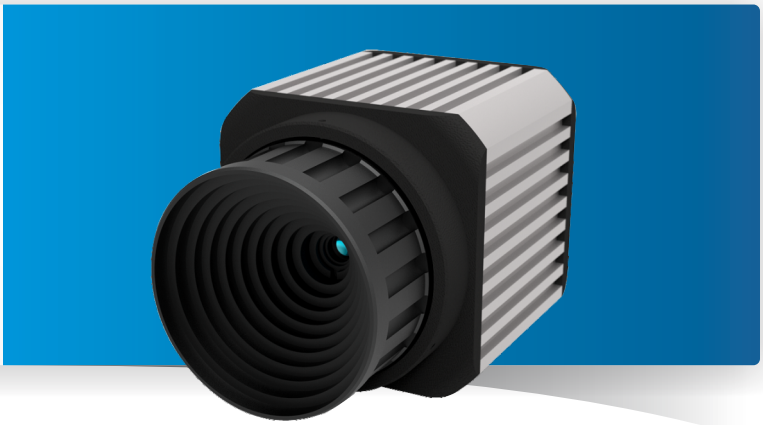
ThermCAM160

Long Wavelength
Ultra Compact Infrared
Camera for Non Contact
Temperature Measurement



ThermCAM-160 is a versatile thermal camera which can be used for a wide range of temperature measurement application. ThermCAM-160 showcases good image quality with high data transfer rate with its optimum resolution of 160 x 120 pixels. It provides ultimate inspection tools and unprecedented easy-to use designs to fit your needs. Whether in quality control, process monitoring or process automation – the infrared camera ThermCAM-160 measures temperatures without contact exactly and reliably.

Product Highlights

- ThermCAM-160 works at a long wavelength range from 8 - 14 µm @30fps.
- Configurable storage and temperature video recording.
- Provide continuous thermal video in InfraView Softwarein PC as well as in I/O Module.
- High shock and vibration tolerance for maintenance-free operation.
- MultipleThermCam can be (upto 3) connected to single InfraView Software presently.
- Low power consumption working at 12 VDC

Temperature Ranges

- -20°C - 120°C
- 100°C - 1000°C

} Switchable via Software

Detector

Uncooled FPA detector with 160 x 120 pixels resolution

Measurement Accuracy

±2% of reading in °C or °K

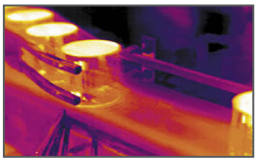
Software Features

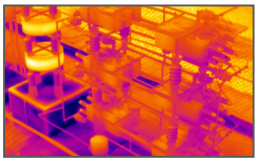
- Different Types of ROI for localized temperature monitoring
- Histogram and Trend Chart of ROI
- Configurable Audio/Visual Alarm.

Output Interface

- Fast thermal data acquisition in real time via 100M-bit Ethernet with built-in 4-20mA, TTL o/p.
- I/O cards for additional analog, digital o/p.

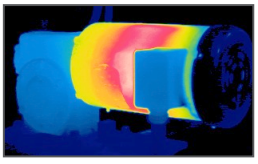
Typical Applications

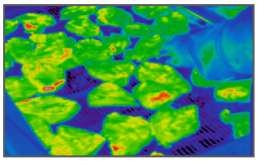

Process Automation

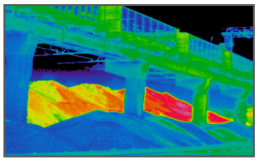

Electric Equipment Inspection

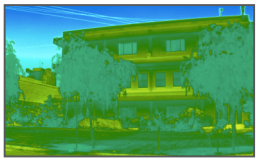

Process Control in Metallurgy


Ladle Monitoring


Critical Assets


Quality Management


Early Fire Detection


Building Thermography

ThermCAM-160

Overview

The compact design of the ThermCAM-160 enables the integration of the camera into compact process applications, while the durable and robust housing guarantees reliability even in harshest industrial environments. The ThermCAM-160 can be installed with an optional IP65 enclosure with air purge unit for additional protection in harsh industrial environments where ambient temperatures exceed ~50°C.

