VP190-BE-0A Series

Thermal Camera Systems

Infinova®
The Integrator's Manufacturer

- **Major Components**
  - ➤ Thermal Camera - Long Wave Infrared imaging camera
  - ➤ Thermal Camera Lens - Dual field of view lens
  - ➤ Pan/Tilt Positioner - High accuracy pan/tilt unit
  - ➤ Pedestal Extension - Pedestal Mount Extension Adaptor
  - ➤ Payload Cable - Connects camera to Pan/Tilt unit
  - ➤ Control Cable - Connects system to external power, video, communications

- **Applications**
  - ➤ Port Security
  - ➤ Airport Perimeters
  - ➤ Nuclear Power Plants
  - ➤ Border Surveillance
  - ➤ Critical Infrastructure
  - ➤ Oil and Gas Facilities

Infinova VP190-BE-0A series cameras are a broad portfolio of high performance outdoor rated thermal cameras for 24/7 perimeter surveillance, observation, and monitoring of critical infrastructure and sensitive sites.

This camera is mounted on a Pan/Tilt positioner and offers dual field of view lens. All its models also feature the option for either standard 30Hz video frequency or optional 9Hz frequency; and the 9Hz video option allows for simple and easy export.

Available in 17μ 640 x 480 cameras, VP190-BE-0A series camera brings unique value to customers in areas of high risk of fire. Facilities with flammable materials, transportation tunnels, combustible storage areas, and perimeter sites located near flammable forest and bush are all sensitive to fire danger. VP190-BE-0A series camera can be used for both safety and security at these unique site locations.

The VP190-BE-0A series cameras are ruggedly designed to withstand the harshest weather and environmental conditions, including rain, direct sunlight, high humidity, dust, heat and cold.

Technical Specifications

Power Requirements

Power Input	12-32 VDC	
Power Consumption	**Typical**	**Max.**
Fixed DFOV Motorized	<4w	48w

Environmental

Operating Temperature	For analog camera: -40°F to +140°F (-40°C to +60°C); For IP camera: -27°F to +131°F (-33°C to +55°C)
Storage Temperature	-40°F to +160°F (-40°C to +71°C)
Humidity	+40°C, 93% RH
Environmental Rating	IP66

Mechanical Parameters

Dimensions (W×D×H)	9.53"×8.07"×12.91" (205mm×328mm×242mm)
Weight	5.22kg

Thermal Camera

Imager Type	Uncooled Microbolometer
Spectral Band	7.5-14µ
Pixel Size / Resolution	17µ / 640 x 480 NTSC / PAL
NETD	<50° mK NTSC/PAL
Video Frequency	30Hz or 9Hz (Easy Export)
Lens Options	
Dual Field of View	Includes 45 and 135mm focal lengths
	Operater selectable wide or narrow field of view
	Motorized AutoFocus on demand
Horizontal Field of View (HFOV)	45/135mm: 13.9°/4.6°

Communication

Control Connections	RS-422/RS485, 4 wires
Control Protocol	Pelco D
Remote Operation	Serial, IP (optional)

Pan/Tilt Unit

Pan Range / Speed	360° continuous / 0-100° per second
Tilt Range / Speed	-90° to +90° / 0-50° per second
Backlash	<0.2°
Number of Presets	64

Fire Detection Camera

Fetures	
2 Detection Algorithms	Flame Detection
	High Fire Risk Area Detection
3 Alarm Types	Alarm Video Overlay
	Alarm via Serial Communication
	Dry Contact Closure Outputs
Detection Specifications	Up to 5 simultaneous fires detected
	x/y Fire Coordinates transmitted
Control Features	Enable/Disable Detection (Risk Area & Flame)
	Set Alarm Temperature Threshold (Risk Area)
	Set up to Five Regions of Non Interest (Risk Area)

Pan / Tilt Positioner Specifications

Pan Range	360° Continuous
Tilt Range	-90° to +90°
Pan Speed	-100°/sec
Tilt Speed	0-50°/sec
Backlash	<0.2°
Number of presets	64
Speed Variability	On-the-fly speed changes

Others

Video Format	RS-170/CCIR, 1.0V p-p, 75ohm; MJPEG or H.264 (IP only)

