PT-SERIES

Network-Ready Pan-Tilt, Multi-Sensor Thermal Security Cameras

PT-Series thermal security cameras let you see intruders and other threats to your facility's security clearly in total darkness and in bad weather. The PT-Series precision pan/tilt mechanism gives operators accurate pointing control while providing fully programmable scan patterns, radar slew-to-cue, and slew-to-alarm functionality. Fully enabled for control and operation over digital and serial networks, PT-Series thermal cameras are available in 160 x 120, 320 x 240, and high-resolution 640 x 480 formats, providing up to sixteen times the image clarity and longer threat detection range performance than lower resolution thermal cameras. Multi-sensor configurations also include a day/night 36x zoom color CCD camera on the same pan/tilt package.

640 x 480
or
320 x 240
or
160 x 120

Crisp thermal images – choice of image quality
The user can choose for a version equipped with an uncooled Vanadium Oxide (VOx) microbolometer producing crisp images of 640 x 480 pixels. Users that do not need this image quality can choose for a 320 x 240 pixels version. Models with a 160 x 120 pixels detector are also available.

More pixels allow the user to see more detail and to detect more and smaller objects. Advanced internal camera software delivers a crisp image without the need for user adjustments. It provides high quality thermal imaging in any night- or daytime environmental conditions.

Precise Pan/Tilt mechanism
All PT-Series thermal imaging cameras are installed on a precision pan/tilt mechanism. It allows the user to rotate the camera 360° continuously and to tilt it +90° or -90°. This drastically increases situational awareness. The Pan/Tilt has 128 preset postions. Ideal if you want to scan an area continuously.

Radar Connection – "Slew to cue"
The PT-Series can be connected by the integrator to a radar system. If the radar detects an object, the PT-Series will automatically turn in the right direction and give you a visual image so that you can instantly see what the blip on the radar screen really means.

Daylight camera
All versions are equipped with a long range daylight/low light camera. The video output of the thermal imaging and daylight/low light camera are simultaneously available. The daylight camera offers an 36x optical zoom.

Digital Detail Enhancement
The PT-Series provide high contrast imagery optimized to get the most out of video analytics software. Digital Detail Enhancement ensures clear, properly contrasted thermal images in all weather conditions.

6°

Excellent range performance
Equipped with a 100 mm lens, the PT-606 is designed for mid-range security and surveillance applications. The PT-606 has a 6° field of view. With the PT-606 you will be able to detect a man-sized target at a distance of over 2.4 km.

Easy to use
Equipped with an "athermal lens", all PT-Series are able to maintain focus no matter what the environmental temperature is. There is no need for user adjustments.

IP66

Designed for use in harsh environments
The PT-Series are extremely rugged systems. Their vital core is well protected, IP66 requirements, against dust and water ingress.

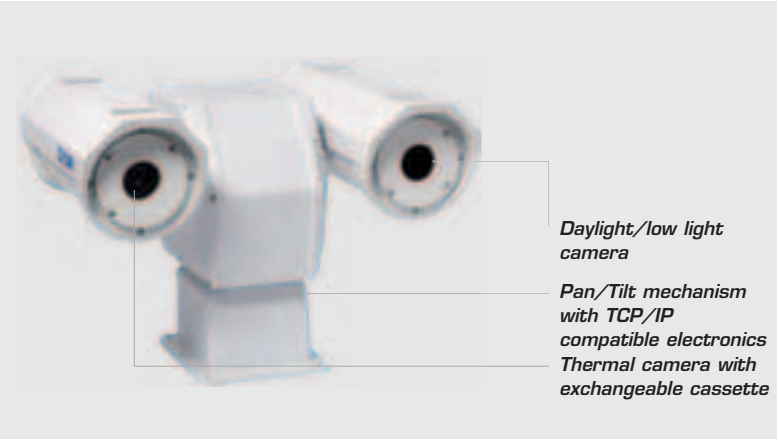
Exchangeable camera cassettes
Exchangeable camera cassettes allow for quick upgrade or repair of sensors and optics. There is no need to send your camera back to the factory if you want to upgrade to better image quality or more range performance. This can easily be done in the field.

IP control
The PT-Series can be integrated in any existing TCP/IP network and controlled over a PC. No additional cables are required. Using this configuration, you can monitor all activity over the network, even when you are thousands of kilometers away.

Serial control interface
Simply connect the PT-Series over RS-232 or RS-422 to a remote control panel. Pelco D or Bosch commands are used for common functions. A video cable can be connected to any existing multi-function display that accepts composite video.