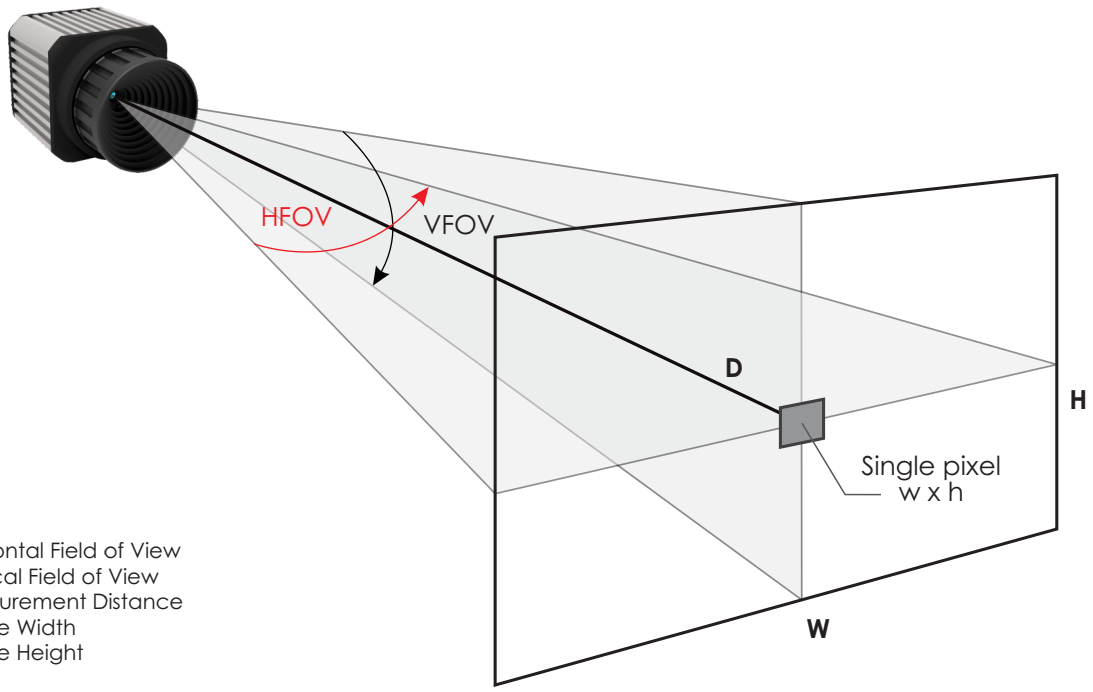
The built-in 100M-bit allows the camera to be connected to the network for high speed data transmission to InfraView™ software for further analysis.

Optics Variants

A wide range of lenses are available for the ThermCAM-160, making it suitable for most industrial applications. The table and picture show the correlation between the measurement distance, different optics, and the size of the measurement fields.

Measurement Field (HFOV x VFOV)	Distance of object	Width (m)	Height (m)	Pixel WxH (mm)
31° x 23° (FL = 5 mm Fixed)	1M	0.55	0.40	3.43
	5 M	2.77	2.03	17.14
	10 M	5.54	4.06	34.29

Note : Other lens options are also available as per application requirements.



