

Medium Resolution Long Wavelength Ultra Compact Infrared camera for Non Contact Temperature Measurement

CE 0°C ~ 500°C

LTE-160 is a medium resolution thermal camera, with 30Hz frame rate, multi functions and wide temperature measurement range. It provides ultimate inspection tools and unprecedented easy-to use designs to fit your needs. Like quality control, process monitoring or process automation. The device is durable, robust and suitable for industrial continuous operation. It is available in 160 x 120 Pixels resolution. It works at wavelength range from 8 - 14 μm .

The thermal imager captured by LTE 160 can be transferred to a computer using Infraview software supplied with every LTE 160. It can display thermal video, provide continues thermal output without loss and no appreciable time delay in I/O cards. Multiple clients PC upto 4 can also be configured to view thermal video at different locations through LAN.



Preliminary design actual product may look slightly different.

Technical Specifications

Detector Data	
Type	Uncooled FPA detector
IR Resolution	160x120
Pixel Pitch	17 μm
Spectral Range	8 - 14 μm
NETD	<80mK@f1.0, 30Hz 300 K
Frequency	30Hz
Lens Data	
FOV	30.4° x 23.1°(Other FOV's also possible)
Focus	Fixed
Image & Temperature Measurement Performance	
E-zoom	2x, 4x
Temp. Measurement Range	0°C - 500°C higher range upto 1000°C/optional
Accuracy	$\pm 2^\circ\text{C}$ or $\pm 2\%$ of reading
Hot Spot Tracking	Real time display of hot spot location and temperature values
Setting	Date/Time, °C/°F K, language
Emissivity Correction	0.01 to 1.0 adjustable; correction by predefined transmission table
Color Palettes	12 types including white hot, black hot, iron red, rainbow
Data Storage	
Image	BMP/JPG format
Video	AVI format
Report Generation	Word format, customization possible
Power System	
Network Interface	100M ethernet, Rj45 interface, temperature data transmission
CVBS interface	Analog video output, offering ground observation information
Power interface	DC12V
I/O	4 Analog O/P & 4 Digital I/O (Optional)
Power Consumption	4W

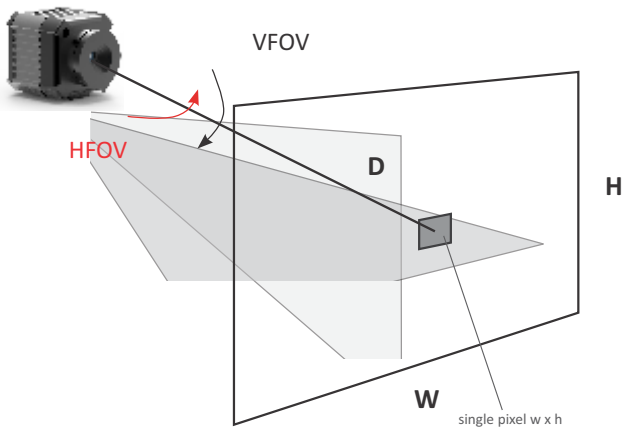
Features

- Auto tracking of hot spots and showing the temperature values
- Configurable storage and temperature video recording
- Digital and analog input/output modules
- Software controlled parameter settings
- Multiple client PC configuration
- Small aluminum compact housing
- Standard software package
- Integration in customized system solution, including software adjustments

Environmental Data	
Operating Temperature Range	-10°C ~ +60°C
Storage Temperature Range	-40°C ~ +70°C
Humidity	$\leq 95\%$ (non-condensing)
Shock	25G, IEC60068-2-29
Vibration	2G, IEC60068-2-6
EMC	CE/FCC
Physical Data	
Weight	Approx. 290g without lens
Mounting	UNC 1/4" -20 standard mount
Packing	
Standard	Thermal Imaging camera LTE 160 Integration cable, Software CD-ROM, Warranty card, registration card, Calibration certificate, Packing kit

Specification are subject to change without prior notice

Optics Variants (optics with manual focus)



