

VP190-DE Series

Extended Range Thermal Cameras



VP190-DE is family of powerful long range continuous zoom thermal cameras for OEM integration and long range security and surveillance applications. VP190-DE allows long range observation and detection using state of the art cooled and uncooled thermal imaging technology and contrast enhancing image processing algorithms.

VP190-DE features one uncooled camera configuration (DE225) and four cooled configurations available (DE275, DE300, DE420, DE700) with their names based on their lens size. The uncooled model features a 17 μ 640 x 480 thermal core with 25-225mm continuous zoom lens while the cooled models feature a 15 μ 640 x 512 core with 19-275mm, 15-300mm, 21-420mm, and 48.5-700mm continuous zoom lenses.

All VP190-DE models feature AutoFocus on Demand for crisp, clear imaging. The uncooled DE225 model also features the option for either standard 30Hz video frequency or optional 9Hz frequency, the 9Hz video option allows for simple and easy export.

The VP190-DE's rugged design allows it to withstand the harshest weather and environmental conditions, including rain, direct sunlight, high humidity, dust, heat, and cold.

VP190-DE Models



DE225



DE275



DE300



DE420



DE700

Configuration	Configuration	Lens
DE225	Uncooled 17μ 640 x 480	Continuous Zoom 25 - 225mm
DE275	Cooled 15μ 640 x 512	Continuous Zoom 19 - 275mm
DE300	Cooled 15μ 640 x 512	Continuous Zoom 15 - 300mm
DE420	Cooled 15μ 640 x 512	Continuous Zoom 21 - 420mm
DE700	Cooled 15μ 640 x 512	Continuous Zoom 48.5 - 700mm

Major Components

Thermal Core - LWIR or MWIR Thermal Core

Lens - Continuous Zoom with Autofocus

Rugged Enclosure

Technical specifications

Model	DE225	DE275, DE300, DE420, DE700
Thermal Camera		
Core Type	Uncooled	Cooled
Resolution	640 x 480	640 x 512
Pixel Pitch	17μ	15μ
Spectral Band	7.5-14μ	3-5μ
Lens (Horizontal FOV)	DE225: 25–225mm (24.5°-2.77°)	DE275: 19-275mm (29.8°-2.0°) DE300: 15-300mm (35.1°-1.8°) DE420: 21-420mm (25.1°-1.3°) DE700: 48.5-700mm (11.9°-0.8°)
Video Format	30Hz or 9Hz option (easy export) Composite video (PAL/NTSC) TCP/IP H264 video streaming (optional)	Composite video (PAL/NTSC) Camera link TCP/IP H264 video streaming (optional)
Environmental		
Operating Temperature	-40°C to + 60°C	DE275/DE300: -40°C to + 60°C (-40°F to + 140°F) DE420: -20°C to + 60°C (-4°F to + 140°F) DE700: -40°C to + 60°C (-40°F to + 140°F)
Storage Temperature	-40°C to + 71°C	-40°C to + 71°C (-40°F to + 160°F)
Humidity	+40°C, 93% RH	+40°C, 93% RH
Infinova Protocol and SDK	-	Yes
Weight & Dimensions		
Weight	10kg (22lbs)	DE275: 6.7kg (14.8lb); DE300: 7.2kg (15.9lb); DE420: 8.0kg (17.6lb); DE700: 8.5kg (18.7lb).
Dimensions	400mm (L) x 250mm (H) x 235mm (W)	DE275/DE300: 340mm x 202mm x 205mm; DE420: 384mm x 202mm x 205mm; DE700: 420mm x 202mm x 205mm.
Protection Rating	IP67	IP67
Power Requirements		
Power Supply	12-32VDC	18-32VDC
Power Consumption	30w Typical; 130w Max	24 Watt, Max. 80 Watt during heater operaton.
Communication		
	Control connections RS-232 RS-422/RS485 4 wires	Control connections RS-232 RS-422/RS485 4 wires TCP/IP
Control Protocols (TCP/IP Optional)	Pelco-D	Pelco-D
Standards and Certification	CE, FCC, IP67	CE, FCC, IP67