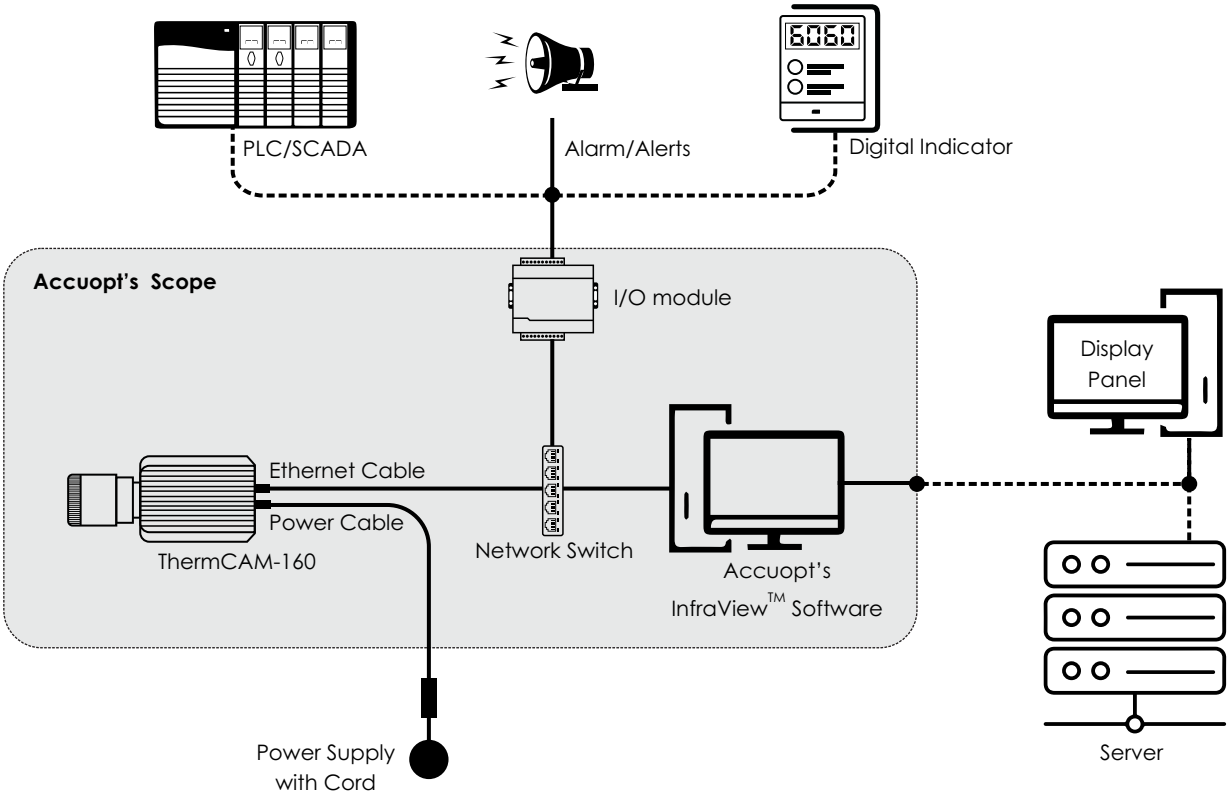
HFOV = Horizontal Field of View
VFOV = Vertical Field of View
D = Measurement Distance
W = Image Width
H = Image Height

SYSTEM CONFIGURATION

Accuopt thermal imagers offer several configuration options.

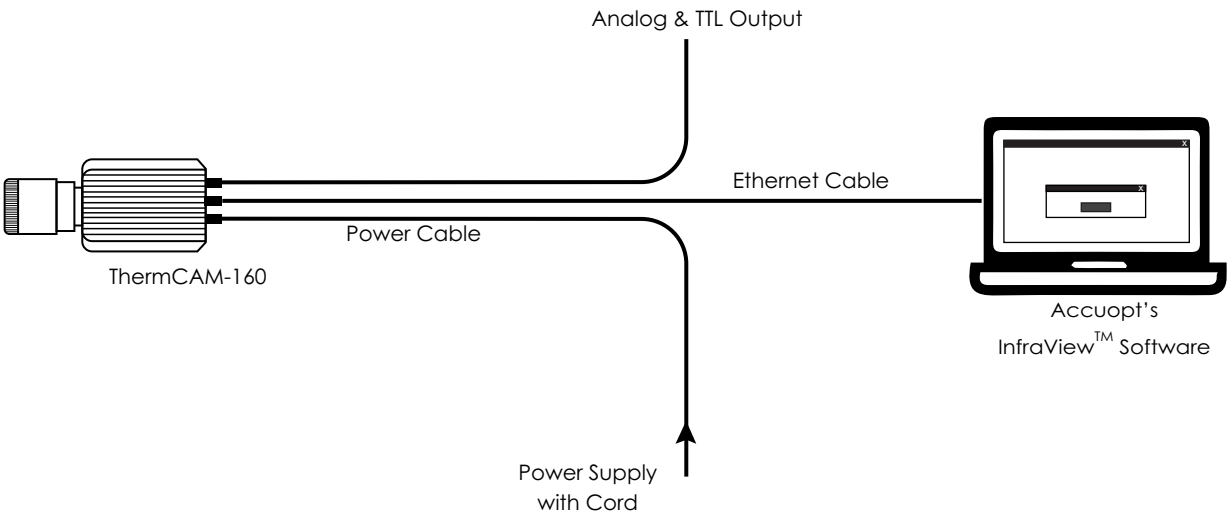
ThermCAM-160 Over Network

The system can be set up by connecting the camera directly to a dedicated computer using Ethernet connection which can be extended for remote access/intranet. Also camera can be paired with a network device(switch) which can be further connected with I/O module to get alarm/alerts, analog/digital output for digital indicator and PLC/SCADA systems.