Certifications and Approvals

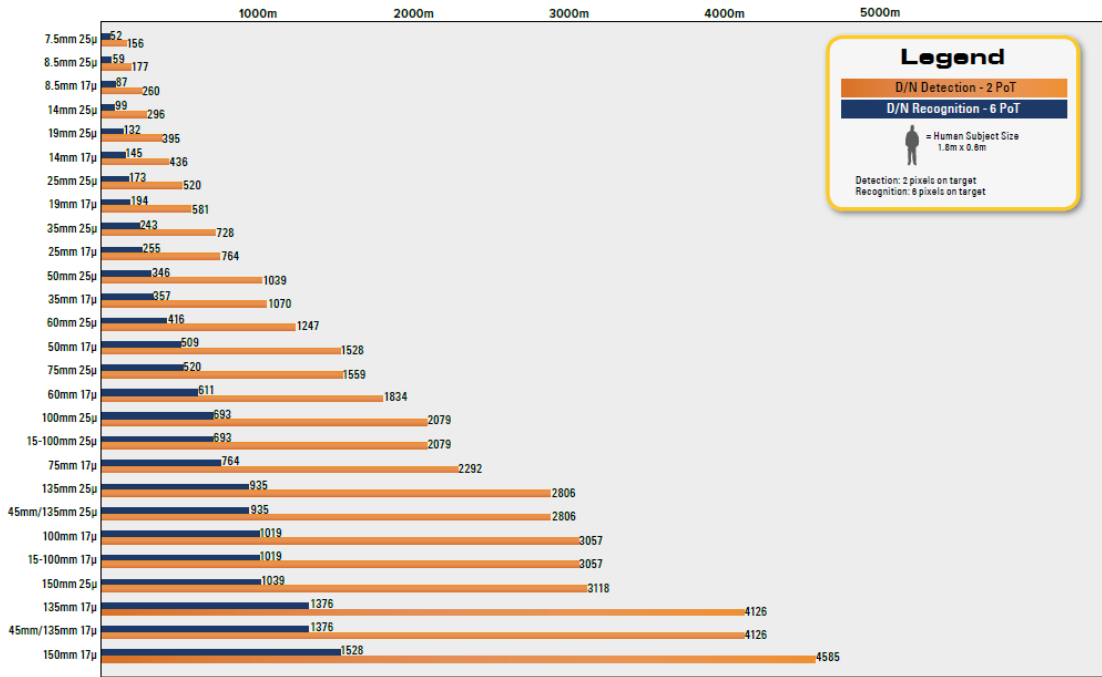| Product Certifications	CE, FCC, IP66

Ordering Information

For Analog Cameras:
VP190-BE135D17V-0A030   45/135mm f/1.1 / f/1.6 Dual Field of View, 17μ, 640x480, NTSC/PAL

For IP Cameras:
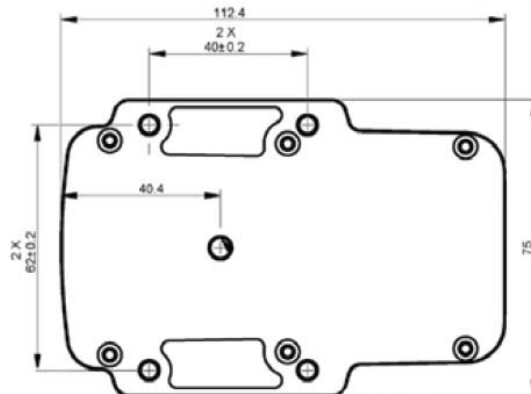VP190-BE135D17V-0N030   45/135mm f/1.1 / f/1.6 Dual Field of View, 17μ, 640x480, NTSC/PAL

Thermal Camera Performance

Lens	D/N Recognition - 6 PoT	D/N Detection - 2 PoT
7.5mm 25μ	52	156
8.5mm 25μ	59	177
8.5mm 17μ	87	260
14mm 25μ	99	296
19mm 25μ	132	395
14mm 17μ	145	436
25mm 25μ	173	520
19mm 17μ	194	581
35mm 25μ	243	728
25mm 17μ	255	764
50mm 25μ	346	1039
35mm 17μ	357	1070
60mm 25μ	416	1247
50mm 17μ	509	1528
75mm 25μ	520	1559
60mm 17μ	611	1834
100mm 25μ	693	2079
15-100mm 25μ	693	2079
75mm 17μ	764	2292
135mm 25μ	935	2806
45mm/135mm 25μ	935	2806
100mm 17μ	1019	3057
15-100mm 17μ	1019	3057
150mm 25μ	1039	3118
135mm 17μ	1376	4126
45mm/135mm 17μ	1376	4126
150mm 17μ	1528	4585

