AST★ Accurate Sensors Technologies

Highly Accurate Digital pyrometer with Extended Sensor Head, Inbuilt LCD and Keypad for Parameterization, Suitable for Hazardous Area

Intrinsically Safe

CE 0°C to 800°C

EL50-HEx

EL50-HEx is a digital Pyrometer in economic range with extended sensor head in 4 wire technology, for non-contact temperature measurement between 0°C to 800°C.The sensor head is unaffected by electromagnetic interferences. The pyrometer sensor head is specially designed to withstand ambient temperature upto 180°C without cooling.

The pyrometer is equipped with a Inbuilt 4 digit LCD display which offers many signal processing features. The electronic box with integrated Keypad helps in setting parameters like Emissivity,Analog Sub range, Relay, Set point,Hysteresis (Hyst),Analog Output,Unit of temp(°C or F),Response Time,Peak Picker and Sensor address etc. Analog outputs options available are 4...20mA, 0...20mA, 0...10V, Thermocouple type "K" or "J" (userselectable) via keypad or software. RS-232/RS-485 serial interface card is available as optional.

EL50-HEx is provided with USB 2.0 output and PC software. The pyrometer can be powered through USB port. In this case no external power supply is required. 24 V DC is required for operation of Analog Output, RS - 232 & RS - 485 & Relay Output.

Energy Limitation with appropriate zener barriers with approval for zone 0, 1, 2 Div. 1, 2.

Certified : BAS 01 ATEX 7005, TUV 99ATEX 1484x

Technical Specifications

Model	EL50-HEx
Temperature Range (Analog sub-range adjustable)	0°C....800°C
Spectral Range	8...14 µm
Photodetector Type	Thermopile
Distance to Spot Size Ratio	2:1 15:1 (To be specified while ordering)
Emissivity (ε)	0.1....1.2 adjustable
Response Time	60 msec adjustable upto 10 sec
Accuracy	±1.5% of the measured value or 2°C whichever is greater (The sensor head must be at constant ambient temperature for a minimum of 15 minutes)
Repeatability	0.3% of reading in °C + 1°C
Analog Output	0-20mA, 4-20mA, 0-10V, Thermocouple Type "K" or "J" (User selectable)
Digital Output	USB 2.0 RS-232/RS-485 interface card (Optional) *At a time only one digital output possible
Operating Temp. Range	Electronic box upto 70°C Sensor head upto 180°C
Storage Temp. Range	-20....60°C(Electronics & Zener), -20....180°C (Sensor Head)
Relay Output	Relay Output with hysteresis 60V DC/42V AC RMS, 0.4A
Zener Barriers	FM Approval : 116-0118 UL Approval : 116-0139(cULus) IECEx Approcal : IECEx BAS 09.0142 IECEx BAS 17.0091x
Environment Rating	Acc. to IEC 62529. Clamping carrier IP 20/housing IP 40
Approved for	[Ex ia Ga] llC, [Ex ia Da] lllC, [Ex ia Ma] l, Ex ec llC T4 Gc
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.
Adjustable Parameters and Features via Keypad	Emissivity, Relay, Setpoint, Hysteresis (Hyst), Analog Sub Range, Analog Output, Unit of temperature, Sensor address, Response Time, Clear Time(Peak Picker) etc.
Power Supply	12V DC to 28 V DC with reverse polarity protection
Power Consumption	Max 2.5 watt
Installation	In zone 2, division 2 & in safe area
Housing	Sensor head-Stainless Steel; Electronic Box : Zinc
Isolation	Power supply, *Digital output and Analog output are galvanically islolated against each other * Not applicable for USB 2.0 digital output
Operating Humidity	10-95%, non condensing conditions
Weight & Dimensions	600g, 112.5mmx82.5mmx33mm(L x W x H)

Features

- Power supply (12V DC to 28 V DC) with reverse polarity protection
- Sensor head can withstand ambient temperature upto 180°C
- Spectral range 8 µm...14 µm
- Wide temperature ranges (0°C to 800°C)
- Inbuilt LCD Display and Keypad for parameterisation
- Intrinsically safe by limitation of the energy with two double zener barriers
- Fast response time within milliseconds
- Analog output like 4...20mA, 0...20mA, 0...10V, Thermocouple type "K" or"J" (user selectable)
- USB2.0 Digital output and RS-232/RS-485 Serial interface card
- Relay output
- User friendly PC software for communication