Thermal Camera Overview

The VP190-DE thermal camera are available with an uncooled 17μ 640 x 480 resolution camera core or a cooled 15μ 640 x 512 resolution core. The uncooled core is paired with a continuous zoom 25-225mm lens with Autofocus. The uncooled cores are paired with one of three continuous zoom lenses with Autofocus: a 19-275mm, 15-300mm, 21-420mm or 48.5-700mm. All camera systems are configurable for either PAL or NTSC video and have the option for TCP/IP Video & Comm interface.

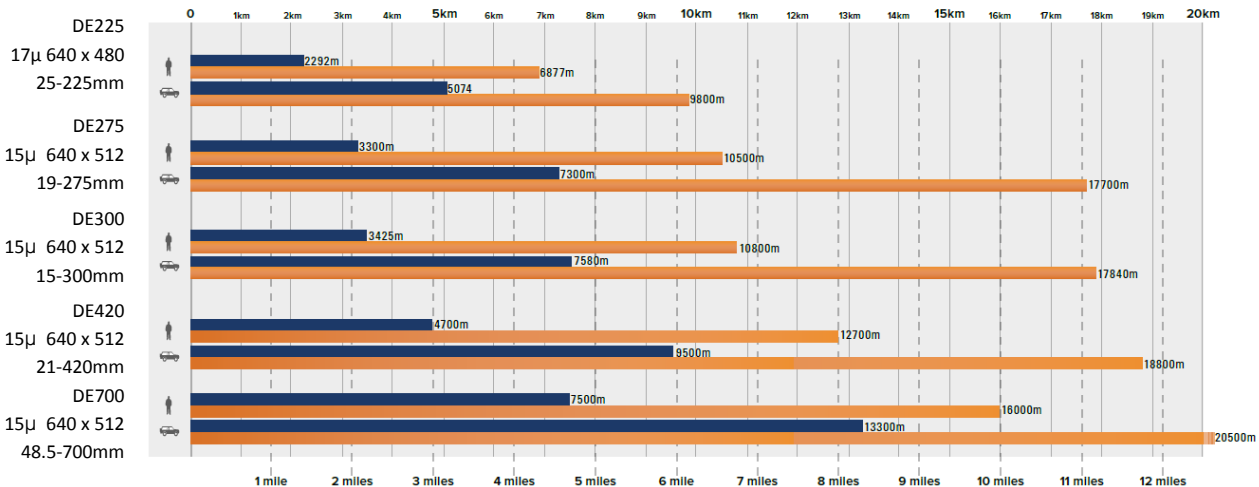


Lens information

Specifications and features

Configuration	DE225	DE275	DE300	DE420	DE700
Thermal Engine	17μ 640 x 480	15μ 640 x 512	15μ 640 x 512	15μ 640 x 512	15μ 640 x 512
Lens Type	Continuous zoom	Continuous zoom	Continuous zoom	Continuous zoom	Continuous zoom
Focal Length	25 - 225mm	19 - 275mm	15 - 300mm	21 - 420mm	48.5 - 700mm
Lens F #	f/1.5	f/5.5	f/4.0	f/4.0	f/5.5
Video Type	(NTSC/PAL) 30Hz or 9Hz	(NTSC/PAL)	(NTSC/PAL)	(NTSC/PAL)	(NTSC/PAL)
Spectral band	7.5 - 14μ	3 - 5μ	3 - 5μ	3 - 5μ	3 - 5μ
NETD	<50° mK	<25° mK	<25° mK	<25° mK	<25° mK
Horizontal Field of View (wide)	24.5°	29.8°	35.1°	25.1°	11.9°
Horizontal Field of View (narrow)	2.77°	2.0°	1.8°	1.3°	0.8°
Digital Zoom	1x, 2x, 4x				
Focus control	Motorized, Autofocus on Demand				
Control operation	Polarity, NUC, Image flip, Manual gain/level, Optical & Digital Zoom, Autofocus on Demand				