Legend

D/N Detection - 2 PoT
D/N Recognition - 6 PoT
= Human Subject Size
1.8m x 0.6m

Detection: 2 pixels on target
Recognition: 8 pixels on target

*Performance Dependent on Atmospheric Conditions

100m = 328ft   1000m = .62 mi
500m = 1640ft   1610m = 1 mi
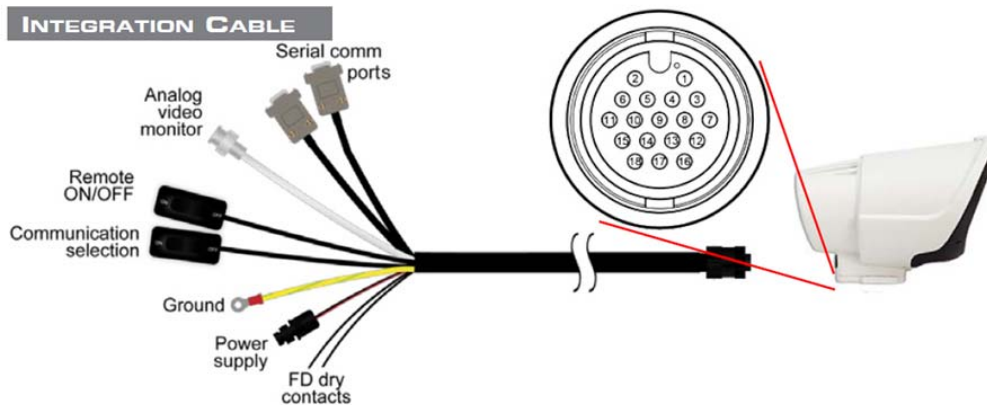
Camera Mounting Information

Wiring Assignment

For Analog Cameras:

Communication

Connector Pin #	Signal name	Description	Input/Output
2	COMM_TX+	RS422/RS485 Transmit High	Output
6	COMM_TX-	RS422/RS485 Transmit Low RS232 Transmit	Output
11	COMM_RX+	RS422 Receive High RS232 Receive	Input
15	COMM_RX-	RS422/RS485 Receive Low	Input
10	COMM_SEL	RS422/232 Comm. Select	Input
18	PIC_TX	Factory Settings and Technician Use only (RS232)	Input
17	PIC_RX		
14	COMM_GND	Communication Ground	-

Power, Video, Fire Detection

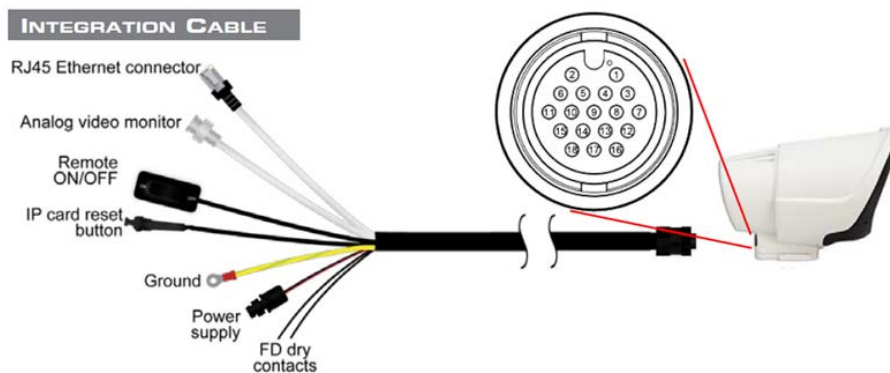| Connector Pin #	Signal name	Description	Input/Output
8	PWR_IN_RTN*	Power Supply Return	Input
9	PWR_IN*	Power Supply In	Input
7	GND	Chassis Ground	-
13	REMOTE_PWR	Remote Pwr ON/OFF	Input
1	VIDEO	Analog Video Signal	Output
3	VIDEO_RTN	Analog Video Signal RTN	Output
4	FD_ALERT	Fire Detection Alert (Dry Contact)	Output
5	FD_ALERT	High Risk of Fire Alert (Dry Contact)	Output
12	SPARE	Spare wire	-
16	SPARE	Spare wire	-

For IP Cameras:

Communication

Connector Pin #	Signal name	Description	Input/Output
2	LAN_TX+	TCP/IP Transmit High	Output
6	LAN_TX-	TCP/IP Transmit Low	Output
11	LAN_RX+	TCP/IP Receive High	Input
15	LAN_RX-	TCP/IP Receive Low	Input
10	SPARE	Spare wire	-
18	PIC_TX	Factory Settings and Technician Use only (RS232)	Input
17	PIC_RX		
16	Reset IP	Resets the embedded IP encoder	-

