

## FlareVIEW SYSTEM

Flare Stack Monitoring System



FlareVIEW-SYSTEM is a thermal camera Solution specially designed for flare stack monitoring. This thermal camera system is capable of detecting the flare presence and measure its temperature in harsh environmental condition which make this system the best method to monitor flame compared to other methods such as thermocouples, UV sensors and CCTV. Also by using telephoto lenses in the system we can monitor the flame from a large distance of up to 400 meters.

### Product Highlights

- FlareVIEW-SYSTEM works at a long wavelength range from 8 - 14  $\mu\text{m}$ .
- Provide continuous thermal output in bright sunny, rainy and foggy conditions.
- Stainless steel enclosure with Sunshield.
- Explosion proof housing (on request)
- High shock and vibration tolerance for maintenance-free operation.
- Analog output corresponding to flame temperature and Digital relay output for flame status.

### Temperature Ranges

- -20°C - 120°C
  - 100°C - 1000°C
- } Switchable via Software

### Detector

Uncooled FPA detector with below resolution  
384 x 288 pixels / 640 x 488 pixels.

### Measurement Accuracy

$\pm 2\%$  of reading in °C or °K

### Software Features

- Configurable ROI's with trend chart and alarm output.
- Histogram and isotherm visualization.
- Multiple color palette scaling option.

### Output Interface

- Fast thermal data acquisition in real time via 100M-bit Ethernet
- Digital and analog input/output modules



# FlareVIEW-SYSTEM

## Overview

The compact design of the FlareVIEW-SYSTEM enables the integration of the camera into compact process applications, while the durable and robust housing guarantees reliability even in most harsh industrial environments. The FlareVIEW-SYSTEM can be installed with an optional Weatherproof/ ATEX enclosure with Germanium window for addition protection in harsh environments where ambient temperatures are experienced.

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 FlareVIEW-SYSTEM, 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.

### Lens Options for 384 x 288 Resolution

Measurement Field (HFOV x VFOV)	Distance of object	Width(M)	Height (M)	Pixel WxH (MM)
14.8x 11.2° (FL = 25 mm fixed)	10 M	2.60	1.92	6.79
	50 M	12.98	9.80	33.93
	100 M	25.97	19.61	67.87
7.5° x 5.6° (FL = 50 mm fixed)	10 M	1.31	0.97	3.41
	50 M	6.55	4.89	17.03
	100 M	13.10	9.78	34.05
4.9° x 3.7° (FL = 75 mm fixed)	10 M	0.85	0.64	2.24
	50 M	4.28	3.23	11.18
	100 M	8.55	6.46	22.36
3.7° x 2.8° (FL = 100 mm fixed)	10 M	0.64	0.48	1.69
	50 M	3.23	2.44	8.45
	100 M	6.46	4.88	16.90

