

# Highly Accurate Non-contact Pyrometer With Analog Output and Digital Interface

## € 300°C to 2500°C AL514

**AL514** IR Pyrometer model provides the advantage of non contact temperature measurement of Glass and Quartz surfaces. Glass is transparent in the visible and near wavelengths of Infrared region. In spectral range of 5.14  $\mu\text{m}$  emissions are very high with almost zero reflections which is very useful as temperature of the Glass surface can be measured reliably and accurately. **AL514** IR thermometer works in spectral range of 5.14  $\mu\text{m}$  thus, highly useful for temperature measurement in Float Glass industry. Designed for easy integration into standard 4 wire system, this format combines the high accuracy of digital signal processing with the simple connection. **AL514** IR Pyrometer is used for target temperature ranging from 300°C to 2500°C. The electronic assembly is protected by IP65 rugged stainless steel housing.

**AL514** IR Pyrometer is provided with USB 2.0 connector with cable. The infrared pyrometer can be powered through USB port. In this case no external power supply is required (24V DC requires for operation of Analog output, Laser on and RS-232/RS-485 output).



### Technical specifications

Model	AL514
Temperature Range (Analog sub-range adjustable)	300°C....1400°C 400°C....2500°C
Spectral Range	5.14 $\mu\text{m}$
Photodetector Type	Thermopile
Distance to Spot Size Ratio	50:1
Emissivity ( $\epsilon$ )	0.1....1.2 adjustable
Response Time	60 msec adjustable upto 10sec
Accuracy	T < 500°C; $\pm$ 1.5% of measured value T $\geq$ 500°C; $\pm$ 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= $\varnothing$ 49.5 mm; Length=118mm

### Features

- Highly Accurate due to digital linearization of the output
- Temperature range from 300°C....2500°C
- Spectral range 5.14 $\mu\text{m}$
- Four wire form with Analog output 4 to 20mA, 0 to 20mA, 0 to 10V
- RS-232/RS-485 serial interface
- USB 2.0 Digital output
- Fast Response time 60 ms
- Very good stability
- User friendly PC Software

### Standard Scope of Supply

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

### Optional

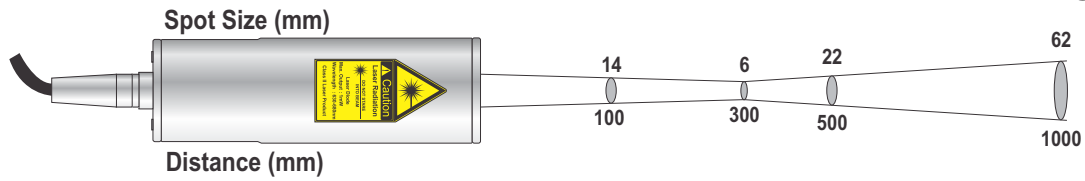
- Mechanical & Electrical Accessories
- Extra Cable lengths

### Applications

- In glass hardening & bending.
- Temperature measurement of float glass.