Performance



Legend

D/N Detection (Thermal) - 2 PoT

D/N Recognition (Thermal) - 6 PoT



= Human Subject Size
1.8m x 0.6m



= Vehicle Subject Size
2.3m x 2.3m

Detection: 2 lines on target
Recognition: 6 lines on target

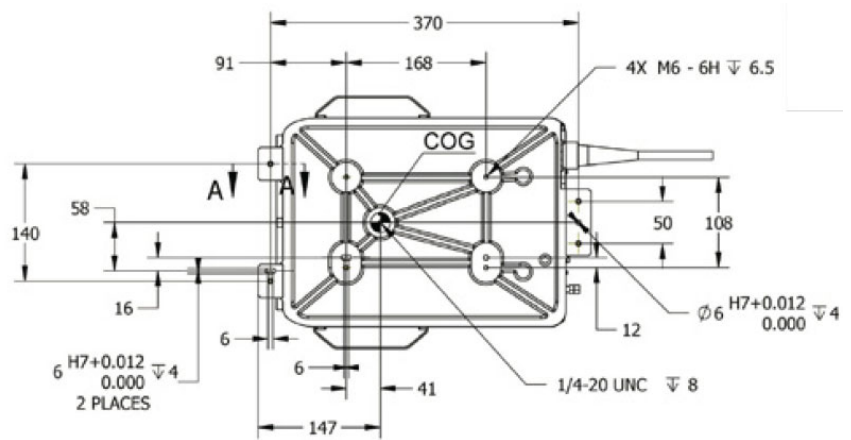
100m = 328ft 1000m = .62 mi

500m = 1640ft 1610m = 1 mi

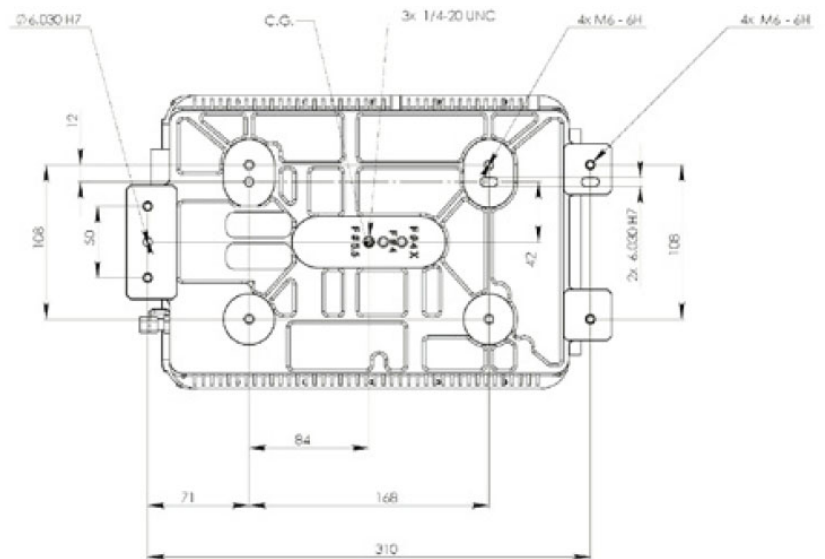
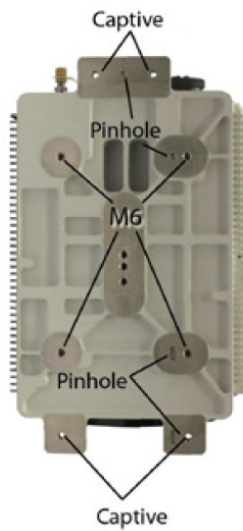
NOTE: Performance dependent on atmospheric conditions.

