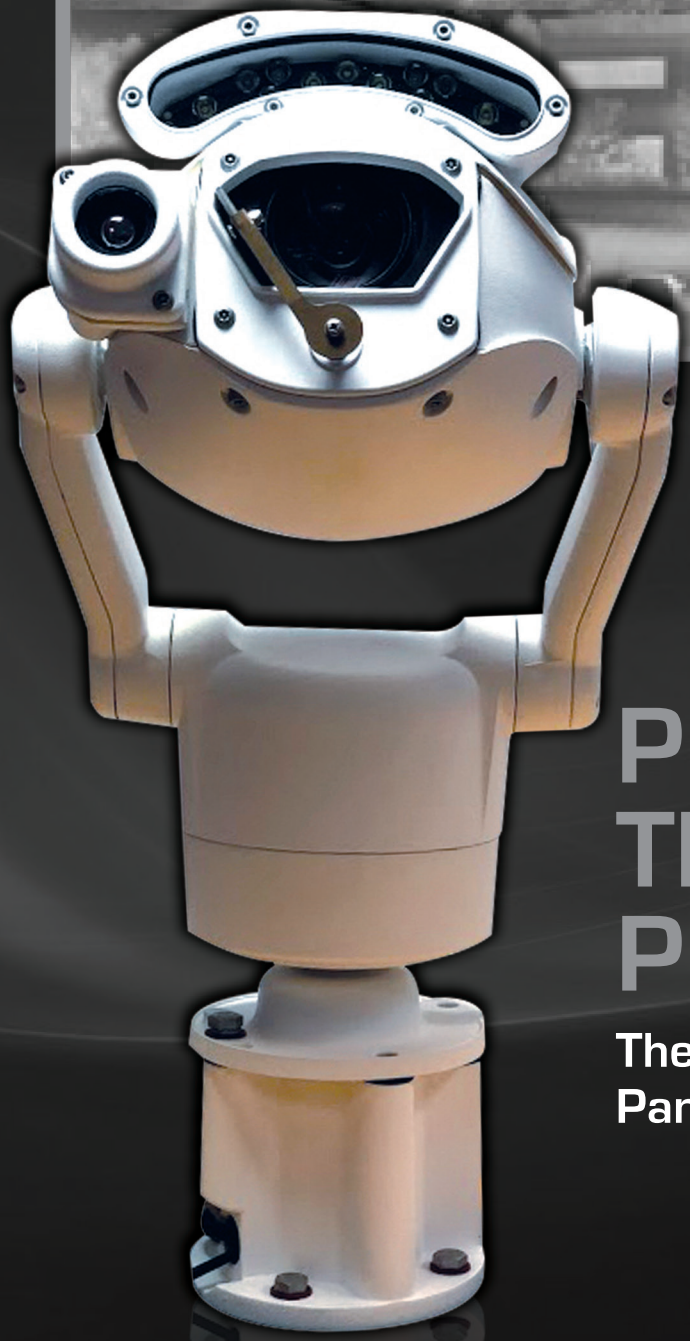
PREDATOR THERMAL



DESIGNED & MANUFACTURED IN EUROPE

Predator Ultra Thermal Camera Product Range

Thermal Ruggedised High Speed Pan, Tilt & Zoom Cameras

360VISION TECHNOLOGY

Red

Dual

Side Mount

Thermography

TC100

SWIR

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

IP66 ONVIF Full HD 1080

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Dual HD & Thermal Specification

HD RANGE	30x HD ULTRA	40x HD ULTRA
Colour/Mono	Yes	Yes
Imager (CMOS)	1/1.9" Sony Exmor	1/1.9" Sony Exmor
Zoom - Optical + Digital	30x, 12x	40x, 12x
Zoom - Total	360x	480x
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 - 240mm
Min Sensitivity - colour	0.002 Lux	0.002 Lux
Min Sensitivity - mono Int	0.0002 Lux	0.0002 Lux
Signal Noise Ratio	>50dB	>50dB
Picture Flip	Yes	Yes
PRODUCT FEATURES	ALL PREDATOR units have the following functions	
Focus/Iris	Auto/Manual	
Presets	360	
Tours	4 (max 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 Changeover	4 levels - 3 fixed, 1 custom/user defined	
Operating temperature	-50°C to +60°C with optional heater	
Power	24vac/30vdc	
Mounting options	Wall, Corner, Pole and Soffit	
Certification	CE & FCC approval; Ingress IP67; Impact IK10; Vibration & Shock certified approvals	

THERMAL CAMERA RANGE		
Thermal Imager	Uncooled VOx Microbolometer	
FPA/Digital Video Display	336 x 256	640 x 512
Spectral Band	7.5 - 13.5	
Exportable Frame Rates	8.3Hz (PAL)	
Sensitivity (NETD)	<50mK at f/1.0	
Digital Detail Enhancement	YES	
Pixel Pitch	17µm	