Standard Scope of Supply

- Pyrometer with LCD Display
- Keypad for parameterizing,
- Extended sensor head with 3m cable
- USB 2.0 Digital output, USB Cable
- Relay Output
- Analog output 4...20mA, 0...20mA, 0...10V, Thermocouple Type "K" or "J" (user selectable)[Thermocouple outputs J & K to be specified while ordering]
- Calibration certificate, Software & operation manual
- Housing with mounting appliances for two zener barriers
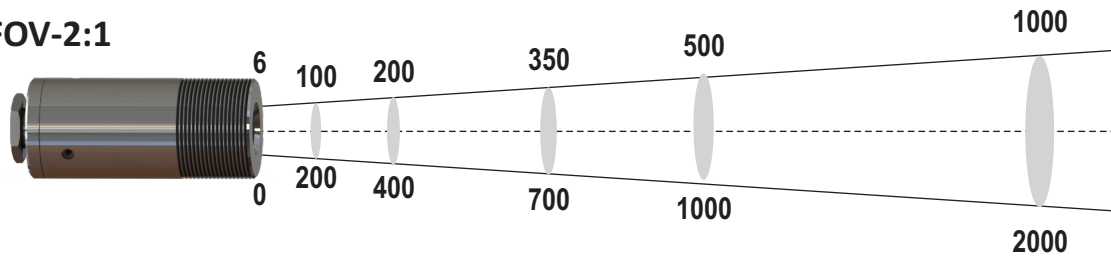- Two zener barriers compliance to IEC 60529

Optional

- Mechanical and Electrical Accessories
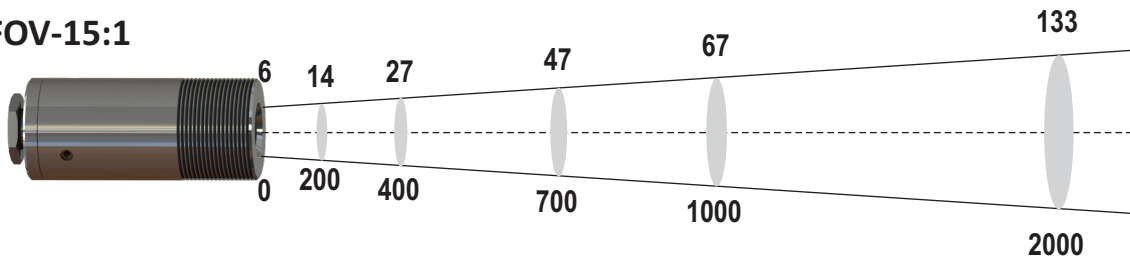- RS-232 & RS-485 serial interface card
- Extra Cable Lengths

Applications

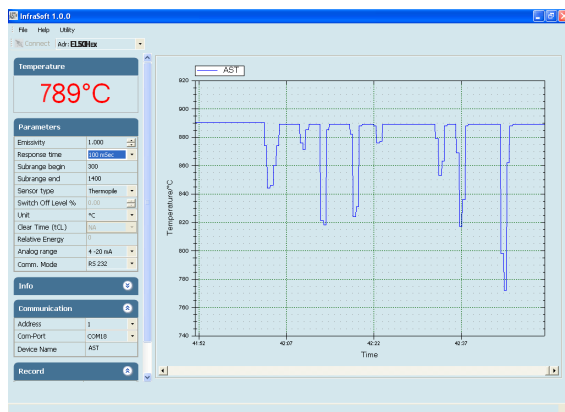- Chemical and Petrochemical Application
- All Hazardous Application

We measure accurate temperature in extreme conditions

Spot Sizes

FOV-2:1

| Distance | 6 / 0 | 100 / 200 | 200 / 400 | 350 / 700 | 500 / 1000 | 1000 / 2000 |

