PREDATOR THERMAL

DESIGNED & MANUFACTURED IN EUROPE

Predator Ultra Thermal Camera Product Range

Thermal Ruggedised High Speed Pan, Tilt & Zoom Cameras

360VISION TECHNOLOGY

Predator Ultra Thermal

Thermal imaging CCTV surveillance cameras from 360 Vision Technology deliver high-resolution images in all environments, and can see through smoke, dust, light fog, haze and darkness.

The ideal choice for effective 24-hour surveillance and intrusion detection, Predator Thermal cameras include analogue and 1/1.9" Sony HD equipped models that deliver incredible colour or mono images during the hours of darkness.

Heat based thermal imaging can be used to detect recently driven vehicles and hidden persons, recently disturbed ground, footprints and hidden objects with heat traces. In addition, thermal imaging CCTV can be used in process control, where accurate fault detection via thermal imaging can be used to detect potential health & safety issues.

The comprehensive thermal camera range includes:

- Thermal camera only
- Dual 640 Thermal Cameras
- Thermal camera Side Mounted plus 1080P HD colour/mono camera
- Thermography camera plus 1080P HD colour/Mono camera
- Thermal camera plus 1080P HD colour/Mono camera
- SWIR Thermal camera plus Analogue colour/Mono camera

Support & Compatibility

Our commitment to the ONVIF organisation also extends to constant and proactive direct communication with VMS leading VMS manufacturers to ensure FULL feature and operational compatibility.

Our standard warranty is 3 years. In addition, our NEW and innovative Support Package provides an extremely low cost 5 year Warranty Extension – offering additional layers of benefit for customers framework and maintenance agreements.

We believe in our manufacturing quality, we do not subscribe to the low cost/replace ideology so prevalent in our industry – let us show you how our FIXED FEE service will actually SAVE you money!

Low Power
'Low Power Mode' for inactive periods of operation, 'Intelligent Illumination' and 'Night Setting Presets' to control the illumination activity and low consumption components that all add up to greatly reduced power device for applications such as solar, fuel, battery and other low voltage sensitive applications

On Board Recording
Recording options of up to 256Gb give network backup, time lapse, FTP and alarm recording. Network sensing automatically senses when connection is lost to ensure that full HD, real time images can be recorded inside the camera, ensuring no information is lost

Latest Camera Modules
All Invictus cameras now benefit from a choice of either Starvis or ULTRA low light technology from the stunning new 1/1.9" ULL sensors. Larger sensor = brighter, crisper and more defined COLOUR images at night

Dual Camera Technology
With a flexible specification using Dual Camera Technology, Predator Ultra Thermal can be ordered in a wide range of camera formats including Dual 640 Thermal Cameras and Thermal camera plus 1080P HD colour/Mono camera. Combining two camera technologies in one unit ensures the greatest technical flexibility and application compatibility

360 Degree View
Continuous rotation pan, unobstructed 360 degree view, 160 degree tilt all contribute to unhindered views usually associated with Dome alternatives

Ruggedised
Unlike our competitors, a self-calibrating 'Attack Detect' mode senses any forced or unnatural movement and INSTANTLY re-calibrates to the correct position, ensuring alarm and positional presets are not compromised

Paint Options
Standard high quality paint finish and optional long life 'Extreme' paint finish for marine/coastal applications – ensuring the operational and aesthetic features of the Invictus are protected

Attack Detect Feature
Predator Ultra Thermal and Predator Red's Attack Detect Feature ensures if a physical attack is detected, the camera will automatically return to its original position – ensuring no loss of evidential footage

Direct Drive Mechanism
Unlike many competitor products that utilise belt based drive systems, Invictus incorporates ultra reliable and extremely quiet Direct Drive mechanisms, resulting in long life, high (and consistent) preset accuracy and long term reliability

Dedicated Setup Apps
3 APPS for Discovery, Configuration and Update. With an innovative thumbnail index, select and program from one central Network point. No need for browser add-ins, security permissions or Internet necessary updates

Thermal Imaging
360 Vision Thermal Imaging technology can deliver high resolution images through smoke, dust, light fog, haze and the darkest of nights. Thermal imaging uses an object's heat trace to detect recently driven vehicles, hidden persons, recently disturbed ground, footprints and objects that are hidden to conventional camera technology