Mounting

VP190 Uncooled (DE225)



VP190 Cooled (DE275, DE300, DE420, DE700)



Wiring assignment

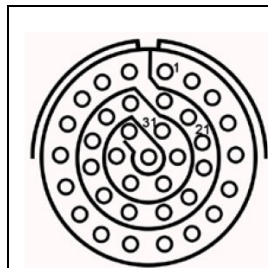
VP190-DE225 (uncooled)

Communication

Connector Pin #	Signal Name	Description	Input / Output
8	COMM_TX+	RS422/RS485 Transmit High	Output
9	COMM_TX-	RS422/RS485 Transmit Low RS232 Transmit	Output
6	COMM_RX+	RS422 Receive High RS232 Receive	Input
7	COMM_RX-	RS422/RS485 Receive Low	Input
22	COMM_SEL	RS422/232 Comm. Select	Input
36	PIC_TX	Factory Settings and Technician Use only (RS232)	Input
37	PIC_RX		
20	COMM_GND	Communication Ground	-

Power & Video

Connector Pin #	Signal Name	Description	Input / Output
11	PWR_IN_RTN*	Power Supply Return	Input
12	PWR_IN*	Power Supply In	Input
21	GND	Chassis Ground	-
13	REMOTE_PWR	Remote Pwr ON/OFF	Input
1	VIDEO	Analog Video Signal	Output
2	VIDEO_RTN	Analog Video Signal RTN	Output



Note for VP190 – Uncooled DE225

Default communication is RS232. RS422/485 communication can be achieved by shorting pins #22 and #20.

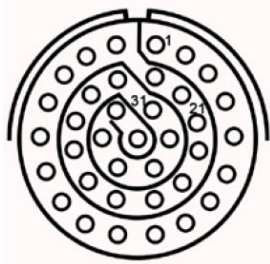
Remote power off to the camera can be achieved by shorting pins 13 and 11.

VP190-DE275, DE300, DE420 (cooled)

Pin Assignment

Connector Pin #	Signal Name	Description	Input / Output
20, 23	DGND	Digital Ground	Output
1	Video	CVBS (1V p-p)	Output
2	Video RTN	CVBS (RTN)	Output
28	Vid_out1_N	Camera link_Ser. DATA1 Pos	Output
29	Vid_out1_P	Camera link_Ser. DATA1 Neg	Output
30	Vid_out2_N	Camera link_Ser. DATA2 Pos	Output
31	Vid_out2_P	Camera link_Ser. DATA2 Neg	Output
32	Vid_out3_N	Camera link_Ser. DATA3 Pos	Output
33	Vid_out3_P	Camera link_Ser. DATA3 Neg	Output
34	Vid_out4_N	Camera link_Ser. DATA4 Pos	Output
35	Vid_out4_P	Camera link_Ser. DATA4 Neg	Output
36	Vid_clk_N	Camera link_Ser.CLK Neg	Output
37	Vid_clk_P	Camera link_Ser.CLK Pos	Output
14	LAN_TX_NEG	Ethernet line receive positive	Output
15	LAN_TX_POS	Ethernet line receive negative	Output
16	LAN_RX_POS	Ethernet line transmit positive	Input

Connector Pin #	Signal Name	Description	Input / Output
17	LAN_RX_NEG	Ethernet line transmit negative	Input
26	Reset TCP/IP	Reset TCP/IP Address (Default - OFF)	Input
19	Remote ON	Remote Power on (Default - OFF)	Input
6	RS-422 IN POS	RS-422/RS485/RS232 serial communication	Input
7	RS-422 IN NEG	RS-422/RS485 serial communication	Input
8	RS-422 OUT POS	RS-422/RS485 serial communication	Output
9	RS-422 OUT NEG	RS-422/RS485/RS232 serial communication	Output
22	COMM SELECT1	Comm_Select (Default – RS232)	Input
12, 13	PWR_IN	Voltage Input	Input
10, 11	PWR_IN_RTN	Ground	Input
24	Half/Full Duplex Mode (default- Full duplex)	Half/Full mode for RS-485 (four wires/two wires)	Input
21	Shield	Ground Earth	Input



Notes for VP190 – Cooled DE275, DE300, DE420, DE700

Default communication is RS232. RS422/485 communication can be achieved by shorting pins #20 and #22.

