light(PL)
- Analog output 4...20mA, 0..20mA, 0..10V
- Digital USB 2.0 output, USB Cable
- Digital Interface RS-232 / RS-485
- 5 mtr long connection cable with connector
- 1.5 mtr. Communication Cable
- Calibration certificate, Software & Operation manual

### Optional

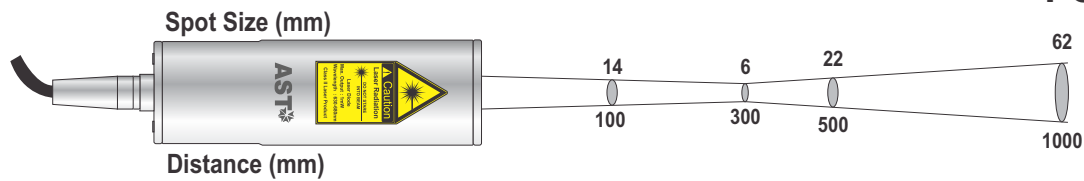
- Mechanical & Electrical Accessories
- Extra Cable lengths

### Applications

- Measurement Through Flames & Combustion Without Influencing The Measurement.

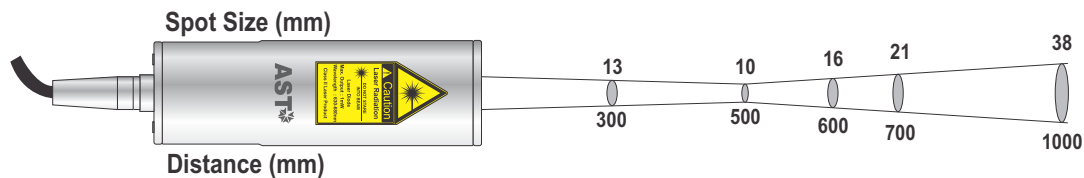
## Spot Sizes

### Optics 300

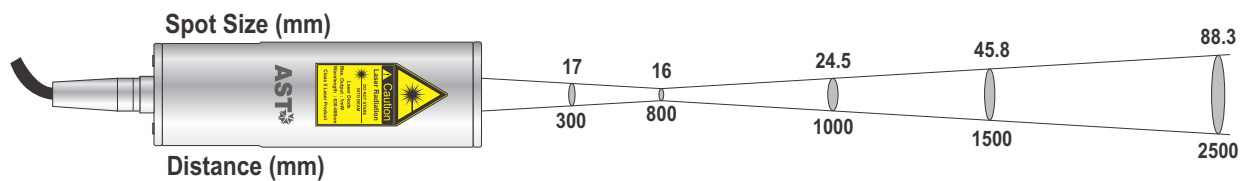


FOV 50 : 1

### Optics 500



### Optics 800

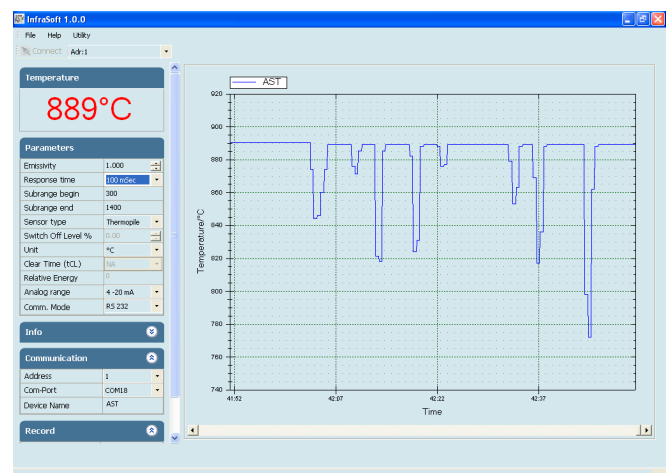


## Software "Infrasoft"

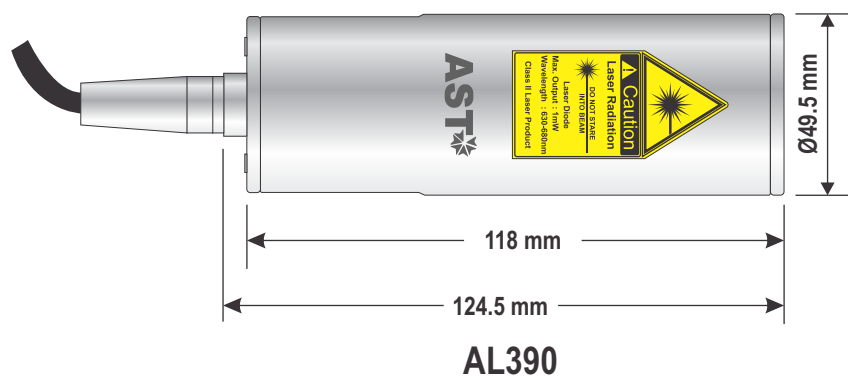
AST "Infrasoft" software is under standard scope of supply. It offers possibilities of connecting three pyrometers simultaneously for parameter setting, view real time graph, offline graph and to evaluate measuring data. Communication between the pyrometer and the software is implemented via a cable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