LED White Light
Predator Ultra Thermal offers a comprehensive range of white light illumination options - featuring distances up to 200m. White light offers powerful illumination for overt applications, intruder tracking and deterrence

ONVIF Full HD 1080

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HD RANGE	30 X HD ULTRA	40 X HD ULTRA
Colour / Mono	YES	YES
Imager	1 / 1.9" Type Exmor	1 / 1.9" Type Exmor
Zoom Optical / Digital	30 x, 12 x	40 x, 12 x
Pixels (Effective)	Approx 2.38 Megapixels	Approx 2.38 Megapixels
Horizontal view angle	61.2° (W) -2.32° (T)	60 (W)° -1.8° (T)
Lens Size	6 - 180mm	6 -240 mm
Min Sensitivity - Colour	0.002 Lux	0.002 Lux
Min Sensitivity - Mono Int	0.0002 Lux	0.0002 Lux
Signal Noise Ratio	>50 dB	>50 dB
Picture Flip	YES	
Picture Freeze	YES	
PRODUCT FEATURES - All Predator Cameras have the following functions		
Focus / Iris	Auto / Manual	
Presets	360	
Tours	4 (Man 90 Presets per tour)	
Learned Patrols	4 Mimic tours - up to 30 minutes duration each	
Privacy Zones	Up to 24	
Variable pan speed / coverage	0.1-120°/ Sec 360° continuous rotation, absolute positioning	
Variable tilt speed / coverage	0.1-120°/ Sec 180° absolute positioning	
Auto Homing	Goes to preset, tour or mimic tour after prescribed time	
Col / Mono Change over	4 Levels 3 fixed, 1 custom / user defined	
Operating Temperature	-50°C to +65°C with optional heater	
Power	24Vdc to 36 Vdc	
Mounting options	Wall, Corner, Pole and Soffit	
Certification	CE & FCC approval; ingress IP68; Impact IK10; Vibration & Shock certified approvals.	
SIRIUS ILLUMINATION (OPTIONAL)	IR & WHITE LIGHT	
SIR 110	IR Only	
SIR 160	IR Only	
SIR 275	IR Only	
SIR 140 WL	IR / White light Combination	
SIR250WL	IR / White light Combination	