Remote power off to the camera can be achieved by shorting pins 13 and 11.

Ordering information

All VP190-DE ship as a fully integrated system with camera, lens, and enclosure. A mating connector and backshell is also provided for camera I/O connections. If required, an integrational cable can be ordered separately.

Model	Thermal Engine	Lens	Part Number (30Hz)	Part Number (9Hz)
DE225	UnCooled 17 μ 640 x 480	Continuous Zoom 25-225mm	VP190-DE225Z17V-0A020	VP190-DE225Z17V-0A029
DE275	Cooled 15 μ 640 x 512	Continuous Zoom 19-275mm	VP190-DE275Z15V-0A020	N/A
DE300	Cooled 15 μ 640 x 512	Continuous Zoom 15-300mm	VP190-DE300Z15V-0A020	N/A
DE420	Cooled 15 μ 640 x 512	Continuous Zoom 21-420mm	VP190-DE420Z15V-0A020	N/A
DE700	Cooled 15 μ 640 x 512	Continuous Zoom 48.5-700mm	VP190-DE700Z15V-0A020	N/A

Infinova Accessories		
Camera Compatibility	Accessory	Part #
VP190 Uncooled (DE225)	Integration cable (3m length)	GLJH0200A
	115/230vac to 12VDC Outdoor Rated power supply (IP65)	880990LF
	115/230vac to 12VDC Indoor Rated power supply	5U7A0020A
VP190 Cooled (DE275, DE300, DE420, DE700)	Integration cable (3m length)	8L9H0190A
	115/230VAC to 24VDC 5A Outdoor Rated UL power supply (IP65)	880575LF

Shipping contents

Standard Order – VP190-DE

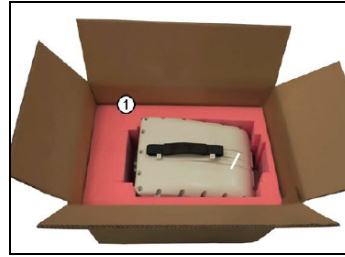
Fixed VP190 includes:

- 1) Thermal camera
- 2) Cable Mating Connector (not shown)
- 3) Software & Documentation CD containing:
 - User Manual
 - Test & Configuration Software

Optional Equipment:

- 4) 3m Integration Cable

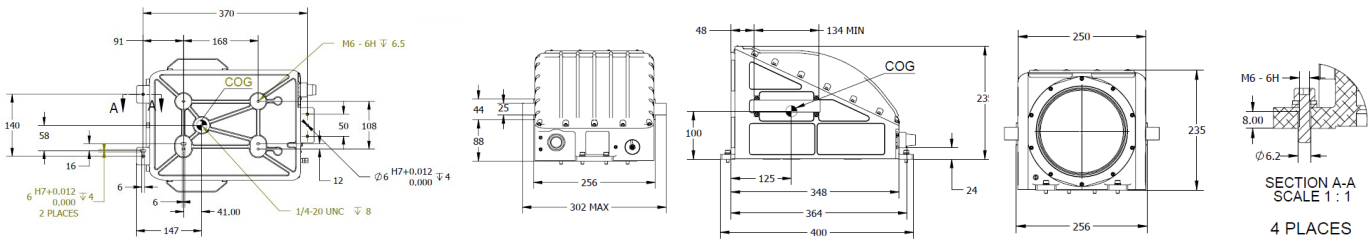
VP190-DE Packaging (Standard Order)