FOV-15:1

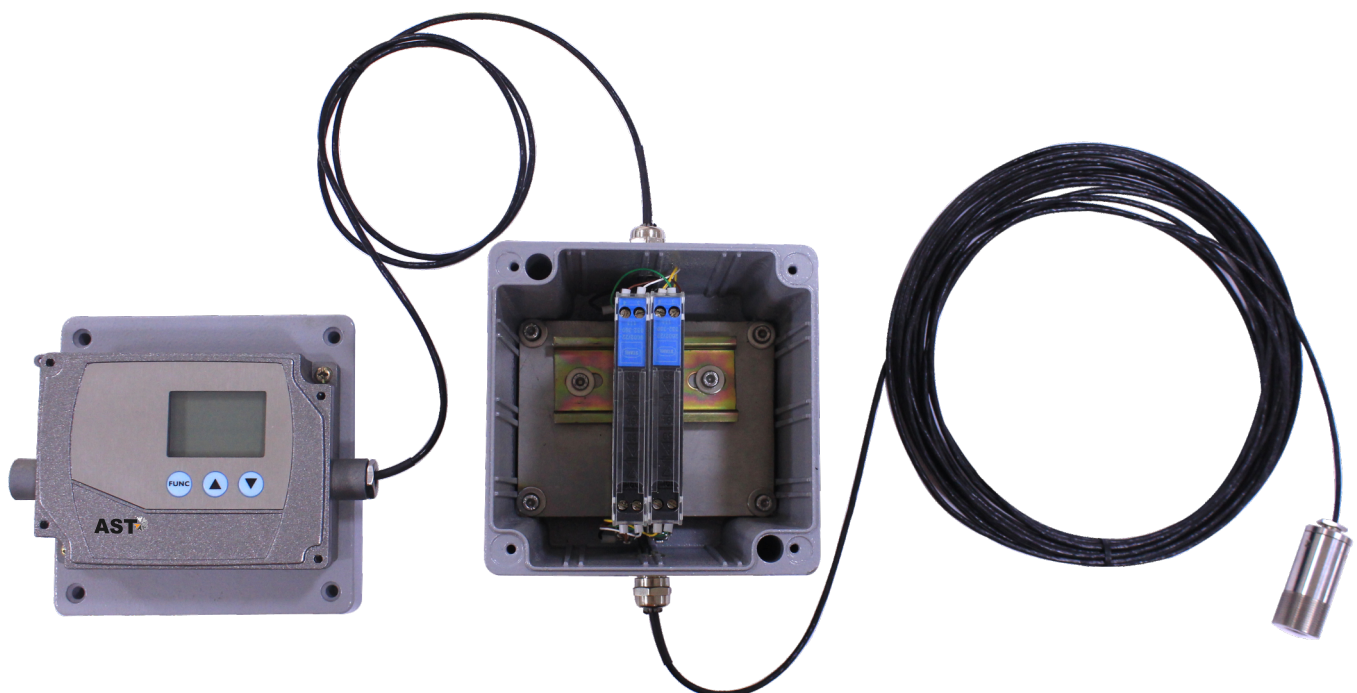| Distance | 6 / 0 | 14 / 200 | 27 / 400 | 47 / 700 | 67 / 1000 | 133 / 2000 |