ThermCAM-160 Standalone System

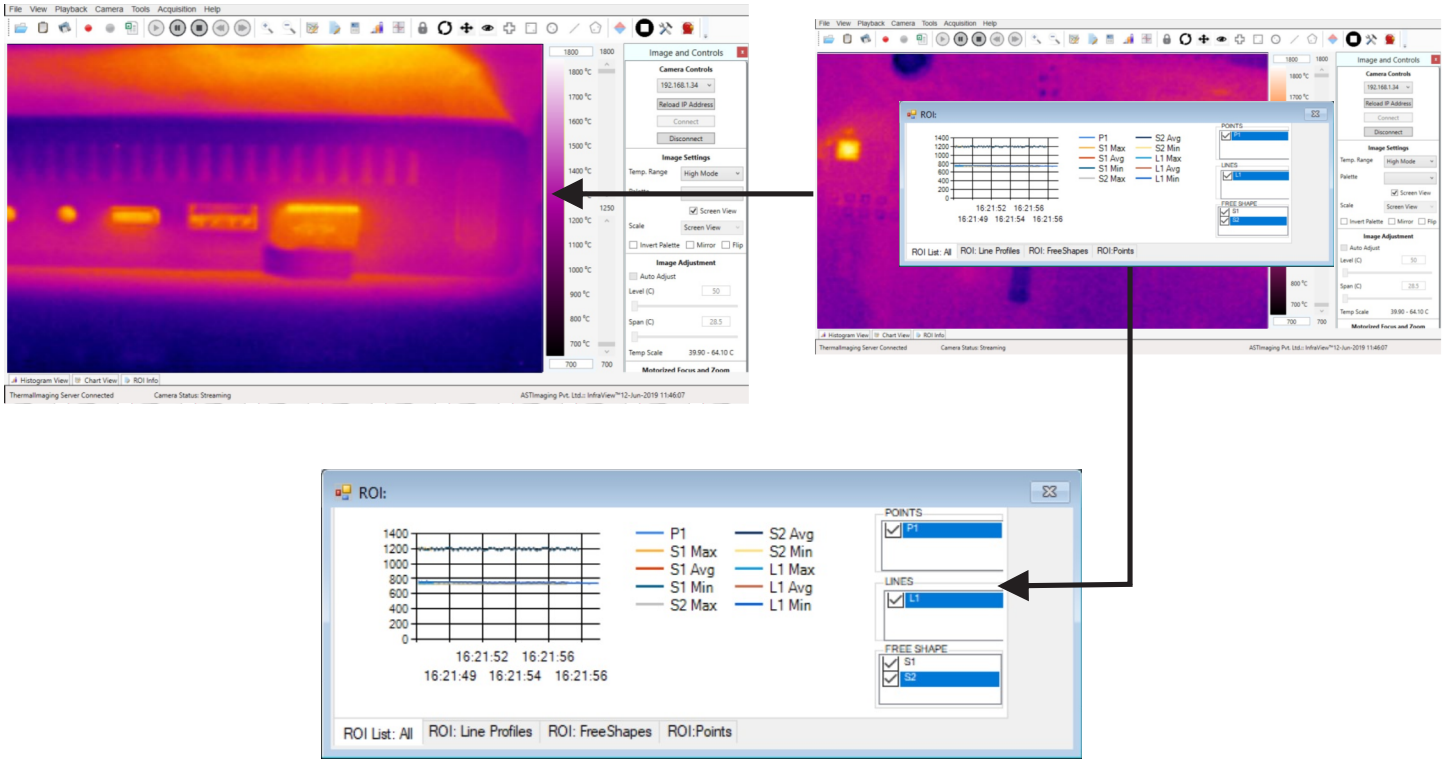
Additionally, the camera can be used with a desktop PC or with a laptop for a standalone monitoring system.



INFRAVIEW™ SOFTWARE

ThermCAM-160 has a thermal image processing software INFRAVIEW™ at the core of a thermal imaging system which is MS Windows based standard Image Processing Software that comes with many useful features.