Packaging may differ from shown

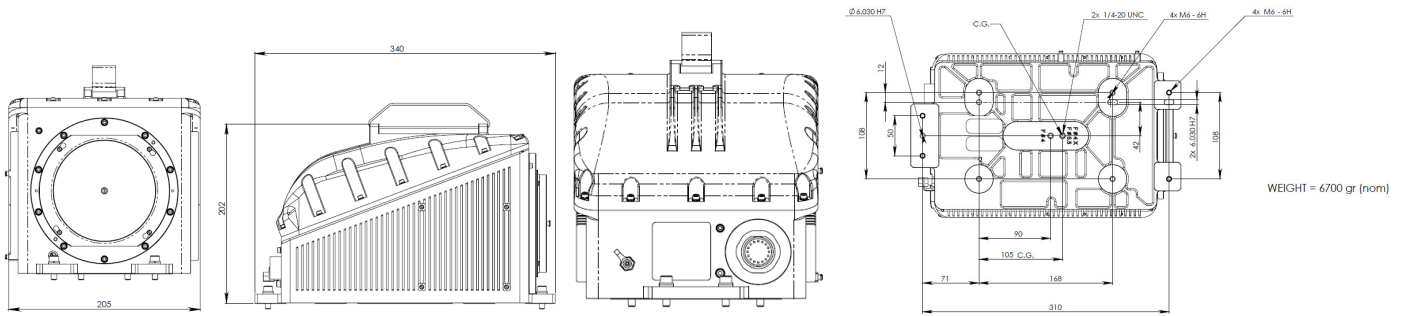
System general dimensions – ICD

VP190-DE225



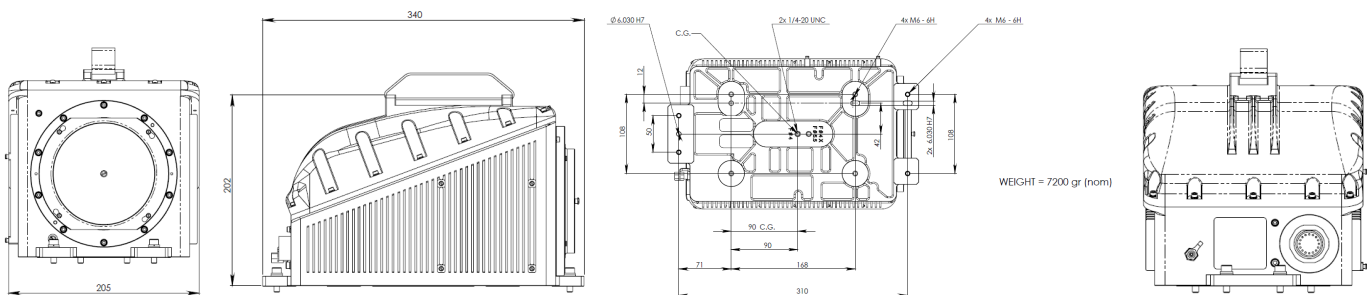
System general dimensions – ICD

VP190-DE275



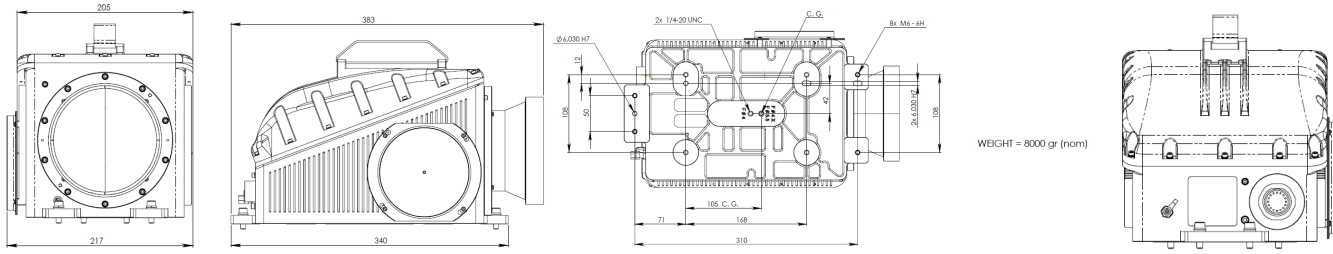
System general dimensions – ICD

VP190-DE300



System general dimensions – ICD

VP190-DE420



System general dimensions – ICD

VP190-DE700