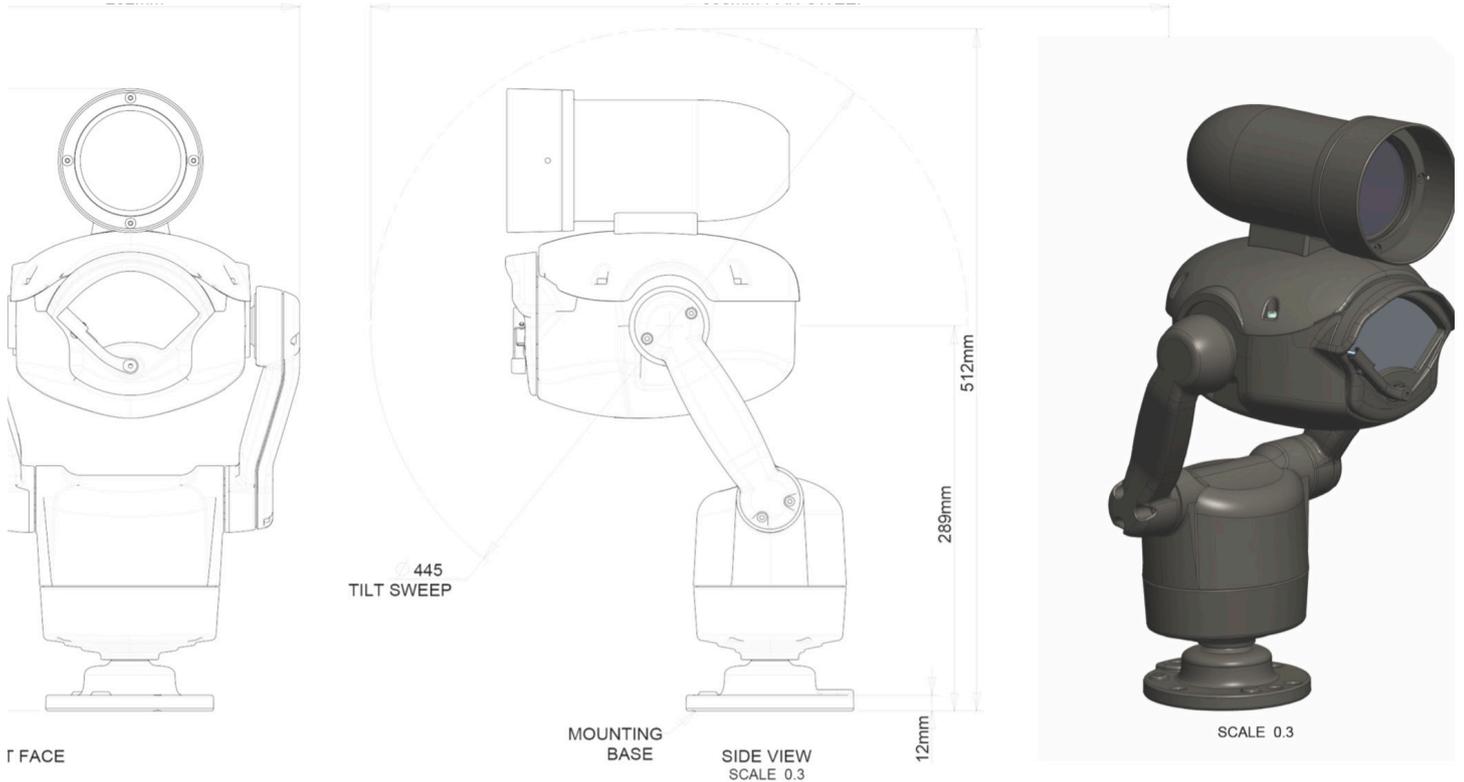| CODEC	25 FPS	ASPECT	30 FPS
HD 1080P	1920 x1080	16:9	1920 x 1080
HD 720P	1280 x 720	16:9	1280 x 720
D1	720 x 576	4:3	720 x 480
VGA	640 x 480	4:3	640 x 480
QVGA	432 x 240	16:9	432 x 240
Distribution	Multi Codec 2 Streams		
Image Compression	H.264, MJPEG, H.265		
Protocols	TCP/IP, IPv4, ONVIF (S), 802.1x, SSL, HTTP, HTTPS, RTP, RTSP, 360SDK, QoS, IGMP v3, SNMP v3, NTP, FTP, Digest Authentication		
Compression Levels	CBR, VBR, CVBR		

THERMAL RANGE	SM 320	SM 640	TC 336	TC 640
Thermal Imager	Uncooled Vox Microbolometer			
FPA / Digital Video Display	320 x 256	640 x 512	336 x 256	640 x 512
Pixel Pitch	12 µM		17µM	
Spectral Band	7.5 - 135 µM			
Full Frame Rate	60 Hz Baseline		25 / 50 Hz (PAL)	
Exporting Frame Rates	N/A		25 / 50 Hz (PAL)	
Sensitivity (NETD)	Industrial <30mK Performance <50mK Commercial <60mK			
Scene Range (High Gain)	+0°C + 140°C		- 25°C +100°C	- 25°C + 135°C
Scene Range (Low Gain)	+0°C + 500°C		- 40°C + 550°C	
PAL / NTSC	YES			
Image Optimizer	YES			
Digital Detail Enhancement	YES			
Polarity Control (Black Hot / White Hot)	YES			
Colour Monochrome Palettes (LUTS)	YES			
Digital Zoom (Continuous)	N/A		2x, 4x	2x, 8x
Operating Temperatures	-4 0°C to +180°C			
Power (Thermal ONLY)	1w Max		1w Max	1.2w Max
Certification (Thermal ONLY)	Safety Mark : CE approval: Ingress: IP67 Certified			
Video Output	1Vp to p 75 Ω Ohm			