### Lens Options for 640 x 480 Resolution

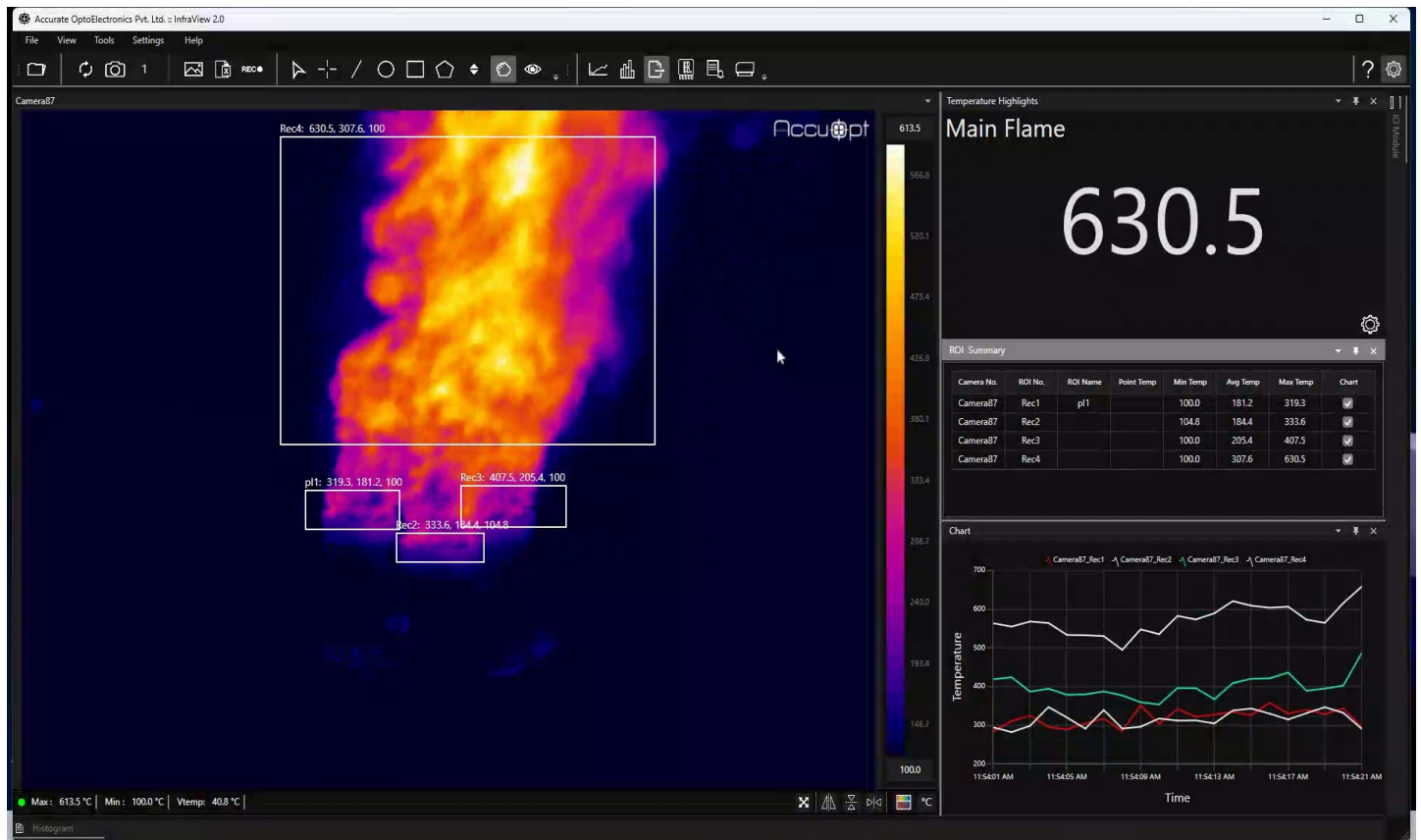
640 Measurement Field (HFOV x VFOV)	Distance of object	Width (M)	Height (M)	Pixel WxH (MM)
22.9° x 17.2° (FL = 19 mm fixed)	10 M	4.05	3.02	6.32
	50 M	20.25	15.12	31.58
	100 M	40.50	30.24	62.15
17.5° x 13.1° (FL = 25 mm fixed)	10 M	3.07	2.29	4.80
	50 M	15.39	11.48	23.98
	100 M	30.78	22.96	47.97
8.8° x 6.6° (FL = 50 mm fixed)	10 M	1.53	1.15	2.40
	50 M	7.69	5.76	12.02
	100 M	15.38	11.53	24.04
5.9° x 4.4° (FL = 75 mm fixed)	10 M	1.03	0.76	1.61
	50 M	5.15	3.84	8.03
	100 M	10.30	7.68	16.06
4.4° x 3.3° (FL = 100mm fixed)	10 M	0.76	0.57	1.20
	50 M	3.84	2.88	6.00
	100 M	7.68	5.76	12.00

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

## INFRAVIEW™ SOFTWARE

FlareVIEW-SYSTEM comes with thermal image processing software InfraView™ at the core of a thermal imaging system which is Windows based Software with many useful features.

AccuOpt's InfraView™ software allows you to stream thermal video on a PC , record thermal video, Draw ROI (Region Of Interest) in various shapes and sizes. It allows computed temperatures to be sent out via I/O module which in turn can be connected to PLCs.