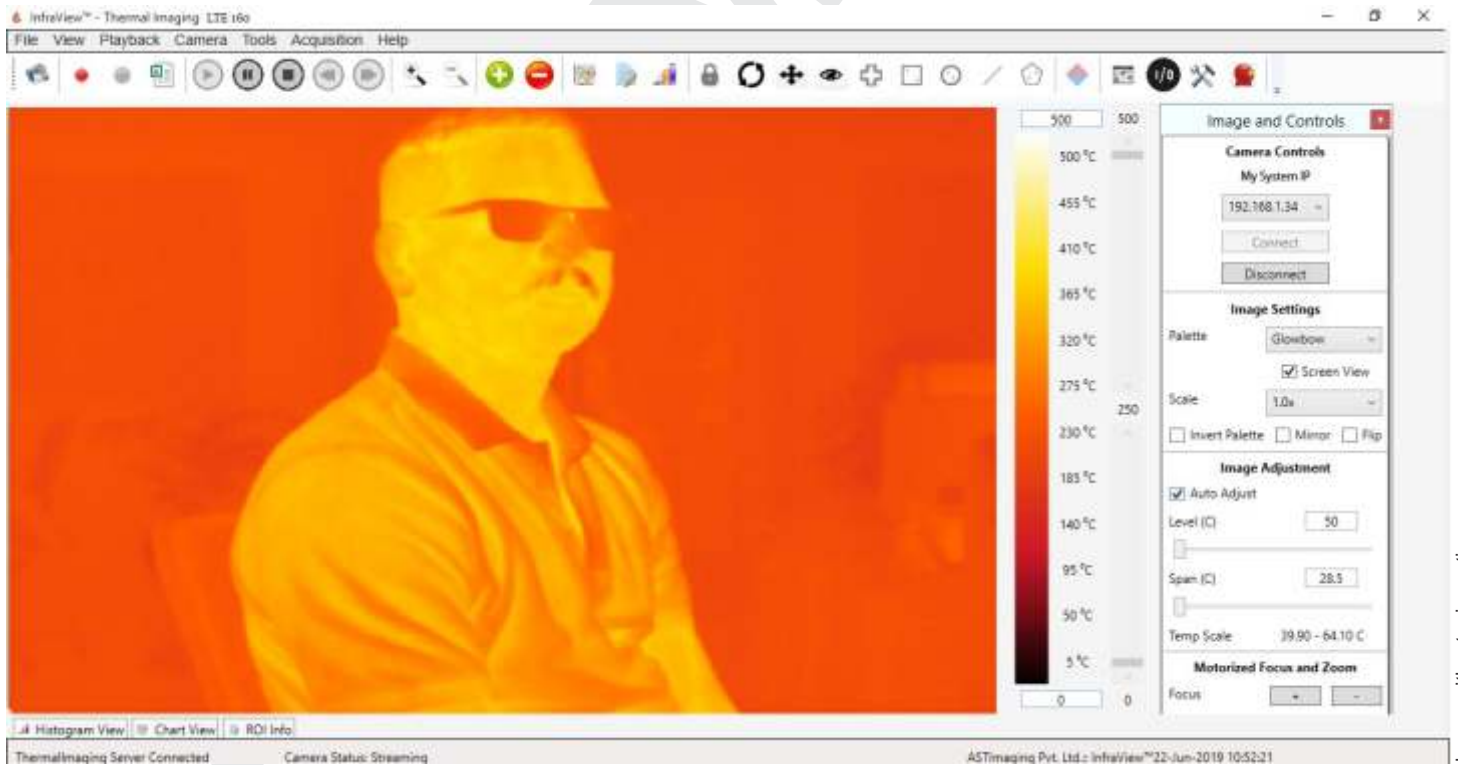
HFOV x VFOV	Dist. (m)	Width (m)	Height (m)	Pixel size (mm)
30.4° x 23.1°	1 M	0.54	0.40	3.40
	5 M	2.71	2.04	17.01
	10 M	5.43	4.08	34.01
	15 M	8.15	6.13	51.02
	20 M	10.86	8.17	68.02

HFOV = Horizontal Field of View
 VFOV = Vertical Field of View
 D = Measurement Distance
 W = Image Width
 H = Image Height

InfraView™

LTE 160 has a thermal image processing software INFRAVIEW™ at the core of a thermal imaging system which is customizable with Client-Server Architecture for catering to multiple clients at the same time. The modular windows software INFRAVIEW can be configured / customized to cater to application / solution requirements.