Accuopt's INFRAVIEW™ software allows you to control the camera record, thermal video, stream video nearly real time, It allows computed temperatures to be sent out via I/O card which in turn can be connected to PLCs.



SALIENT FEATURE LIST FOR INFRAVIEW™ SOFTWARE

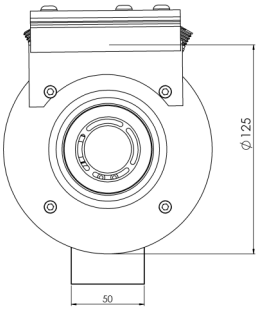
- Configurable emissivity, Transmissivity Settings
- Real-time display of thermal images
- Includes 9 different color palates
- Multiple types of ROI including point, line, and area with min./max./avg. temperature display
- Includes analysis tools like histogram and temperature trend chart for multiple ROI's.
- Alarm generation for entire or ROI based on minimum, maximum or average temperature
- Analog and digital output module
- Triggered capture based on alarm conditions
- Password controlled user access
- Data export to text or Microsoft Excel (includes thermal image, ROI table summary/data, image data) or to text
- Analyze previously recorded images using RAW data
- Saving Thermal Video in MP4 format
- Optional SDK
- Additional software for Real Time Temperature dashboard, analysis and report generation.

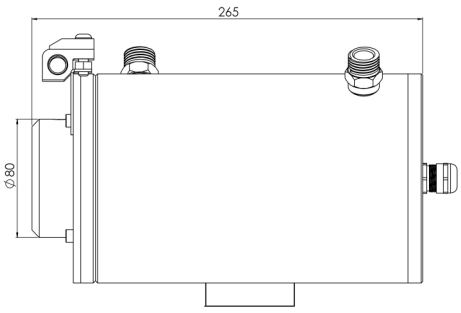
STANDARD ACCESSORIES

- 12 VDC Power Cord
- Ethernet Cable 10Mtr.
- Standard Infraview™ Software
- Lens

OPTIONAL ACCESSORIES

Water Cooling Jacket with Air knife





I/O Module

DIN RAIL Mounted I/O Module

The I/O module consist of digital input/digital output(relay output) and analog 4 - 20mA. It 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
- I/O can be customized according to user requirement
- I/O works on Ethernet and provide with Din rail Mounting for Easy Installation

- Processor : Intel i5 8th Generation or Higher
- RAM : 8 GB
- HDD : 1 TB
- SSD : 256GB
- 2 Gigabit Ethernet port
- Operating System : Windows 10Pro

Wall Mounting

Vortex Tube

Network Devices

ThermCAM-160

TECHNICAL DATA

Performance Specifications	
Temperature Range	-20°C to 120°C | 100°C to 1000°C (Switchable)
Optional Resolution	160 x 120 pixels
Detector	Uncooled FPA Detector
Frequency	@30Hz
Emissitivity	0.01 - 1.0 adjustable
Accuracy	±2% of reading in °C or °K (Ambient temp @25°C)
Spectral Range	8 to 14 µm
Sensitivity / NETD	<60mK@f1.0, 50Hz 300 K
Pixel Pitch	17 µm

