

• A250+ • A450+

210°C to 3000°C

Features

- Wide temperature ranges from 210°C to 3000°C
- Focusable Optics
- Fast Response Time 2ms adjustable upto 10Sec. (In 1ms step).
- Adjustable Signal Processing
- Match Temperature Facility
- Power Over Ethernet
- Spectral range 1.0 μm(A450+), 1.6 μm (A250+)
- Integrated OLED Display & Parameterizing Keys
- Laser targeting, Through The lens view finder
- Isolated Analog output options 0...20mA, 4...20mA
- Isolated RS-485/RTU-MODBUS Serial Interface(User Selectable)
- HTTP Web Server / TCP MODBUS
- User friendly PC software for communication
- Green LED for pyrometer status indication
- Red LED for Laser ON/OFF indication (PL)

Standard Scope of Supply

- Mounting nut & Fixed mounting bracket
- End cap for display
- Software, Operation Manual and Calibration Certificate
- 5m. Long Connection Cable with Connector
- Ethernet - 3m. Long Cable with Connector

Optional

- Mechanical & Electrical Accessories - Water Cooling Jacket, Air Purge, Adjustable mounting stand, Mounting Flange, Mounting Plate & POE Splitter
- Extra Cable Lengths-10m, 15m, 30m

Applications

- Preheating
- Annealing
- Tempering
- Welding
- Forging
- Hardening
- Melting
- Sintering
- Soldering
- Rolling
- Brazing
- Normalizing



• A250+ • A450+

On-line Single Color Infrared Focusable Non-contact Pyrometers



The A250 +/A450 + pyrometers are especially designed for industrial purposes. They are suitable for high temperature measurement ranging from 210°C to 3000°C. These pyrometers have solid body in stainless steel housing, which provides high operation safety even in rough industrial environment, and large variety of focusable optics which can be easily used in all industrial areas.

These pyrometers have OLED display which shows temperature and provides menu selection via parameterization keys. A250 +/A450 + have fast response time of 2ms. The RS-485 & Ethernet communication is used for communication between pyrometer & PC software. Response time, emissivity, sub-range can be pre-set ex-works or adjustable through available software & keypad. The pyrometer temperature measurement method utilizes the fact that objects emit thermal radiation in an amount that directly corresponds to their own temperature and surface emissivity.

The pyrometer sensor detects the amount of infrared radiation emitted by the measured object (target). The infrared signal is analysed and the temperature it represents is analysed by built-in microcontroller.

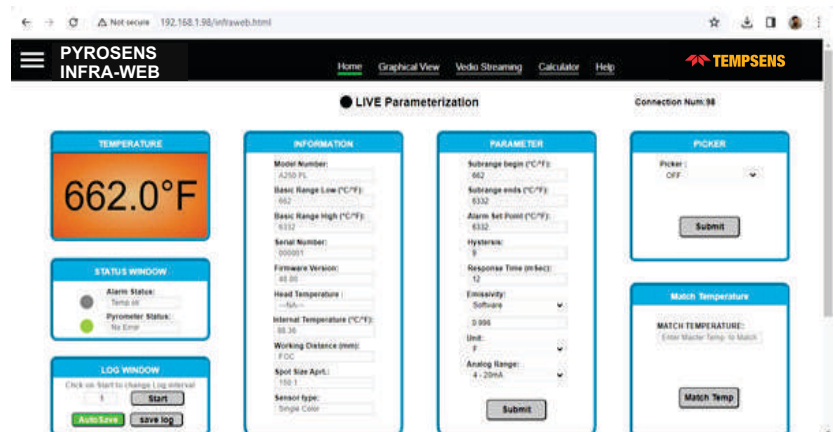
A250 +/A450 + work in 4-wire technology.

HTTP Web Server

Web Server is a basically a web page that originated from controller of pyrometer. This web page is useful to read & write parameters value of Pyrometer.

