ThermCAM Pro-640

Long Wavelength
Ultra Compact Infrared
Camera for Non Contact
Temperature Measurement

ThermCAM PRO-640 is a thermal camera series which can be used for a wide range of temperature measurement applications. This camera series caters the best balance between image clarity and data transfer rate with multiple uncooled FPA detector resolution options to choose from. It provides ultimate inspection tools and unprecedented easy-to use designs to fit your needs. May it be quality control, process monitoring or process automation, the infrared camera series measures temperatures with accuracy and reliably.

Detector

640 x 480 pixels

Measurement Accuracy

±2% of reading in °C or °K

Software Features

- Configurable ROIs with trend charts and alarm output
- Histogram and Isotherm visualization
- Multiple color palette scaling options

Output Interface

- Fast thermal data acquisition in real time via 100M-bit/GigE Ethernet or over ONVIF with compressed H264 streaming .
- Digital and analog output , 1 digital (TTL) & analog (4 - 20mA) output HDMI output with Hot & Cold spot detection.

Typical Applications

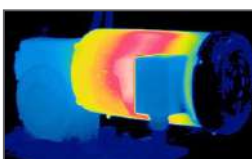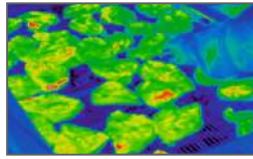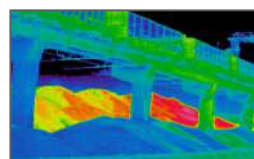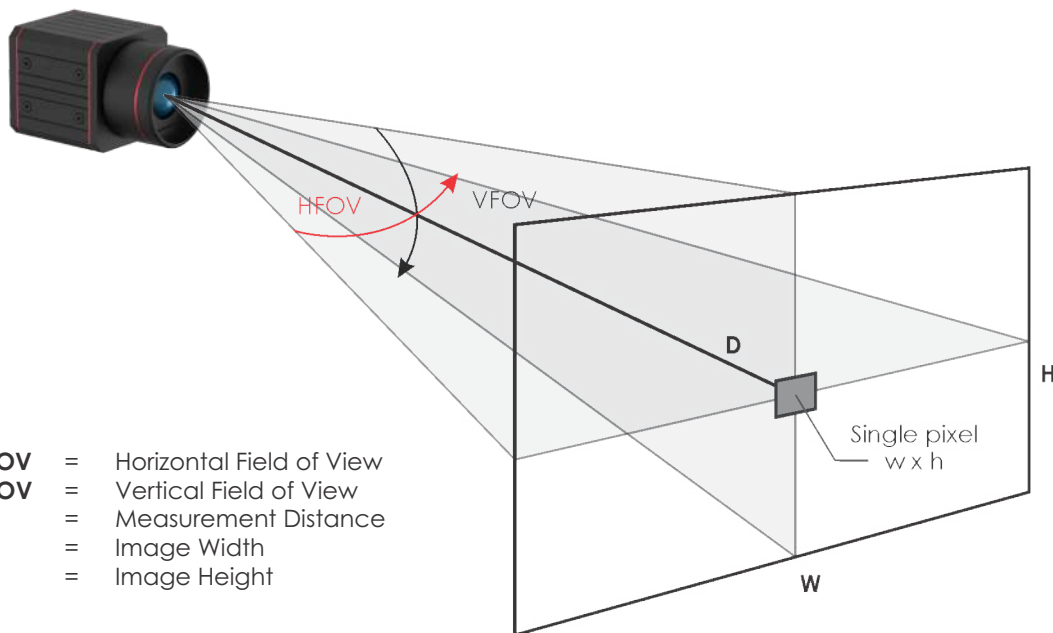|			
Process Automation	Electric Equipment Inspection	Process Control in Metallurgy	Ladle Monitoring
Critical Assets	Quality Management	Early Fire Detection	Building Thermography

ThermCAM Pro-640

Overview

The compact design of the ThermCAM Pro-640 series 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 Pro-640 can be installed with an optional Ip65 enclosure with air purge unit for additional protection in harsh industrial environments where ambient temperature exceed ~50°C.

