AST

Accurate Sensors Technologies

Highly Accurate Two Color Online Infrared Non-Contact Pyrometer
CE 600°C to 2500°C

AST A450C is a highly accurate digital two-color radiation pyrometer. This device measures the temperature of an object by calculating the ratio of the energies at two different wavelength bands. Temperature measurement is not effected by parameters affects the amount of energy reaching to pyrometer. This makes a ratio thermometer inherently more accurate. The ratio technique may eliminate, or reduce, error in temperature measurement caused by changes in emissivity, surface finish and energy absorbing materials such as water vapour between the pyrometer and the target.

The pyrometer can be used in both ratio and single color mode. Parameters like, emissivity ratio, emissivity, response time, analog output sub-range are adjustable through the software supplied.

AST A450C is provided with USB 2.0 connector with cable. The 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, RS-232 / RS-485 output).

AST A450C

Applications

- ➢ **Induction Heating**
- ➢ **Annealing**
- ➢ **Welding**
- ➢ **Forging**
- ➢ **Sintering**
- ➢ **Melting**
- ➢ **Rolling Mills**
- ➢ **Rolling Kilns**
- ➢ **Crystal growing**

Standard Scope of Supply

AST A450C with Laser Targeting Light or through the Lens Sighting, USB Output. RS-232 & RS-485, 5 M Long Connection Cable, 1.5M Communication Cable. USB Cable.

Features

- ➢ **Highly accurate**
- ➢ **Two colour, single colour switchable**
- ➢ **Wide temperature**
- ➢ **Digital interface**
- ➢ **USB Output**
- ➢ **Small spot sizes**
- ➢ **Fast response time**
- ➢ **Very good stability**
- ➢ **Rugged stainless steel housing**
- ➢ **User friendly software**

Open Screw For USB 2.0
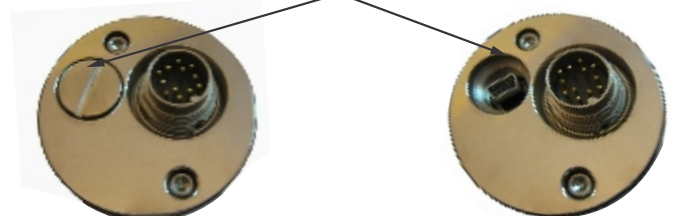
We Measure Temperature Accurately even in extreme conditions

Technical Specification

Model	AST A450C
Measured Temperature Ranges (Analog sub range adjustable)	600° - 1600°C 800° - 2500°C
Emissivity Range	0.1....1 adjustable (for single color mode)
Emissivity slop	0.75....1.25 slop adjustable (for two color mode)
Spectral Range	0.7....1.15 μm
Photodetector Type	Si / Si
Response Time	20msec. Adjustable upto 10 sec
Accuracy	± 0.5% +1°C of measured value
Repeatability	0.1% of reading in °C +1°C
Analog Output	4-20 mA or 0-20mA or 0-10 V User selectable
Digital Output	USB 2.0, RS-232 or RS-485 (Isolated) User Selectable
Distance to Spot size Ratio	100 : 1 (600° - 1600°C) 200 : 1 (800° - 2500°C)
Power	24V DC
Sighting	Laser pilot light (PL) or through the lens sighting (TL)
Protection class	IP 65
Operating temperature range	0°C......+70°C, 0°C......+200°C(with cooling jacket)
Isolation	Power supply and digital output and analog output are galvanically isolated against each other
Operating humidity	Unlimited
Dimensions/Weight	Dia. = Ø49.5 mm; Length = 118 mm / Weight = 0.6 kg
Adjustable Parameters via software	Emissivity, Emissivity Slope, Analog output, Address, Switch off limit, Response time, Peak picker, Analog output sub range, switches b\w 2-color or single color

Software "Infrasoft"
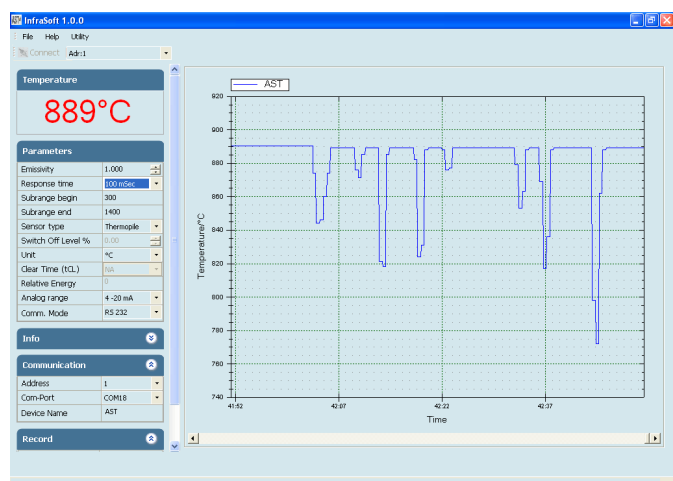
- ➢ **Emissivity setting**
- ➢ **Response time setting**
- ➢ **Peak picker setting**
- ➢ **Average temperature setting**
- ➢ **Graph**
- ➢ **Data logging**