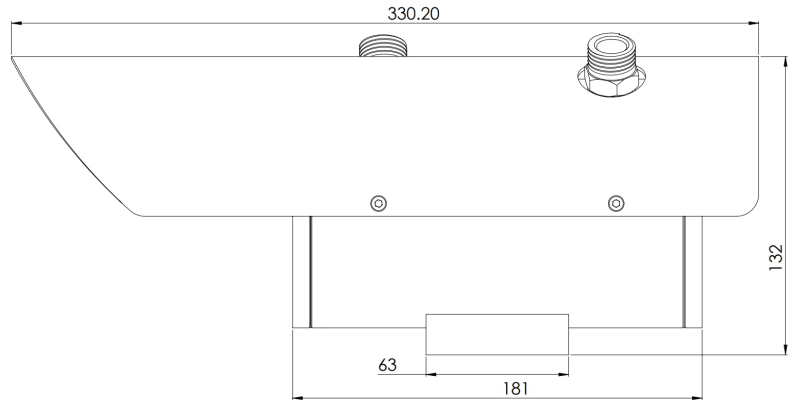
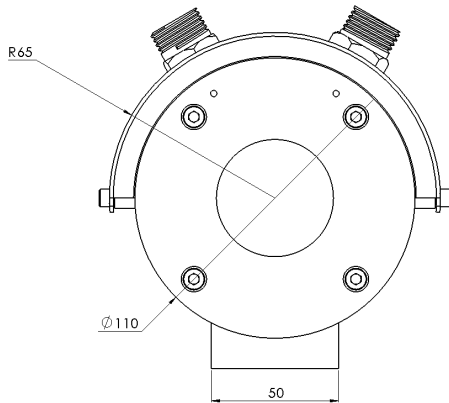
## SALIENT FEATURE LIST FOR INFRAVIEW™ SOFTWARE

- Configurable emissivity 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
- Data export option to .csv format.
- Radiometric snapshot for post analysis.
- ROI table summary.
- Analyze previously recorded video using RAW data.
- Saving Thermal Video in MP4 format.
- Additional SDK available for system integrator.
- Additional software for Real Time Temperature dashboard, analysis and report generation.

## STANDARD ACCESSORIES

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

## TECHNICAL DRAWING - Weatherproof Housing



## OPTIONAL ACCESSORIES

### I/O Module



I/O Module

The I/O module consist of digital input/digital output(relay output) and analog 4 - 20mA, which can be mounted on Din-rail. It provides analog and relay outputs with respect to temperature. These outputs can be customized for temperature indication, alarm generation or error reporting.

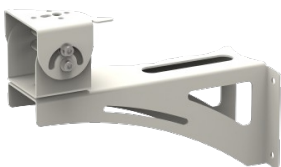
- All I/O are user settable for range and ROI selection
- I/O Channel parameters can be customized via software, as per requirement
- I/O works on Ethernet and provide with Din rail Mounting for Easy Installation

### Workstation/Laptop (for Single Camera Only)



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

### Wall Mounting



### Power Supply



### Tripod



### Network Devices



## TECHNICAL DATA

Performance Specifications	FlareVIEW-384	FlareVIEW-640
Optical Resolution	384 x 288 pixel	640 x 480 pixels
Pixel Pitch	17µm	12µm
Temperature Range	-20°C to 120°C   100°C to 1000°C Switchable via Software	
Detector	Uncooled FPA Detector	
Spectral Range	8 to 14 µm	
Sensitivity / NETD	<50mK@f1.0, 30Hz 300 K	
Accuracy	±2°C or ±2% of reading in °C or °K	
Emissivity	0.01 - 1.0 adjustable	

Interface Specifications	
Digital	100MBit/s
Connection	Power Connector, RJ-45 Ethernet Connector
Image Format for Saving	MP4
Image Format for Saving	JPEG