Optics Variants

A wide range of lenses are available for the ThermCAM Pro-640, making it suitable for most industrial applications. The picture and table show the correlation between the measurement distance, different optics, and the size of the measurement fields.
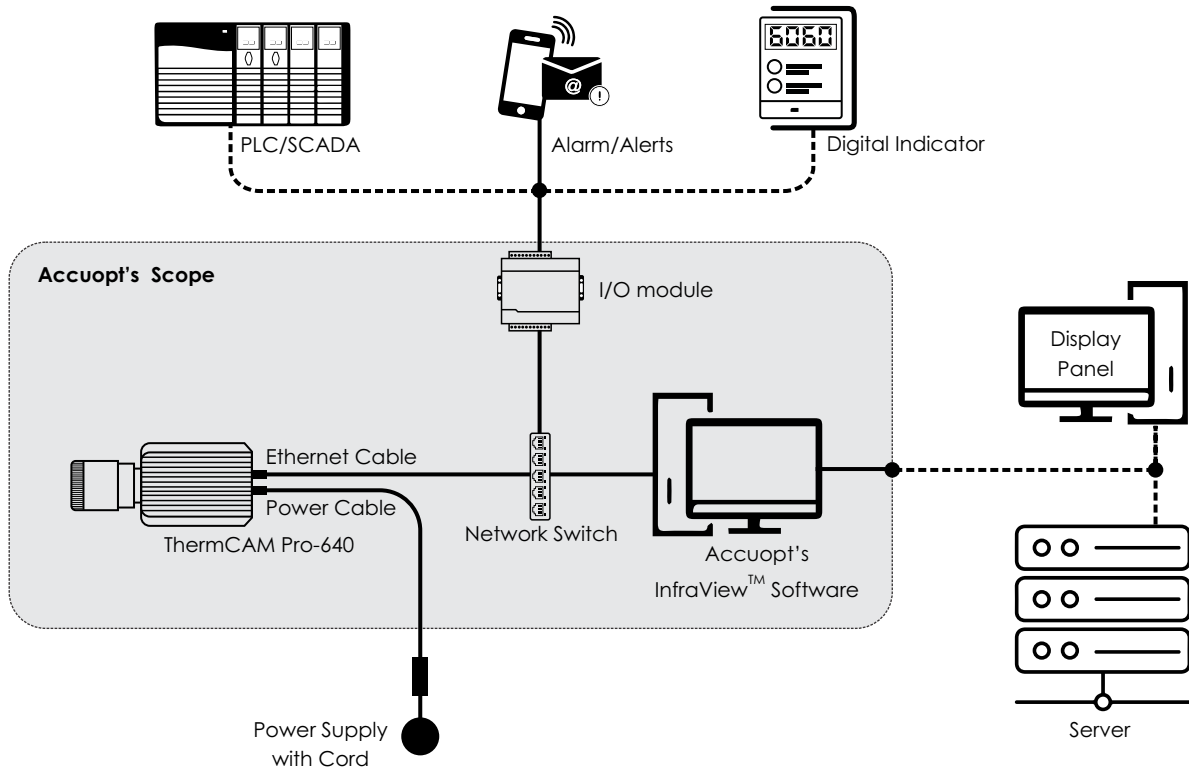

HFOV = Horizontal Field of View
VFOV = Vertical Field of View
D = Measurement Distance
W = Image Width
H = Image Height

Lens	Detector Option	FOV		Distance	Projection		IFOV
		HFOV	VFOV		Horizontal	Vertical	
19 mm (Standard)		23.00° x 17.30°		1 Meter	0.407	0.304	0.63
				1 Meter	2.035	1.521	3.17
				1 Meter	2.035	3.043	6.35
25 mm (General Purpose)	640 x 480	17.60° x 13.20°		1 Meter	0.310	0.231	0.48
				1 Meter	1.548	1.157	2.41
				1 Meter	3.096	2.314	4.83
50 mm (Wide Range)		8.70° x 6.60°		1 Meter	0.152	0.115	0.24
				1 Meter	0.761	0.577	1.19
				1 Meter	1.521	1.153	2.39