TC 336 THERMAL	9mm	13mm	19mm	25mm	35mm	50mm	60mm	100mm
HFOV (Horizontal Field of View)	35°	25°	17°	13°	9.3°	6.5°	5.5°	3.3°
TC 640 THERMAL	9mm	13mm	19mm	25mm	35mm	50mm	60mm	100mm
HVOF (Horizontal Field of View)	69°	45°	32°	25°	18°	12.4°	10.4°	6.2°

SM 320 THERMAL	2.3mm	4.3mm	6.3mm	9.1mm	14mm	18mm
HFOV (Horizontal Field of View)	92°	50°	34°	24°	16°	12°
SM 640 THERMAL	4.9mm	8.7mm	14mm	18mm	24mm	36mm	73mm
HVOF (Horizontal Field of View)	95°	50°	32°	24°	18°	12°	6°

Standard Paint Options	RAL
Black	9005
White	9003
Cool Grey	7035
Mild Grey	7001

ONVIF FullHD 1080

445
TILT SWEEP

512mm

289mm

12mm

MOUNTING
BASE

SIDE VIEW
SCALE 0.3

T FACE

SCALE 0.3

Detection, Recognition, Identification of Human Target using 336 Pixel Core

9mm lens
- Detection approx. 205m
- Recognition approx. 52m
- Identification approx. 26m

13mm lens
- Detection approx. 300m
- Recognition approx. 74m
- Identification approx. 37m

19mm lens
- Detection approx. 450m
- Recognition approx. 112m
- Identification approx. 56m

35mm lens
- Detection approx. 780m
- Recogntion approx. 200m
- Identification approx. 100m

50mm lens
- Detection approx. 1.0km
- Recognition approx. 250m
- Identification approx. 128m

65mm lens
- Detection approx. 1.45km
- Recognition approx. 370m
- Identification approx. 170m

100mm lens
- Detection approx. 2.1km
- Recognition approx. 540m
- Identification approx. 270m

Detection, Recognition, Identification of Vehicle with 2.3 critical dimension using 336 Pixel Core

9mm lens
- Detection approx. 590m
- Recognition approx. 150m
- Identification approx. 74m

13mm lens
- Detection approx. 840m
- Recognition approx. 215m
- Identification approx. 108m

19mm lens
- Detection approx. 1.3km
- Recognition approx. 330m
- Identification approx. 165m

35mm lens
- Detection approx. 2.15km
- Recognition approx. 560m
- Identification approx. 280m

50mm lens
- Detection approx. 2.6km
- Recognition approx. 700m
- Identification approx. 350m

65mm lens
- Detection approx. 3.9km
- Recognition approx. 1km
- Identification approx. 530m

100mm lens
- Detection approx. 5.3km
- Recognition approx. 1.5km
- Identification approx. 760m

Detection, Recognition, Identification of Human Target using 640 Pixel Core

13mm lens
- Detection approx. 390m
- Recognition approx. 95m
- Identification approx. 47m

25mm lens
- Detection approx. 820m
- Recognition approx. 210m
- Identification approx. 104m

35mm lens
- Detection approx. 960m
- Recognition approx. 245m
- Identification approx. 122m

50mm lens
- Detection approx. 1500m
- Recognition approx. 380m
- Identification approx. 190m

65mm lens
- Detection approx. 1.9km
- Recognition approx. 490m
- Identification approx. 245m

100mm lens
- Detection approx. 2450m
- Recognition approx. 650m
- Identification approx. 330m

Detection, Recognition, Identification of Vehicle with 2.3 critical dimension using 640 Pixel Core

13mm lens
- Detection approx. 1080m
- Recognition approx. 275m
- Identification approx. 140m

25mm lens
- Detection approx. 2200m
- Recognition approx. 580m
- Identification approx. 290m

35mm lens
- Detection approx. 2550m
- Recognition approx. 680m
- Identification approx. 340m

50mm lens
- Detection approx. 3.9km
- Recognition approx. 1060m
- Identification approx. 540m

65mm lens
- Detection approx. 4.8km
- Recognition approx. 1350m
- Identification approx. 680m

100mm lens
- Detection approx. 6km
- Recognition approx. 1750m
- Identification approx. 900m

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