Video Streaming
Multiple channels of streaming digital video are available in H.264, MPEG-4, or M-JPEG formats. Simultaneous digital and composite video output is possible.

FLIR Sensors Manager
Each PT-Series camera comes with a single sensor copy of FLIR Sensors Manager. This intuitive software allows users to manage and control a PT-Series camera in a TCP/IP network.



Different lens options available

The following table gives an overview of the available PT-Series versions

	Available lens options
160 x 120 pixels	PT-124: 9 mm lens – FOV: 24°(H) x 20°(V)
	PT-117: 13 mm lens – FOV: 17°(H) x 14°(V)
	PT-112: 19 mm lens – FOV: 12°(H) x 10°(V)
320 x 240 pixels	PT-348: 9 mm lens – FOV: 48°(H) x 39°(V)
	PT-334: 13 mm lens – FOV: 34°(H) x 28°(V)
	PT-324: 19 mm lens – FOV: 24°(H) x 19°(V)
	PT-313: 35 mm lens – FOV: 13°(H) x 10°(V)
	PT-307: 65 mm lens – FOV: 7°(H) x 5°(V)
	PT-304: 100 mm lens – FOV: 4.6°(H) x 3.7°(V)
640 x 480 pixels	PT-645: 13 mm lens – FOV: 45°(H) x 37° (V)
	PT-625: 25 mm lens – FOV: 25° (H) x 20°(V)
	PT-618: 35 mm lens – FOV: 18° (H) x 14°(V)
	PT-612: 50 mm lens – FOV: 12° (H) x 10°(V)
	PT-610: 65 mm lens - FOV: 10° (H) x 8°(V)
	PT-606: 100 mm lens – FOV: 6.2° (H) x 5°(V)

RANGE PERFORMANCES

Range performances for SR-, F-, PT-, and outdoor D-Series

Detection, Recognition, Identification of Human Target

9 mm lens	Detection approx. 205 m Recognition approx. 52 m Identification approx. 26 m
13 mm lens	Detection approx. 300 m Recognition approx. 74 m Identification approx. 37 m
19 mm lens	Detection approx. 450 m Recognition approx. 112 m Identification approx. 56 m
21.5 mm lens	Detection approx. 490 m Recognition approx. 122 m Identification approx. 61 m
35 mm lens	Detection approx. 780 m Recognition approx. 190 m Identification approx. 97 m
50 mm lens	Detection approx. 1.0 km Recognition approx. 250 m Identification approx. 128 m
65 mm lens	Detection approx. 1.45 km Recognition approx. 370 m Identification approx. 170 m
100 mm lens	Detection approx. 2.1 km Recognition approx. 540 m Identification approx. 270 m

Detection, Recognition, Identification of Vehicle with 2.3m critical dimension

9 mm lens	Detection approx. 590 m Recognition approx. 150 m Identification approx. 74 m
13 mm lens	Detection approx. 840 m Recognition approx. 215 m Identification approx. 108 m
19 mm lens	Detection approx. 1.3 km Recognition approx. 330 m Identification approx. 165 m
21.5 mm lens	Detection approx. 1.36 km Recognition approx. 350 m Identification approx. 175 m
35 mm lens	Detection approx. 2.15 km Recognition approx. 560 m Identification approx. 280 m
50 mm lens	Detection approx. 2.6 km Recognition approx. 700 m Identification approx. 350 m
65 mm lens	Detection approx. 3.9 km Recognition approx. 1 km Identification approx. 530 m
100 mm lens	Detection approx. 5.3 km Recognition approx. 1.5 km Identification approx. 760 m

Actual range may vary depending on camera set-up, environmental conditions, user experience and type of monitor or display used.
Assumptions:
50 % probability of achieving objective at specified distance given 2°C temperature difference and 0.85 / km atmospheric attenuation factor.