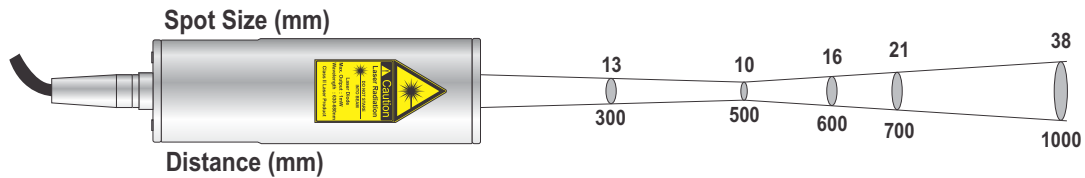
## Spot Sizes

### Optics 300

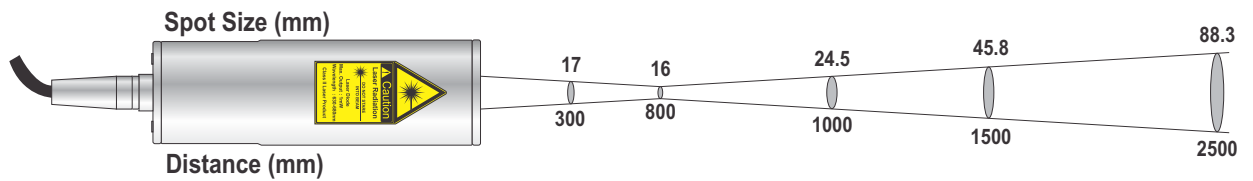


FOV 50 : 1

### Optics 500



### Optics 800

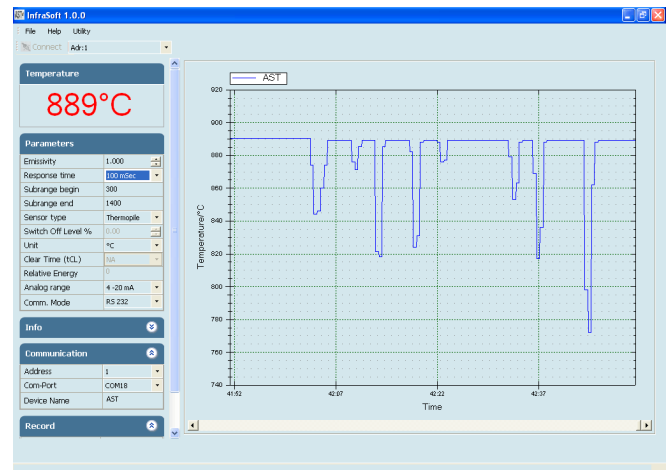


## Software "Infrasoft"

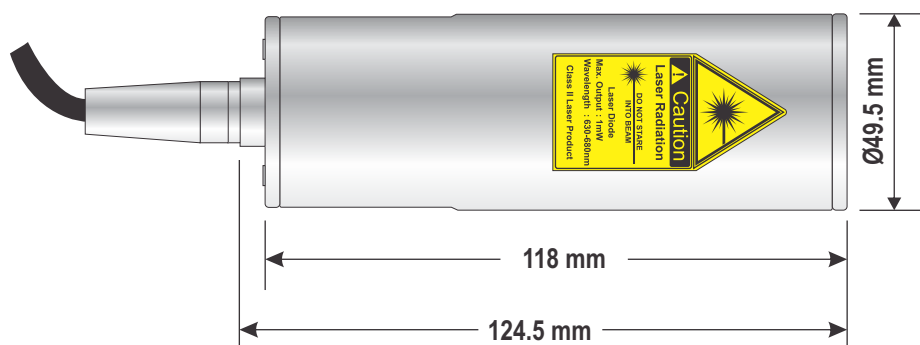
"Infrasoft" software is under standard scope of supply. It offers possibilities of connecting three pyrometers simultaneously for parameter setting, view real time graph, offline graph and to evaluate measuring data. Communication between the pyrometer and the software is implemented via a cable connected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

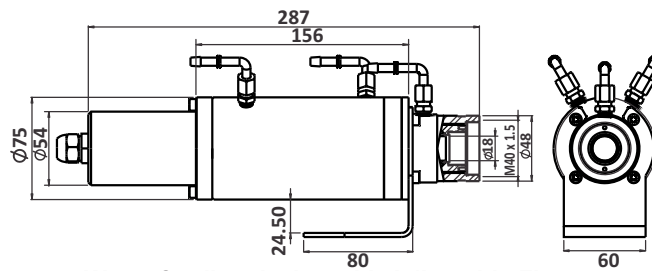


AL514

## Accessories

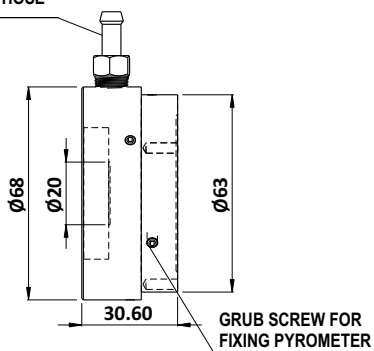
<p>Water Cooling Jacket with Adjustable Flange (Reference no: 8000-02 for PL) (Reference no: 8000-06 for TL)</p>	<p>Adjustable Mounting Stand (Reference no: 8000-07)</p>	<p>Air Purge Unit (Reference no: 8000-04)</p>	<p>Adjustable Mounting Support (Reference no: 8000-05)</p>
			
<p>Display &amp; Parameterizer 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

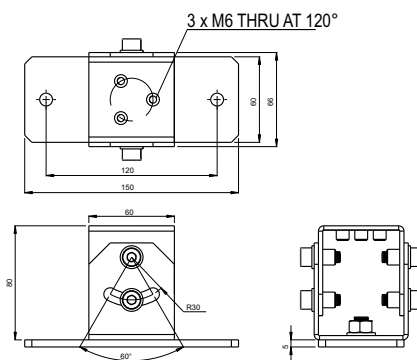


Water Cooling Jacket with Adjustable Flange  
(Reference no: 8000-02)

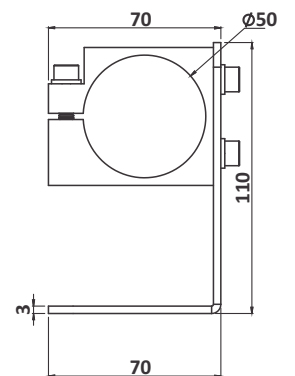
FOR 6 mm INSIDE  
DIAMETER HOSE



Air Purge Unit  
(Reference no: 8000-04)



Adjustable mounting stand  
(Reference no: 8000-07)



Mounting Clamp  
(Reference no: 8000-05)



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