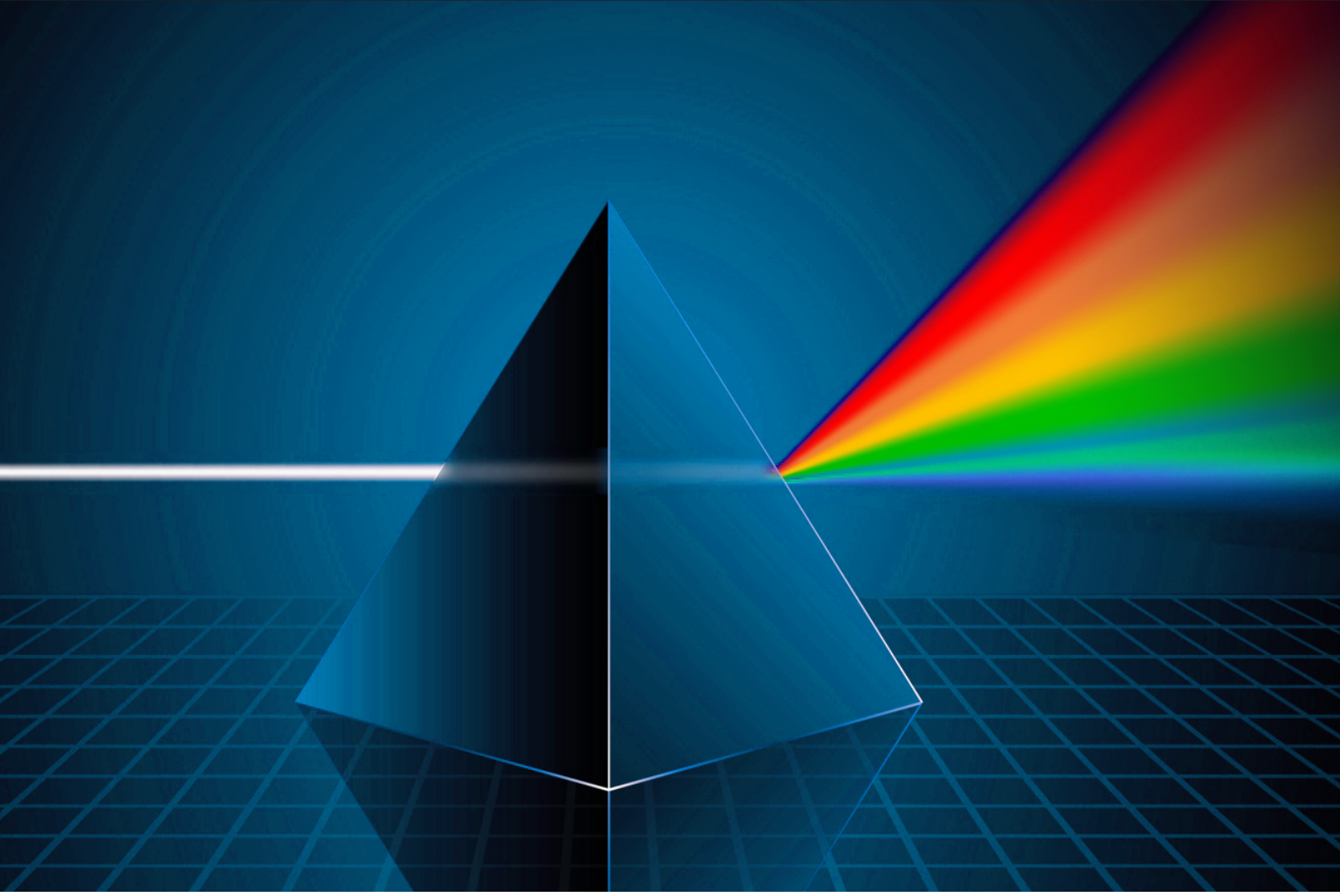
Interface Specifications	
Video	100MBit/s Ethernet
Connection	Power Connector, RJ-45 Ethernet Connector
Output	4 - 20mA | 1 TTL output
Video Format for Saving	MPEG-4
Image Format for Saving	BMP/JPEG

Electrical Specifications	
Power Supply	12 to 28 V DC
Power Consumption	4 Watt Max.

Environmental / Mechanical Specifications	
Ambient Temperature	0°C - 50°C
Storage Temperature	-40°C - 70°C
Relative Humidity	≤95% non-condensing
Shock Resilience	25g
Vibration Resilience	2g
Weight	~550g
Protection Class	IP65
Size	95 x 60 x 60 mm
Mounting	1/4" UNC, 3/8" UNC

Cooling Jacket Specifications	
Inlet/Outlet (Cooling)	½" NPT Thread
Inlet For Air Purging	PU Pipe suitable for 6mm nozzle
Water Flow Rate	6-8 L/min
Air Pressure	Min. 3 bar (Moist Free)
Mounting	1/4" UNC, 3/8" UNC

Additional I/O Module Specifications	
Analog Output	4 Channel Analog Current Output (4 - 20mA)
Digital Input	2 Isolated Inputs
Digital Output	2 Relay Outputs
Power Supply	5 V DC



ABOUT ACCURATE OPTOELECTRONICS

AccuOPT – Accurate Optoelectronics Pvt Ltd. is a world-leading manufacturer of thermal imaging camera and solution. Based on technological innovations, AccuOPT Technology offers parts or end-to-end solutions for Industrial, Defense, Surveillance and Medical fields.

for any information,
visit www.accuopt.com

info@accuopt.com
+919352506032, +91 8306006472