The need of Webserver is to remove PC software dependability. There is no need any PC software needs to install for parameterization. But just need to open browser & type IP address. Webserver will open with in a second & ready for parameterization. User can access pyrometer from any PC (through Switch) or can access from any where in the same network

- User friendly GUI
- Real Time Temperature.
- Real time Data Logging with auto data logging facility.
- Real Time Status window.
- Basic Information & Live Parametrization.
- Real Time Graph with Data logging.
- Spot size calculator.
- User Guide.



Technical Specifications

Measurement Specifications

Specifications

A250 +/-A450 +

Temperature Range	A250 + -: 210°C-1350°C (410°F -2462°F).....75:1
	250°C-1800°C (482°F -3272°F).....150:1
	300°C-2500°C (572°F -4532°F).....300:1
	350°C-3000°C (662°F -5432°F).....300:1
A450 + -: 600°C-2500°C (1112°F -4532°F).....300:1	

Spectral Response	A250 + -: InGaAs (1.6µm) A450 + -: Si (1.0 µm)
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Accuracy	± 0.3% of the measured value + 1 °C
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Repeatability	0.1% of reading in °C + 1 °C
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Temperature Resolution	Display / Digital output - 0.1°C up to 999 °C, 1 °C above that. Analog output- 0.1°C, 16 bit
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Response Time (t90)	2ms adjustable upto 10Sec. (In 1ms step).
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Emissivity	0.100 to 1.00, in 0.001 increments
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Adjustable signal processing	Picker- Auto, Smart & TCL / Moving average.
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Sensor status/self-diagnostic indicator LED	Yes
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Optical Specifications

Optical Resolution	A250 + -: 75:1, 150:1, 300:1 A450 + -: 300:1
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Variable Focus	Yes
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Smallest Measurement Spot	1.65 mm
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Sight	Through the Lens (TL)/ Pilot Laser Light (PL)
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Electrical Specifications

Isolated Analog Outputs	0 to 20 mA (active), or 4 to 20 mA (active) current loop impedance: max. 500 Ω short circuit resistant electrically isolated
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Power Supply	12V to 28V DC with reverse voltage protection (Max 5 watt)
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Power over Ethernet	Allows Ethernet cables to transmit data and power simultaneously using a single network cable, with 3m standard length
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Inputs	4 to 20 mA electrically isolated for emissivity setting
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Alarm Output	Relay output with hysteresis 60V DC / 42V AC RMS, 0.4A
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Isolated RS-485/RS-485 (MODBUS)	2-wire communications (half duplex) network cable to 32 sensors baud rate: 9600, 19200,38400 & 115200 Bit/s (default: 19200 Bit/s) data format: 8 bit, no parity, 1 stop bit electrically isolated
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Ethernet	HTTP WEB SERVER for Parameterising / TCP MODBUS IP address: User Selectable
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Environmental Specifications

Environmental Rating	IP65
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Operating Temperature Range	0°C.....70°C 0°C.....200°C (With water cooling jacket)
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Storage Temperature	-20°C...70°C
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Relative Humidity	10-95%, Non-Condensing Conditions
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Housing Material	Stainless Steel
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Weight	1200g
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Dimension	Dia = Ø56 mm; Length=188.5mm
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We measure accurate temperature in extreme conditions