Power, Video, Fire Detection

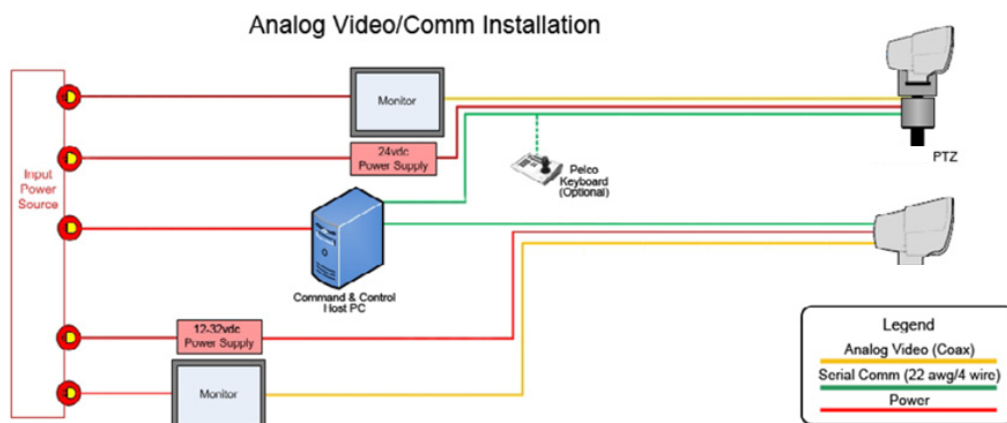| Connector Pin #	Signal name	Description	Input/Output
8	PWR_IN_RTN*	Power Supply Return	Input
9	PWR_IN*	Power Supply In	Input
7	GND	Chassis Ground	-
13	REMOTE_PWR	Remote Pwr ON/OFF	Input
1	VIDEO	Analog Video Signal	Output
3	VIDEO_RTN	Analog Video Signal RTN	Output
4	FD_ALERT	Fire Detection Alert (Dry Contact)	Output
5	FD_ALERT	High Risk of Fire Alert (Dry Contact)	Output
12	LAN_PWR_IN	PoE Power 48 VDC IN	Input
14	LAN_PWR_RTN	PoE Power 48 VDC IN	Input

Shipping Contents

Standard Order includes:

1) Thermal camera & pan/tilt positioner

2) Cable Mating Connector (not shown)

3) Software & Documentation CD
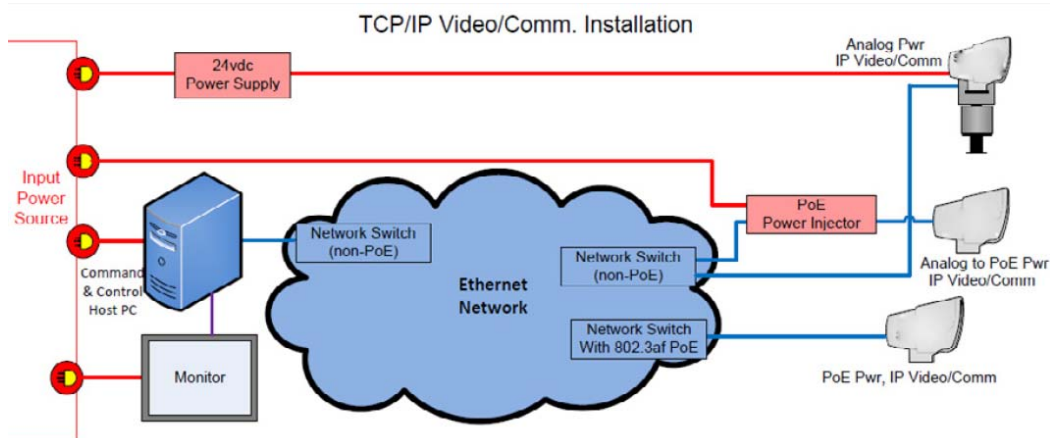
    a) User Manual

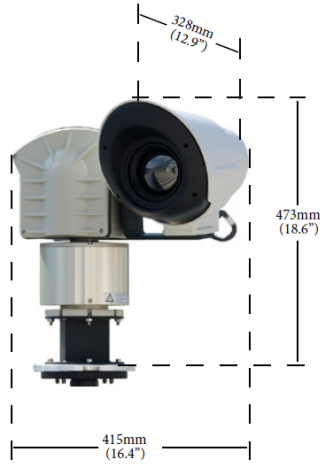   b) Test & Configuration Software

Typical System Design

For Analog Cameras:

For IP Cameras:

System Installation Dimensions

328mm (12.9")

473mm (18.6")

415mm (16.4")

System Drawings