

## AST 450C

Highly Accurate Two colour On line Infrared  
Non-contact Pyrometer

CE 600.....3200° C

AST450C 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 parameter's 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.



- ❖ **Highly Accurate**
- ❖ **Two color, single color switchable**
- ❖ **Wide temperature range**
- ❖ **Digital interface**
- ❖ **Small spot size**
- ❖ **Fast response time**
- ❖ **Very good stability**
- ❖ **Rugged stainless steel**
- ❖ **User friendly software**

### Applications

- ❖ **Induction heating**
- ❖ **Annealing**
- ❖ **Welding**
- ❖ **Forging**
- ❖ **Sintering**
- ❖ **Melting**
- ❖ **Rolling mills**
- ❖ **Rotary kilns**
- ❖ **Crystal growing**

***We Measure Temperature Accurately  
even in extreme Conditions***

# TECHNICAL SPECIFICATION

|                                    |   |
|------------------------------------|---|
| <b>Model</b>                       | <b>AST 450C</b>   |
| Measured Temperatures Range        | 600°.....1800°C<br>800°.....2500°C (Analog output sub range adjustable)<br>1000°.....3200°C   |
| Emissivity Range                   | 0.1.....1 adjustable (For Single color mode))   |
| Emissivity Slope                   | 0.75.....1.25<br>Slop Adjustable (For two color mode)   |
| Spectral Range, μm                 | 0.7.....1.15μm  |
| Photodetector Type                 | Si/Si   |
| Response Time                      | 20msec. Adjustable upto 10S   |
| Accuracy & Repeatability           | ±0.5% +1°C of the measured value  |
| Analog Output                      | 4-20mA or 0-20mA or 0-10V user selectable   |
| Distance to spot size ratio        | 50:1 (600...1800°C )<br>100:1 (800...2500°C )<br>200:1 (1000...3200°C )   |
| Digital Output                     | Serial communication : RS 232 or RS 485 Isolated  |
| Power                              | 24 V DC   |
| Sighting                           | Laser pilot light or through the lens sighting  |
| Protection glass                   | IP65  |
| 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                  | Ø50mm; L=118mm;/0.6kg   |
| 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 |
| Readable parameters via software   | Measured temperature, temperature graph, internal temperature of pyrometer, temperature brightness 1, temperature brightness 2                                    |

## SPOT SIZES

| Focus Distance<br>FD(mm) | Temp. Range<br>600...1800°C | Temp. Range<br>800...2500°C | Temp. Range<br>1000...3200°C |
|--------------------------|-----------------------------|-----------------------------|------------------------------|
|                          | Spot Size(mm)<br>(s)        | Spot Size(mm)<br>(s)        | Spot Size(mm)<br>(s)         |
| 300                      | 6                           | 3                           | 1.5                          |
| 500                      | 10                          | 5                           | 2.5                          |
| 700                      | 14                          | 7                           | 3.5                          |
| 1000                     | 20                          | 10                          | 5                            |
| 1500                     | 30                          | 15                          | 7.5                          |
| 2000                     | 40                          | 20                          | 10                           |
| 2500                     | 50                          | 25                          | 12.5                         |
| 3000                     | 60                          | 30                          | 15                           |
| 5000                     | 100                         | 50                          | 25                           |
| Aperture(A)              | 10                          | 8                           | 5                            |



# ACCESSORIES



Water cooling Jacket with adjustable flange  
Reference No. 8000 - 02



Adjustable Mounting stand  
Reference No. 8000 - 03



Air purge  
Reference No. 8000 - 04



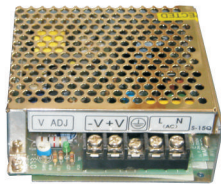
Mounting Clamp  
Reference No. 8000 - 05



Display with Parameterizer (P-120)  
Reference No. 9001 - 01



Converter, RS 485 to RS 232  
Reference No. 9000 - 03



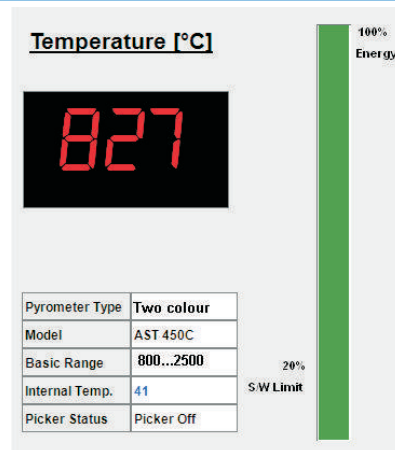
Power supply Input 110 / 230 V AC,  
Output 24 V DC, 0.75Amp  
Reference No. 9000 - 02



Temperature Indicator with retransmission  
output 4..20mA  
Reference No. 9000 - 01

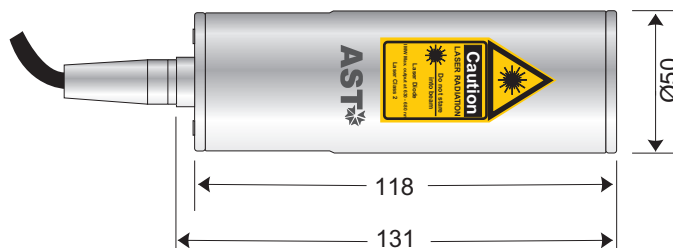
## Software MT 500

- ❖ Emissivity setting
- ❖ Response time setting
- ❖ Peak picker setting
- ❖ Average temperature setting
- ❖ Graphs
- ❖ Data logging



## Pyrometer Drawing

(Dimension in MM)



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