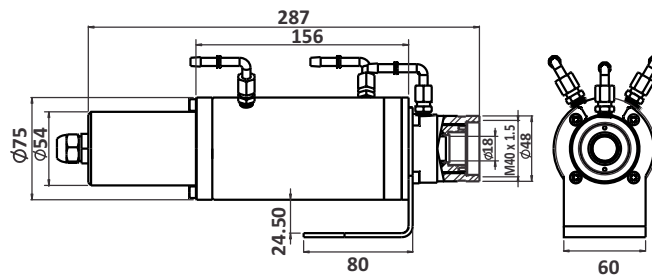
## Pyrometer Drawing



## Accessories

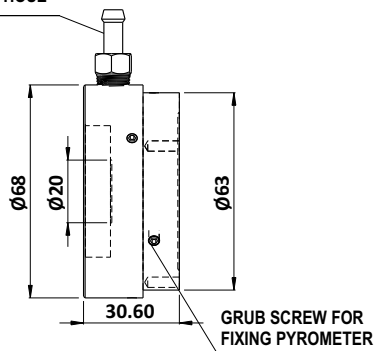
<p>Water Cooling Jacket with Adjustable Flange (Reference no: 8000-02 for PL) (Reference no: 8000-06 for TL)</p> 	<p>Adjustable Mounting Stand (Reference no: 8000-07)</p> 	<p>Air Purge Unit (Reference no: 8000-04)</p> 	<p>Adjustable Mounting Support (Reference no: 8000-05)</p> 
<p>Display &amp; Parameterizer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

## Pyrometer Accessories Drawings

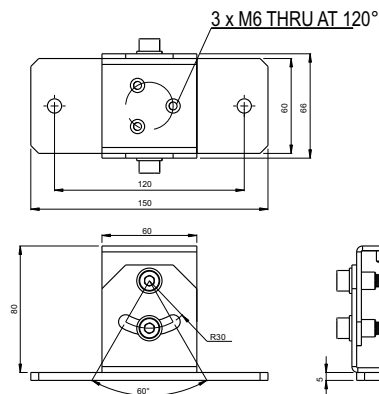


Water Cooling Jacket with Adjustable Flange  
(Reference no: 8000-02)

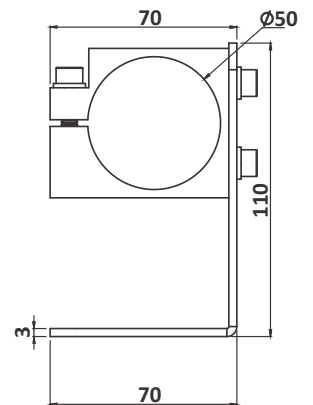
FOR 6 mm INSIDE  
DIAMETER HOSE



Air Purge Unit  
(Reference no: 8000-04)



Adjustable mounting stand  
(Reference no: 8000-07)



Mounting Clamp  
(Reference no: 8000-05)



Tempsens Instruments (I) Pvt. Ltd. U# I  
B-188A, Road No.5, M.I.A.,  
Udaipur-313003 (Rajsthan) INDIA  
Ph.:+91-294-3057700 to 800  
Fax.:+91-294-3057750  
Email: info@tempsens.com