AST INFRAVIEW™ Software allows you to control the camera to record, view, manipulate and store the captured video / image as well as measured temperature data. This real time software allows simple and fast parameterization for documentation of the temperature data for optimizing process control.



Special Features

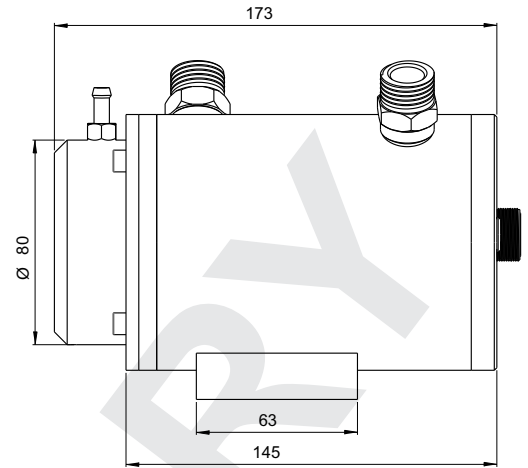
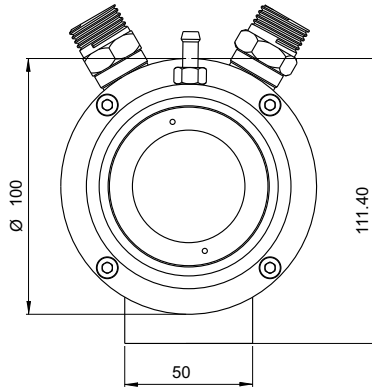
- Configurable ROI's : point, line, free shape rectangle
- Histogram and isotherm visualization
- Hot and cold spot detection
- Color palette scaling
- Trend charts
- Alarm output
- Video and Image saving
- Server client configuration

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Water Cooling Jacket



Water Cooling Jacket
(Ref No. 8900-06)



I/O Module



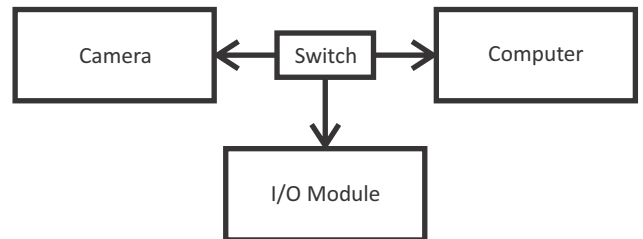
DIN RAIL Mounted I/O Module
(Ref No. 8900-07)

An I/O module acts as an interface between computer and thermal camera. The I/O module provides analog and relay outputs with respect to temperature. These outputs can be customized for temperature indication, alarm generation or error reporting.

- All I/O are user settable for range and ROI selection
- 4 analog outputs 4-20mA
- 2 Relay Outputs
- 2 Isolated Digital Inputs for triggering
- I/O can be customized according to user requirement
- I/O works on Ethernet
- Din rail Mounting for Easy Installation

Typical Configuration with PC

Processor : Intel i3 8th Generation or Higher
RAM : 4 GB
HDD : 1 TB
Operating System : Windows 10



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Applications

- Quality Management
- Process Automation and Process Control
- Research & Development Projects : Non-Destructive Testing of materials, Studies of Aspects in Veterinary Medicines
- Early fire detection in storage buildings, forests and even in cities.
- Traffic Control
- Process Control in Metallurgy
- Inspection of electrical equipment
- Building thermography around thermal bridges and localization of weak points in walls

Standard Accessories

- 12 VDC power supply
 - Ethernet cable 5 mtr.
 - Infraview Software
- Included in standard package with LTE 160 camera

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