

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

## CE 400°C to 1500°C AL45

**AL45** are special pyrometers which provides the advantage of measurement of flames and combustion gases that include CO<sub>2</sub>.

The narrow spectral range of about 4.43µm, in the CO<sub>2</sub> absorption band enables the measurement of flames and hot combustion gases.

This format combines the high accuracy of digital signal processing with the simple connection. **AL45** IR Pyrometer is used for target temperature ranging from 400°C to 1500°C. The electronic assembly is protected by IP65 rugged stainless steel housing. **AL45** IR Pyrometer is provided with USB 2.0 for parameter setting & Data Logging.

### Technical specifications

Model	AL45
Temperature Range (Analog sub-range adjustable)	400°C....1500°C
Spectral Range	about 4.43 µm (absorption band for hot CO <sub>2</sub> )
Photodetector Type	Thermopile
Distance to Spot Size Ratio	40:1
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

- Measurement of flames and combustion gases that include CO<sub>2</sub>.
- Highly Accurate due to digital linearization of the output
- Temperature range from 400°C....1500°C
- Spectral range of about 4.43 µm (absorption band for hot CO<sub>2</sub>)
- 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

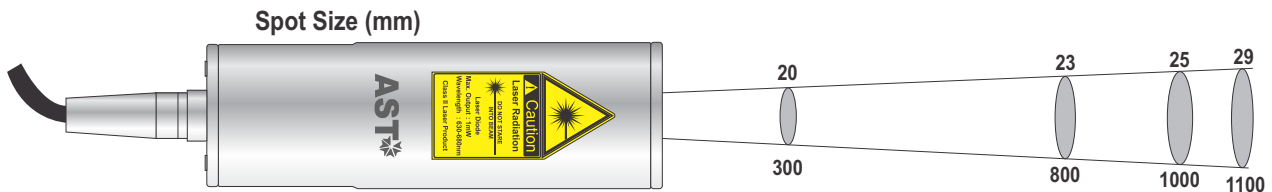
- Mechanical & Electrical Accessories
- Extra Cable lengths

### Applications

- Measurement of flame temperature.
- Measurement of flames and combustion gases that include CO<sub>2</sub>

## Spot Sizes

### Optics 1000

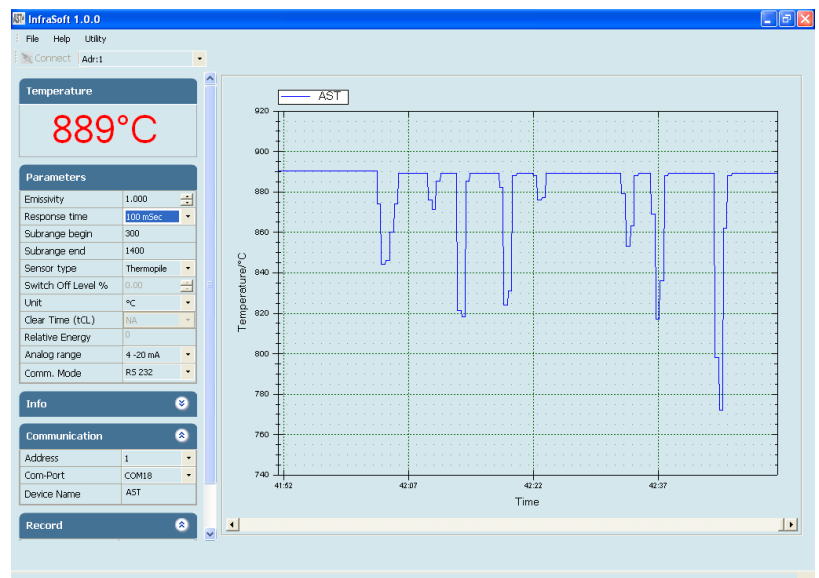


## Software “Infrasoft”

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).


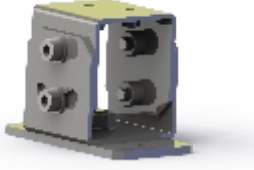






## Pyrometer Drawing

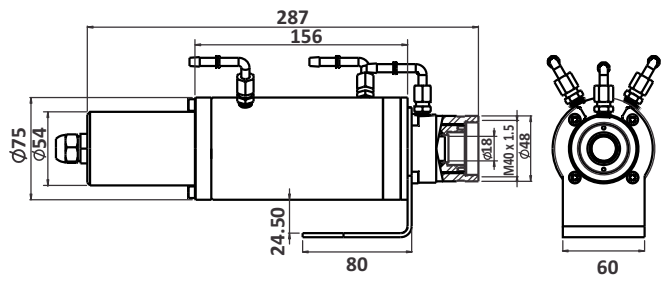


AL45

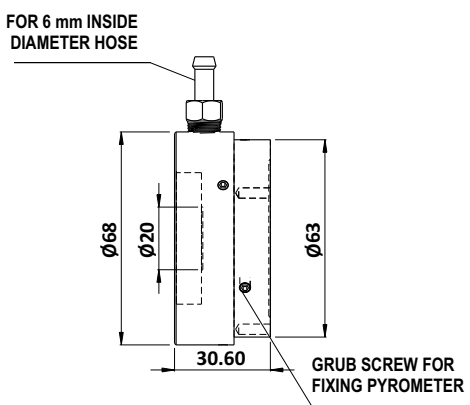
# Accessories

<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>
			

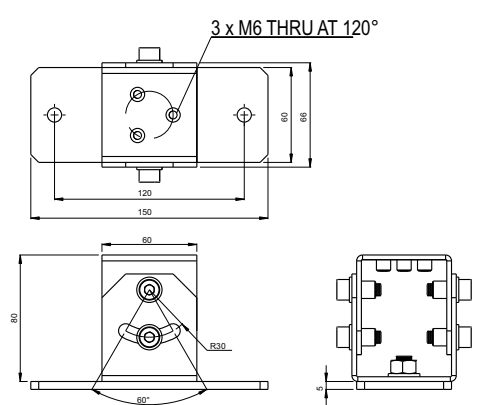
# Pyrometer Accessories Drawings



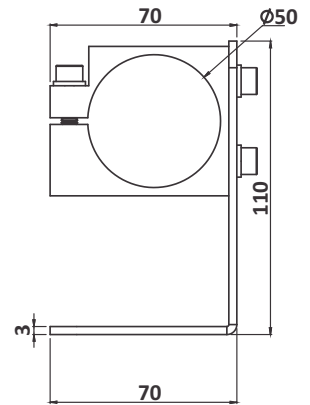
Water Cooling Jacket with Adjustable Flange  
(Reference no: 8000-02)



Air Purge Unit  
(Reference no: 8000-04)



Adjustable mounting stand  
(Reference no: 8000-07)



Mounting Clamp  
(Reference no: 8000-05)



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