• P450C

600°C to 2500°C

Features

- Wide temperature ranges : 600°C to 2500°C (in programmable sub ranges.)
- Spectral Range : 0.7 µm ....1.15 µm
- Two color model
- Fast response time within milliseconds
- Through-the-Lens view finder sighting
- Focusable precision optics for adjusting the smallest spot size
- Temperature is displayed in the view finder and on the multi-function display
- Measuring Functions : Normal, Average, Maximum
- USB Connectivity : USB Options for communicating to PC
- Small Spot Sizes
- Large data storage for data analysis(Data storage upto 4000 values)
- Additionally the instruments are completed via large display and easy designed keypad for selecting and changing of all available functions and settings
- Numeric and Graphic LCD display on portable pyrometer
- User friendly PC software for communication

Standard Scope of Supply

- Pyrometer with through the lens sighting
- 3AAA Rechargeable Cell
- Battery Charger
- USB 2.0 Data Cable
- Carry Box
- Calibration Certificate
- Software CD and Operation manual

Applications

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

• P450C

Highly Accurate Two Color Portable Infrared Non-Contact Pyrometer

P450C is specially designed two color portable IR pyrometer for non contact temperature measurement between 600°C to 2500°C in demanding industrial environments with high accuracy.

This is the two color pyrometer which measures the temperature of an object by calculating the ratio of the energies at two different wavelength bands. The ratio technique eliminates and reduces errors in temperature measurement caused by changes in Emissivity, Surface finish and energy absorbing materials such as water vapour etc.

The multi-functional bright backlight additional LCD graphic display panel provides an indication of status and configuration of pyrometer together with measurement mode. The measuring result is shown and can be analyzed directly on site.

The bright through-the-lens sighting gives a precise definition of the target spot. The portable pyrometer provides fast, simple data logging with USB connectivity to download this data to PC for analysis.

The fast response time within milliseconds allow exact measurement of fast moving object. The large data storage (data store upto 4000 values) of measurement offers the best possibility for analyzing the data.

Software "Infrasoft"

AST Infrasoft software is under standard scope of supply. It offer possible connection with PC for parameter setting, offline graph and to evaluate measuring data. Communication between the pyrometer and the PC is implemented via a USB cable connected between the pyrometer and the PC USB port.

Some of the parameter adjustable via software are :

- Emissivity
- Clear Time(Peak Picker)
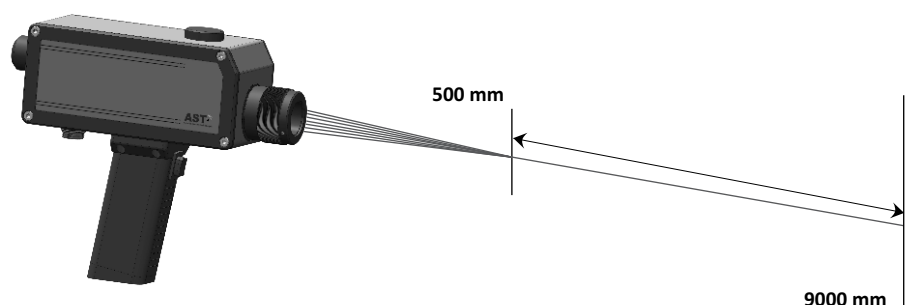- Unit of Temperature (°C/°F)

We measure accurate temperature in extreme conditions

Technical Specifications

Model	P450C	
Temperature Range	600°C…1600°C 800°C…2500°C	
Spectral Range	0.7….1.15 μm	
Photodetector Type	Si/Si	
Distance to Spot Size Ratio	200:1 400:1	(600°C…1600°C) (800°C… 2500°C)
Emissivity (ε)	0.1….1.0 adjustable (for single color)	
Emissivity Slope (ε1/ε2)	0.75….1.25 Slope adjustable (for two color)	
Response Time	25 msec in Numerical Mode 30 msec in Graphical Mode 30 msec (When data storage is 'ON')	
Accuracy	±0.5% of the measured value +1°C	
Repeatability	0.1% of reading in °C + 1°C	
Sighting Options	Optimized through lens view finder with dioptry correction -2.5 dpt. to +2.5 dpt	
Objective	Achromatic, adjustable from A=500 mm to 9000 mm	
Measuring Functions	Normal (Normal Temperature Measurement) MAX (Maximum Temperature Measurement) AVG (Average Temperature Measurement)	
Parameters Setting Via Side Keypad	Emissivity, Peak Picker(Clear Time)(tCL), Average, Storage Interval, Temperature Unit(°C/°F), Auto Off Time, Date, Time, Single Color/Two Color Mode	
Data Storage	4000 Values, Storage of Measurement Value, Date, Time, Emissivity	
Storage Interval	OFF, 30 msec, 50 msec, 100 msec, 1 sec, 10 sec, 100 sec, 500 sec	
Display	Left side: LCD Display, 128 x 64 pixels illuminated 3 value per sec.; last value is displayed for another 10 sec after finishing measurement (Hold Function) Additional Built in LED display in the view finder	
Resolution	LED inside : 0.1°C upto 1000°C after this 1°C LCD outside : 0.1°C upto 1000°C after this 1°C	
Serial Interface	USB 2.0	
Mounting	Tripod	
Dimensions	228 x 64x 186 mm (L x Wx H)	
Weight	900g with batteries	
Housing	Aluminum, Handle: ABS	
Ambient Temperature	0 to 50°C	
Storage Temperature	-20 to 55°C	
Relative Humidity	10 - 95%, Non-Condensing Conditions	
Protection Class	IP52(Housing Exclude Handle with battery case), Ip40 (Handle)	
Power Supply	3 x 1.2 V Rechargeable Batteries (uninterrupted operation time approx 5 hours with rechargeable batteries)	
CE Label	According to EU Directives about electromagnetic immunity	