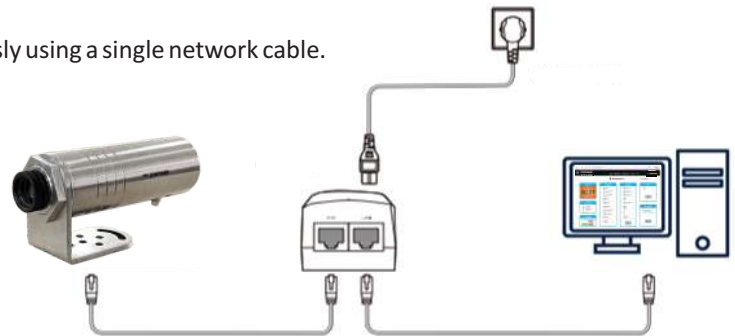
Spot Sizes

Focused Working Distances WD (mm)	A250+				A450+	
	Length L	210°C - 1350°C (75:1)	250°C - 1800°C (150:1)	300°C - 2500°C 350°C - 3000°C (300:1)	Length L	600°C - 2500°C (300:1)
500	13.20	6.70	3.40	1.70	12.70	1.70
700	8.70	9.40	4.70	2.40	8.50	2.40
1000	5.70	13.40	6.70	3.40	5.50	3.40
2000	2.40	26.70	13.40	6.70	2.30	6.70
5000	0.50	66.70	33.40	16.70	0.50	16.70
9000	0	120.00	60.00	30.00	0	30.00

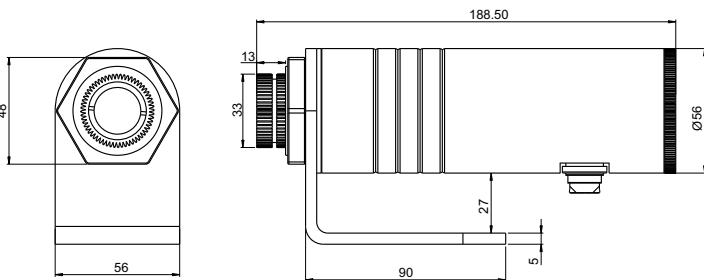
Power Over Ethernet

Allows Ethernet cables to transmit data and power simultaneously using a single network cable.

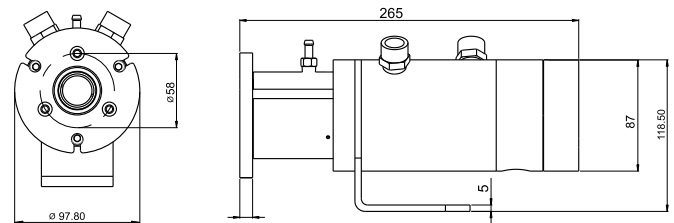
- Simplified Wiring cable.
- Energy Efficiency
- Flexibility
- Device Support
- Power Management
- Reduced Interference
- Reliability and Redundancy



Pyrometer Drawings



Cooling Jacket Drawing



Assembly Options

Pyrometer with Mounting Clamp (8500-04)	Pyrometer with Mounting Flange (8500-07) + Air Purge (8500-05)+ Water Cooling Jacket (8500-09) + Mounting Plate (8500-08)	Pyrometer with Air Purge (8500-05) + Mounting Clamp (8500-06)
Pyrometer with Water Cooling Jacket (8500-09) + Mounting Clamp (8500-06)	Pyrometer with Mounting Flange (8500-07) + Air Purge (8500-05) + Mounting Plate (8500-08)	Pyrometer with Air Purge (8500-05) + Water Cooling Jacket (8500-09)+ Mounting Clamp (Water Cooling Jacket) (8500-06)

Optional Accessories

Mounting Clamp (Pyrometer) (Reference no: 8500-04)	Air Purge (Reference no: 8500-05)	Mounting Clamp (Water Cooling Jacket) (Reference no: 8500-06)
Mounting Flange (Reference no: 8500-07)	Mounting Plate (Reference no: 8500-08)	Water Cooling Jacket (Reference no: 8500-09)
Temperature Indicator (Reference no: 9000-01)	Adjustable Mounting Stand (Reference no: 8000-07)	Power supply Input 110/230V AC Reference No. 9000 - 02 Output 24 V DC, 0.7Amp.

Software “Infrasoft”

Pyrosens “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
- Signal Processing
- Analog Output
- Sub Range
- Unit of Temperature(°C/°F)
- Communication mode (Comm. mode)
- Match Temperature
- Record Data



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