TEMPSENS

SYSTEM CONFIGURATION

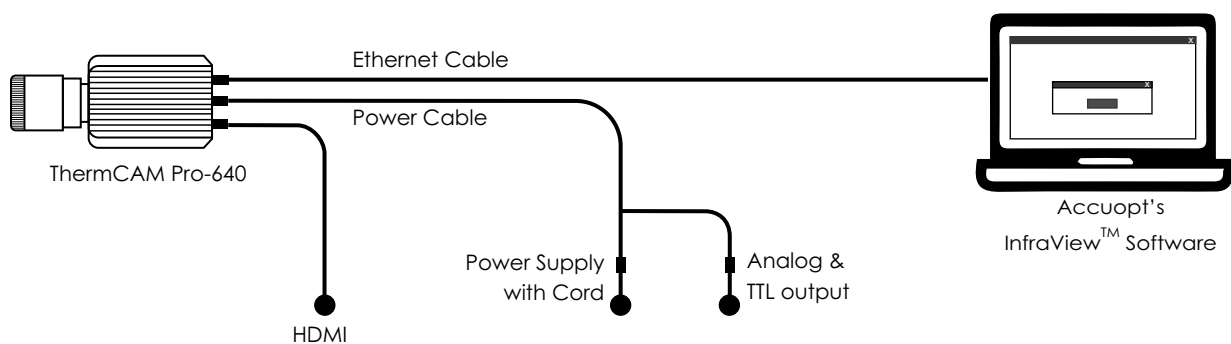Accuopt thermal imagers offer several configuration options.

ThermCAM Pro-640 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.

PLC/SCADA   Alarm/Alerts   Digital Indicator

Accuopt's Scope

I/O module

Display Panel

Ethernet Cable
Power Cable
ThermCAM Pro-640

Network Switch

Accuopt's
InfraView™ Software

Power Supply
with Cord

Server

ThermCAM Pro-640 Standalone System

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

Ethernet Cable
Power Cable
ThermCAM Pro-640

Power Supply
with Cord

Analog &
TTL output

HDMI

Accuopt's
InfraView™ Software

ThermCAM Pro-640

INFRAVIEW™ SOFTWARE

ThermCAM Pro-640 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.

Accuopt's INFRAVIEW™ software allows you to control the camera 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.
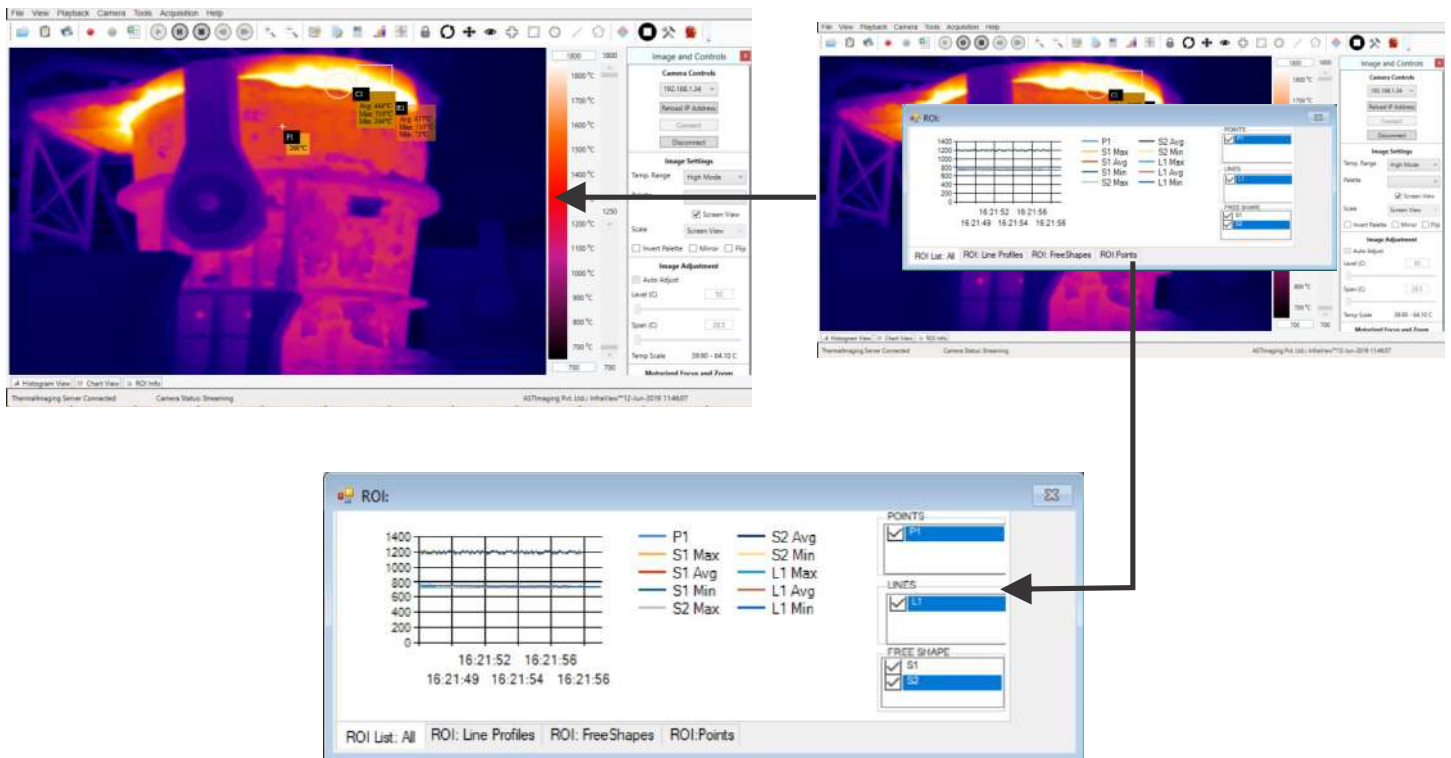