PT-SERIES

Technical specifications

PT-Series: general specifications

IMAGING PERFORMANCE	
Thermal:	
Detector type	Focal Plane Array (FPA), uncooled Vanadium Oxide microbolometer
Spectral range	7.5 to 13µm
Thermal sensitivity	85 mK at 25°C
Image frequency	25 Hz or 8.3 Hz
Focus	Focus free, athermal lens
Image processing	Automatic Gain Control (AGC), Digital Detail Enhancement (DDE)
Visual:	
Built-in digital video	1/4" Exview HAD CCD
Effective pixels	380.000
Standard lens performance	FOV: 57.8° (H) to 1.7° (H) f=3.4mm (wide) to 122.4 mm (tele), F1.6 to F4.5
Optical zoom	36x
Electronic zoom	12x

PAN- TILT	
Az Range; Az velocity	360° continuous, 0.1 to 70°/sec max.
El Range; El velocity	+/- 90°, 0.1 to 30°/sec. Max.
Programmable presets	128

SYSTEM FEATURES	
Automatic heater	Clears ice from windows

IMAGE PRESENTATION	
Video output	PAL thermal and visible - NTSC thermal and visible
Video over Ethernet	Two independent channels for each camera (4 total) of streaming MPEG-4, H.264, or M-JPEG

POWER	
Requirements	24 VAC (20-30 VAC) 24 VDC (21-30 VDC)
Consumption	24 VAC: 40 VA nominal, 172 VA max w/heater 24 VDC: 30 W nominal, 162 W max w/heater

ENVIRONMENTAL SPECIFICATION	
Operating temperature range	-40°C to +55°C
Storage temperature range	-50ºC to +85ºC
Encapsulation	IP66
Shock	IEC 60068-2-27
Vibration	Mil-Std-810F

PHYSICAL CHARACTERISTICS	
Camera Weight	16.4 kg
Camera Size (L x W x H)	348 mm × 467 mm × 326 mm
Shipping weight (camera + packaging)	20.5 kg
Shipping size (camera + packaging) (L x W x H)	599 mm x 542 mm x 340 mm

INTERFACES	
TCP/IP	Yes
RS-485	Yes
RS-422	Yes
RS-232	Yes
Pelco D	Yes
Bosch	Yes

STANDARD PACKAGE
Thermal imaging camera, operator manual

PT-Series: version specific specifications

SENSOR RESOLUTION	160 X 120	320 X 240	640 X 480
Name/Focal length/ Field of view	PT-124: 9 mm lens – FOV: 24°(H) × 20°(V) PT-117: 13 mm lens – FOV: 17°(H) × 14°(V) PT-112: 19 mm lens – FOV: 12°(H) × 10°(V)	PT-348: 9 mm lens - FOV: 48°(H) x 39°(V) PT-334: 13 mm lens - FOV: 34°(H) x 28°(V) PT-324: 19 mm lens - FOV: 24°(H) x 19°(V) PT-313: 35 mm lens - FOV: 13°(H) x 10°(V) PT-307: 65 mm lens - FOV: 7°(H) x 5°(V) PT-304: 100 mm lens - FOV: 4.6°(H) x 3.7°(V)	PT-641: 21.5 mm lens – FOV: 41°(H) × 33° (V) PT-626: 35 mm lens – FOV: 26° (H) × 21°(V)
Electronic zoom	2x	2x and 4x	2x and 4x

Specifications are subject to change without notice.
Sizes and weights are indicative.

ACCESSORIES

PT-Series

PT-Series wall mount
Can be used to mount a PT-Series network-ready Multi-Sensor against a wall.

PT-Series pole mount adapter
Adapts the PT-Series wall mount for installation on a pole.

PT-Series adapter plate
Can be used to mount a PT-Series network-ready Multi-Sensor to a wide variety of existing mounts.

PT-Series pedestal mount
Mount to install a PT-Series network-ready Multi-Sensor. Typically used on a flat horizontal surface such as a wall or the top of a pole.

PT-Series power supply
Power supply to power a PT-Series network-ready thermal imaging camera.

Hard transport case for PT-Series thermal imaging camera
Rugged, watertight plastic shipping case. Holds all items securely. The case can be locked with padlocks and features a breather valve to prevent pressure build-up in airplane cargo holds.

Nexus Console Joystick
Joystick to control the PT-Series

SR/PTZ-35x140MS

Wheeled shipping case for the SR/PTZ-35x140MS (and breakout cable)
Rugged, watertight plastic shipping case. Holds all items securely. The case can be locked with padlocks and features a breather valve to prevent pressure build-up in airplane cargo holds.

Wheeled shipping case for the SR/PTZ-35x140MS accessories (40' cable, power supply, laptop, etc)
Rugged, watertight plastic shipping case. Holds all items securely. The case can be locked with padlocks and features a breather valve to prevent pressure build-up in airplane cargo holds.

Cable (extension)
40" extension cable to connect the PTZ/SR-35x140 MS to the break-out box.

24VAC Power Supply
Power supply for the PTZ/SR-35x140 MS.

Nexus Console Joystick
Joystick to control the PTZ-35x140 MS.