Manufactured working distance WD (mm)	Spot Size S (mm)	
	600° - 1600°C (FOV) 100:1	800° - 2500°C (FOV) 200:1
350	3	1.5
500	5	2.5
700	7	3.5
1000	10	5
1500	15	7.5
2000	20	10
2500	25	12.5
3000	30	15
5000	50	25
Infinite (∞)	8 (min.)	5 (min.)
Aperture (A)	7	4

Water Cooling Jacket withAdjustable Flange (Reference no: 8000-02 for PL) (Reference no. : 8000-06 for TL)

Adjustable Mounting Stand (Reference no: 8000-07)
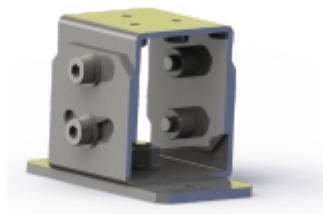
Air Purge Unit (Reference no: 8000-04)

Adjustable Mounting Support (Reference no: 8000-05)

Display & Parameterizer P-120 (Reference no: 9001-01)

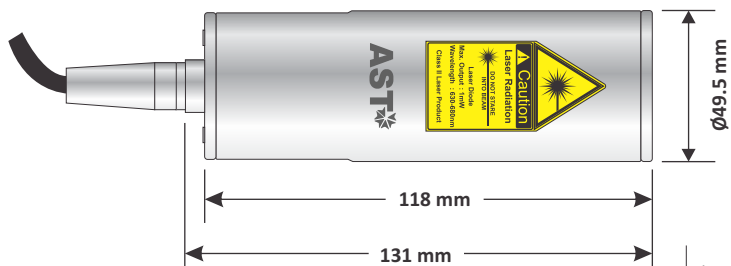**Converter RS-232 ↔ RS-485 (Reference no: 9000-03)**

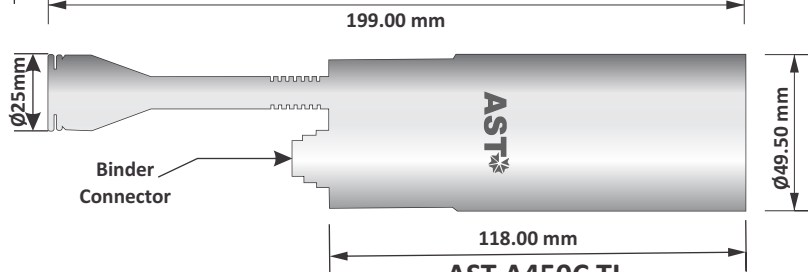**Power Supply Unit (Reference no: 9000-02)**
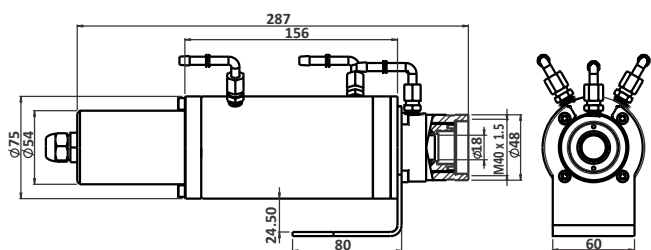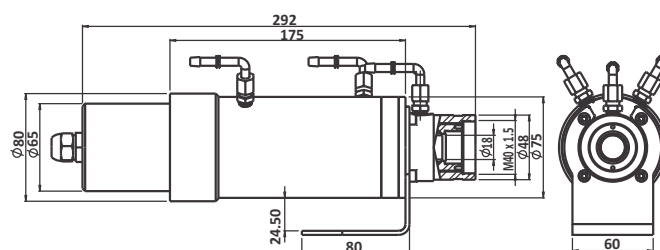
Temperature Indicator (Reference no: 9000-01)

Ø49.5 mm

118 mm

131 mm

AST A450C PL

199.00 mm

Ø25mm

Ø49.50 mm

Binder Connector

118.00 mm

AST A450C TL

287
156

Ø75
Ø54

Ø18
M40 x 1.5
Ø48

24.50

80

60

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

292
175

Ø80
Ø65

Ø18
M40 x 1.5
Ø48
Ø75

24.50

80

60

**Water Cooling Jacket with Adjustable Flange TL
(Reference no: 8000-06)**

FOR 6 mm INSIDE DIAMETER HOSE

Ø68
Ø20
Ø63

30.60

GRUB SCREW FOR FIXING PYROMETER

**Air Purge Unit
(Reference no: 8000-04)**

3 x M6 THRU AT 120°

60
66

86
110

60

75

R30

60°

5

**Adjustable mounting stand
(Reference no: 8000-07)**

70
Ø50

110

3

70
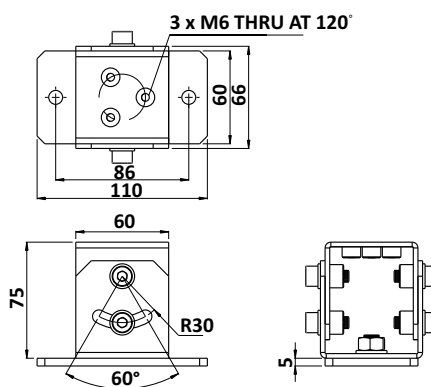
**Mounting Clamp
(Reference no: 8000-05)**

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