SALIENT FEATURE LIST FOR INFRAVIEW™ SOFTWARE

▪ Adjustable emissivity, background, and transmission settings

▪ Real-time display of thermal images

▪ Includes 12 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

▪ Export captured sequences to mp4

▪ Optional SDK

▪ Additional software for Real Time Temperature dashboard, analysis and report generation.

STANDARD ACCESSORIES

- 12 VDC Power Cord
- Ethernet Cable 10Mtr.

- Infraview™ Software
- Lens

OPTIONAL ACCESSORIES

Water Cooling Jacket
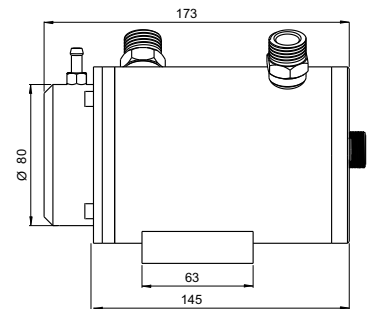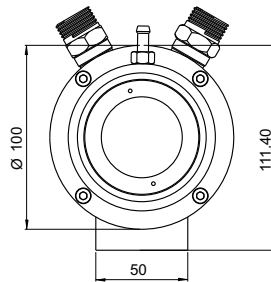
I/O Module

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

Workstation/Laptop

- Processor : Intel i5 8th Generation or Higher
- RAM : 8 GB
- HDD : 1 TB or Higher
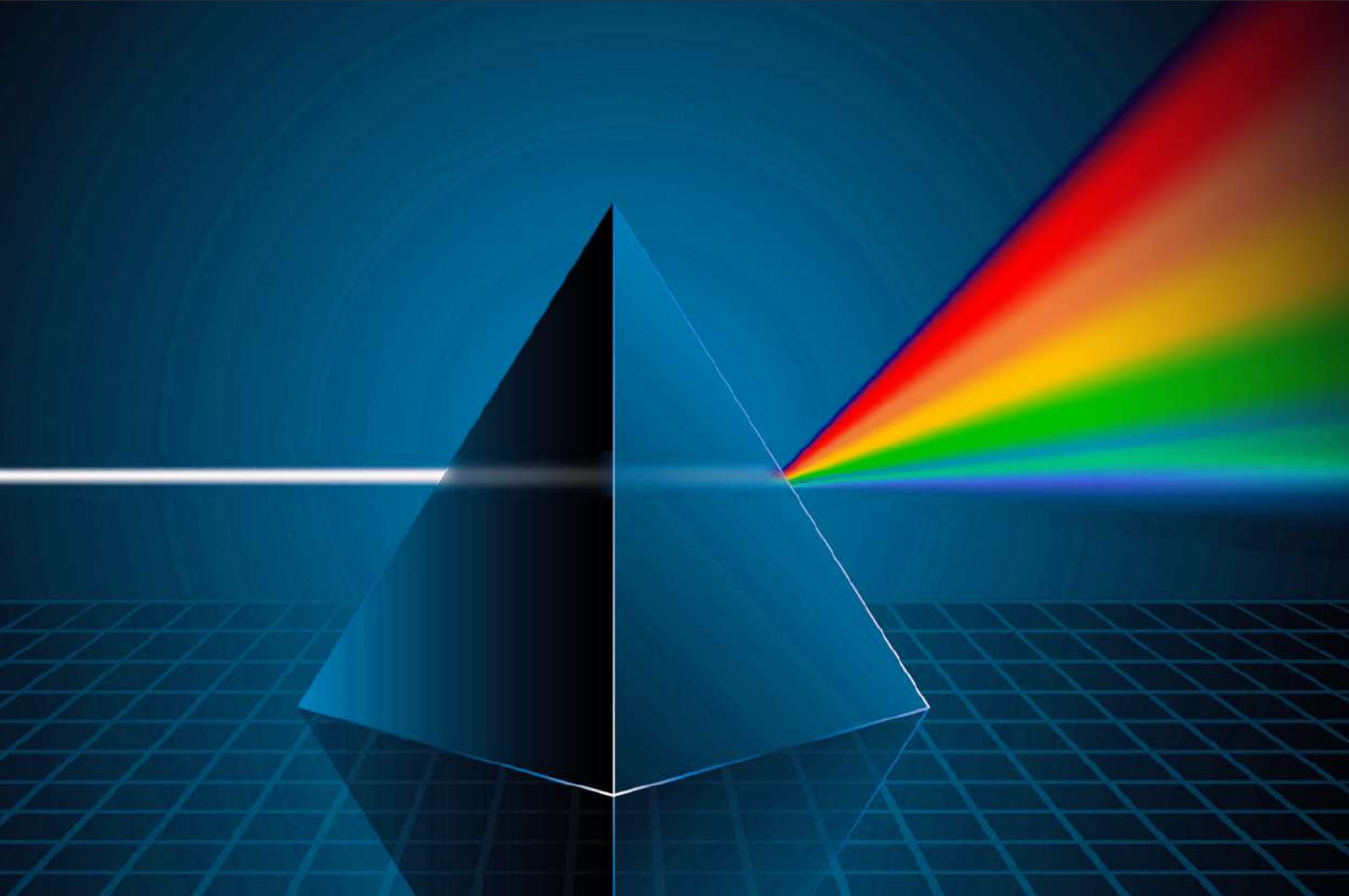- Operating System : Windows 10Pro

Wall Mounting

Network Devices

ThermCAM Pro-640