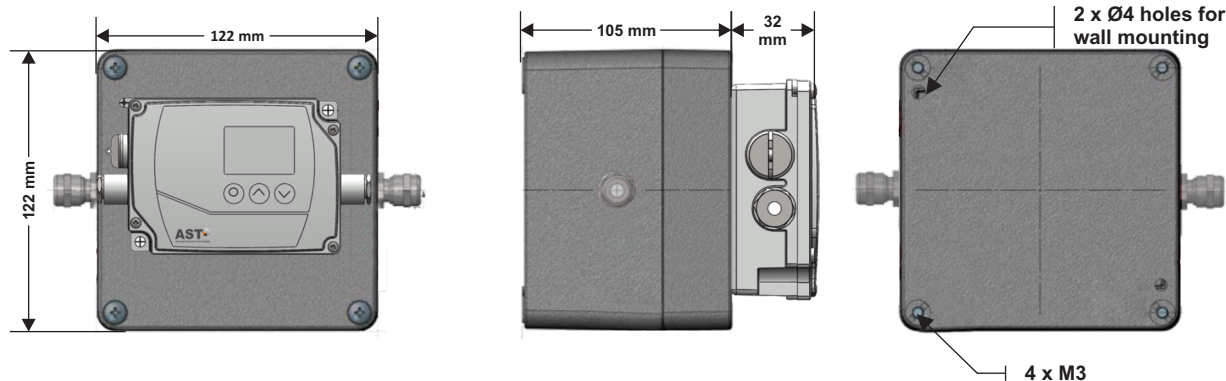***All Dimensions are in "mm".**
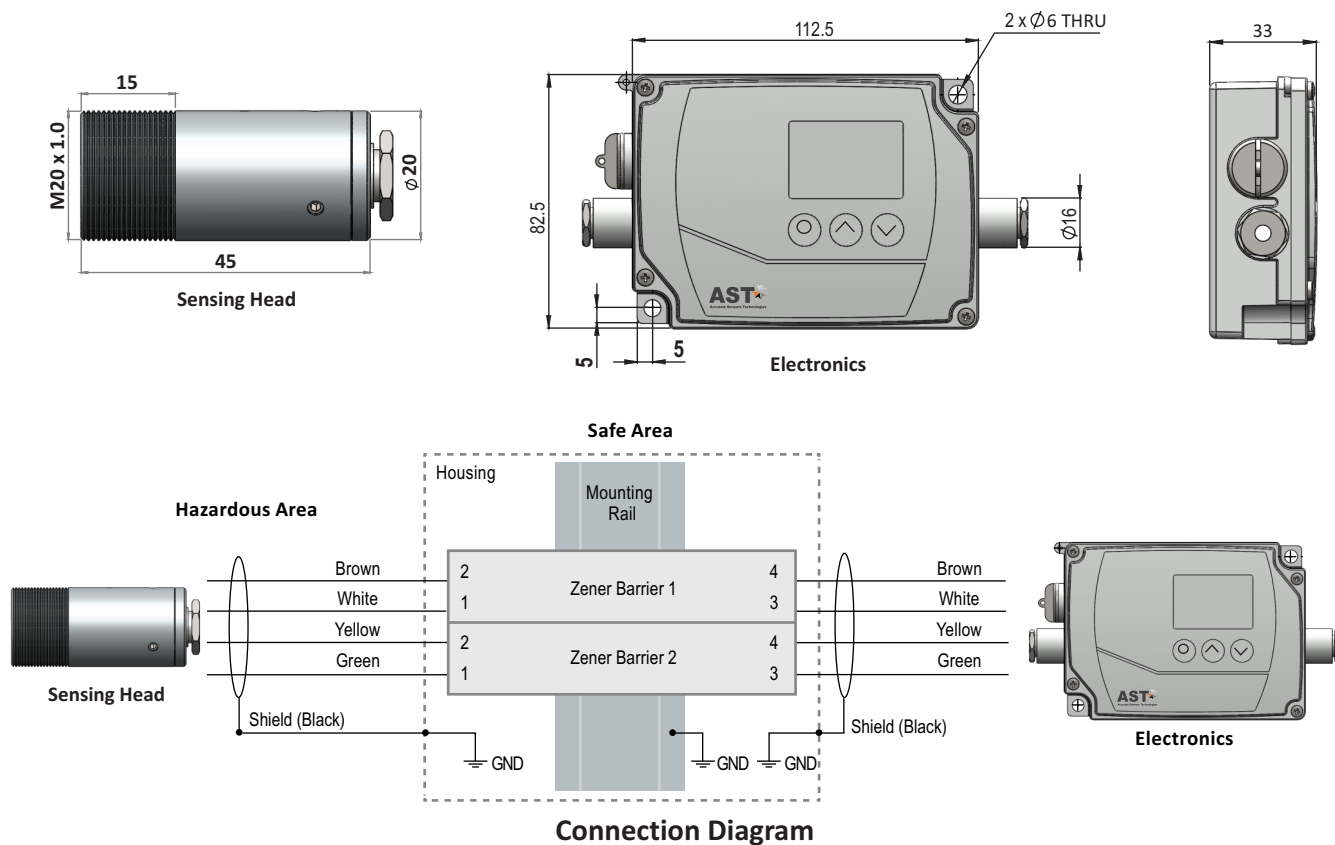

Software "Infrasoft"

AST "Infrasoft " software is under standard scope of supply.It offers possibilities of 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.

Pyrometer

We measure accurate temperature in extreme conditions
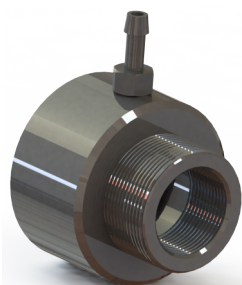
Pyrometer Drawing

15
M20 x 1.0
Ø 20
45

Sensing Head

112.5
2 x Ø 6 THRU
33
82.5
Ø 16
5
5

Electronics

Connection Diagram

Safe Area

Housing

Mounting Rail

Hazardous Area

Brown	2	Zener Barrier 1	4	Brown
White	1		3	White
Yellow	2	Zener Barrier 2	4	Yellow
Green	1		3	Green

Sensing Head

Shield (Black)
GND   GND   GND

Shield (Black)

Electronics

Connection Diagram

122 mm
122 mm
105 mm
32 mm

2 x Ø4 holes for wall mounting

4 x M3

Accessories

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www.accuratesensors.com