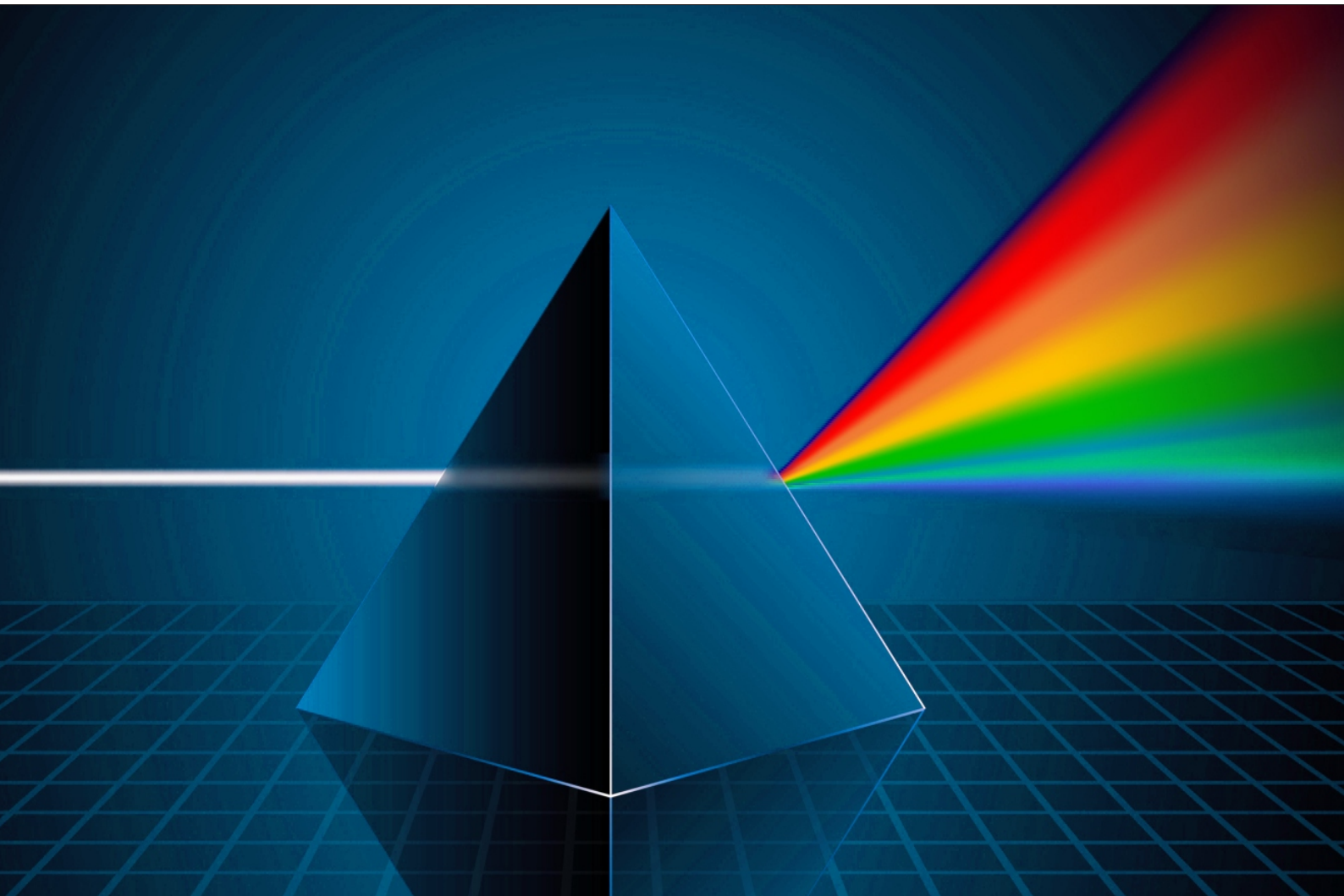
Electrical Specifications	
Power Supply	12 to 24 V DC
Power Consumption	<4 Watt

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	~450 gms (without lens)
Protection Class	IP65
EMC	CE
Size	60 x 70 x 61 mm (without lens)
Mounting	UNC 1/4"-20, UNC 3/8"-16 Standard Mount

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

Cooling Jacket Specifications	
Inlet/Outlet (Cooling)	½" BSP Thread
Inlet For Air Purging	PU Pipe suitable for 8mm nozzle
Water Flow Rate	6-8 L/min
Air Pressure	Min. 3 bar (Moist Free)
Mounting	5 x M5 Thread
Protection Class	IP-67 (for weatherproof housing)





for any information,  
visit [www.accuopt.com](http://www.accuopt.com)

[sales@accuopt.com](mailto:sales@accuopt.com)  
+91 8306006472, +91 9352506032

## 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.

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