Optics

The pyrometers are equipped with a high quality focusable optics. Adjusting the optics to required measuring distance achieves the spot sizes specified in table. The adjustment can be taken via the scale on the objective or by focusing the measuring object in the view finder. User can adjust measuring distance from 500mm - 9000 mm.
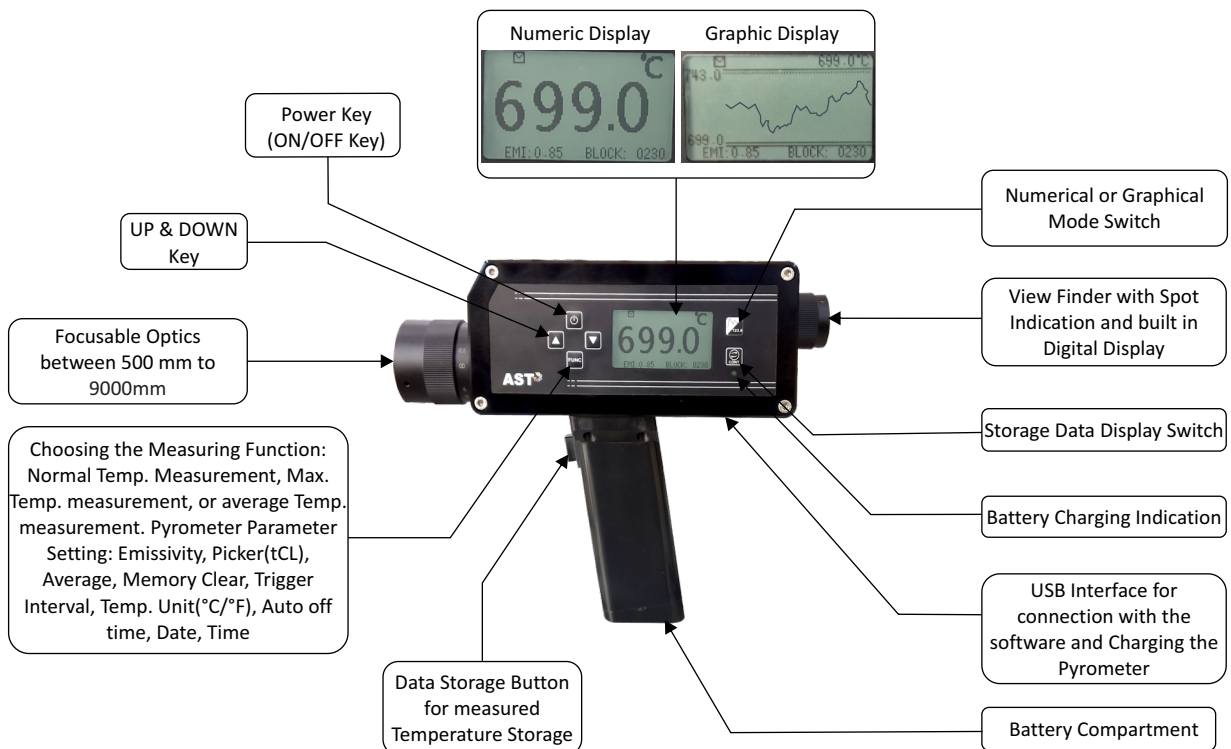

500 mm

9000 mm

Measuring distances between 500 & 9000 mm with small spot sizes can be achieved with the pyrometers.

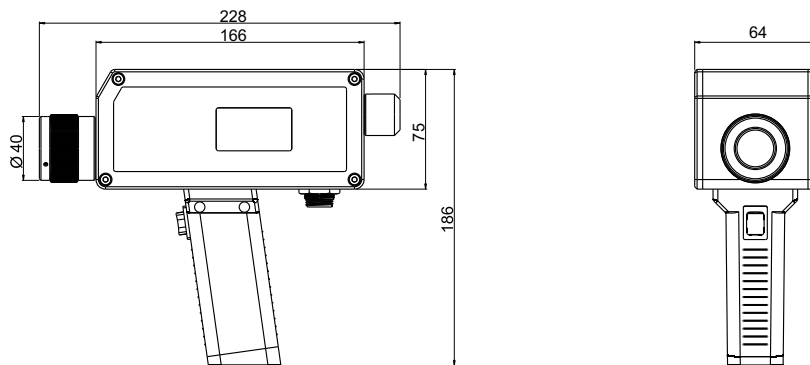**We measure accurate temperature in extreme conditions**

Optical Specifications

Measuring Distances MD (mm) with standard focusable optics	Spot Sizes(mm)	
	P450C 600°C - 1600°C (200:1)	P450C 800°C - 2500°C (400:1)
500	2.5	1.25
1000	5.0	2.5
2000	10.0	5
3000	15.0	7.5
4000	20.0	10
5000	25.0	12.5
9000	45.0	22.5

Instruments Specifications

Numeric Display

Graphic Display

Power Key (ON/OFF Key)

UP & DOWN Key

Focusable Optics between 500 mm to 9000mm

Choosing the Measuring Function: Normal Temp. Measurement, Max. Temp. measurement, or average Temp. measurement. Pyrometer Parameter Setting: Emissivity, Picker(tCL), Average, Memory Clear, Trigger Interval, Temp. Unit(°C/°F), Auto off time, Date, Time

Data Storage Button for measured Temperature Storage

Numerical or Graphical Mode Switch

View Finder with Spot Indication and built in Digital Display

Storage Data Display Switch

Battery Charging Indication

USB Interface for connection with the software and Charging the Pyrometer

Battery Compartment

Pyrometer Drawings

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