THERMAL CAMERA RANGE	9mm	13mm	19mm	25mm	35mm	50mm	60mm	100mm	35-105mm
320 BOSON	24°	17°	12°	–	–	–	–	–	–
336 TAU2	35°	25°	17°	13°	9.3°	6.5°	5.5°	3.3°	–
640 TAU2	69°	45°	32°	25°	18°	12.4°	10.4°	6.2°	5.9°-18°
640 BOSON	50°	32°	25°	18°	–	–	–	–	–

CODEC	25fps	ASPECT	30fps
HD1080p	1920x1080	16:9	1920x1080
HD720p	1280x720	16:9	1280x720
D1	720x576	4:3	720x480
VGA	640x480	4:3	640x480
QVGA	432x240	16:9	432x240
Distribution	Multi Codec 2 streams		
Image Compression	H.264, MPEG4, MJPEG		
Protocols	ONVIF (S), TCP/IP, HTTP, HTTPS, RTP, RTSP, 360SDK, QoS		
Compression levels	CBR, VBR CVBR		

SIRIUS ILLUMINATION	IR & WHITE LIGHT (Nominal)
SIR110	IR 110 metres
SIR160	IR 160 metres
SIR140WL	IR 140 metres, WL 140 metres
250SWL	WL 250 metres
SIR250WL	IR 250 metres, WL 250 metres

WEIGHTS	
Predator TC	10.5kg
Predator Long Range TC	9.5kg (with LED Array)

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PREDATOR ULTRA TC is a registered trademark of
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Thermal Only Specification

	640	336	160
Thermal Imager	Uncooled VOx Microbolometer		
FPA/Digital Video Display	640 x 512	336 x 256	160 x 120
Pixel Pitch	17µm		
Spectral Band	7.5 – 13.5µm		
Full Frame Rates	25Hz (PAL)	25/50Hz (PAL)	25Hz (PAL)
Exportable Frame Rates	8.3Hz (PAL)		
Sensitivity (NEdT)	<50 mK at f/1.0		
Scene Range (High Gain)	-40°C to +160°C		
Scene Range (Low Gain)	N/A	-40°C to +550°C	N/A
PAL/NTSC	YES		
Image Optimization	YES		
Digital Detail Enhancement	YES		
Polarity Control (Black Hot/ White Hot)	YES		
Colour & monochrome Palettes (LUTs)	YES		
Digital Zoom	2x, 4x, 8x	2x, 4x	2x, 4x
Dimensions	329 x 202 x 101 mm		
Operating Temperature	-40°C to +80°C		
Power	6W heater off, 20W heater on		
Certification	Safety Mark : CE approval; Ingress : IP67 Certified		
PREDATOR FEATURES	All PREDATOR units have the following functions		
Video output	1V p to p, 75Ω		
Scanning	PAL or NTSC		
Focus/Iris	Auto/Manual		
Presets	360		
Tours	16 (max 90 presets per tour)		
Learned Patrols	4 mimic tours – up to 30 minutes duration each		
Remote reset	Via OSD, IP network or dial up		
Creative privacy zones	Up to 32, 4 levels of opacity		
Preset titling	YES (via Vision Matrix)		
Telemetry	Coaxial or RS485		
Protocols - includes	360, Pelco P/D/Coaxitron, BBV Coax, Ultrak RS485, Forward Vision, VCL RS485/Coax		
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 changeover	4 levels. 3 fixed, 1 custom/user defined		
Line Lock	Enable/disable		
Operating temperature	-40°C to +80°C with optional Heater		
Power	24Vac 160VA		
Mounting options	Wall, Corner, Pole, Soffit		
Operational enhancements	Telemetry and power with opto isolation		
Certification	Safety Mark : CE approval; Ingress : IP68,IK10 Certified		

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Thermal Camera Range	336	640
9mm	35° FoV	69° FoV
13mm	25° FoV	45° FoV
19mm	17° FoV	32° FoV
35mm	9.3° FoV	18° FoV

THERMAL CAMERA RANGE	TOP MOUNT	
Thermal Imager	Uncooled VOx Microbolometer	
FPA/Digital Video Display	336 x 256	640 x 512
Spectral Band	7.5 - 13.5	
Exportable Frame Rates	8.3Hz (PAL)	
Sensitivity (NETD)	<50mK at f/1.0	
Digital Detail Enhancement	YES	
Pixel Pitch	17µm	

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

THERMAL CAMERA RANGE	9mm	13mm	19mm	25mm	35mm	50mm	60mm	100mm
336	35°	25°	17°	13°	9.3°	6.5°	5.5°	3.3°
640	69°	45°	32°	25°	18°	12.4°	10.4°	6.2°

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
	Recognition 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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