Detector Resolution	640 x 480 Pixel
Spectral Range	8 to 14 µm
Pixel Pitch	12 µm
Frequency	Upto 30Hz
Detector	Uncooled FPA detector
NETD	<60mK@f1, 300K, 30 Hz
Temperature Range	-20 to 120°C/100 to 1000°C, Switchable via Software
Acuracy	±2% of reading on °C or °K
Emissivity	0.01 - 1.0 adjustable
Video	1 Gbps Raw Streaming or H.264 Streaming over ONVIF or HDMI
Connection	RJ-45 Ethernet, HDMI & Power (with analog and TTL output)
Video Format for Saving	MPEG-4, AVI
Image Format for Saving	BMP / JPEG
Power Supply	18 to 36 VDC
Power Consumption	6 to 7 Watt
Ambient Temperature	0°C - 50°C
Storage Temperature	-40°C to 70°C
Relative Humidity	<95% non-condensing
Shock Resilience	25G
Vibration Resilience	2G
Weight	~400g
Protection Class	Ip54
EMC	CE
Size	54 x 54 x 125 mm (Without Lens)
Mounting	UNC 1/4" - 20 Standard Mount, 4 x M4 Thread
Analog Output	1 x 4 - 20mA Output
Digital Output	1 TTL output

TEMPSENS