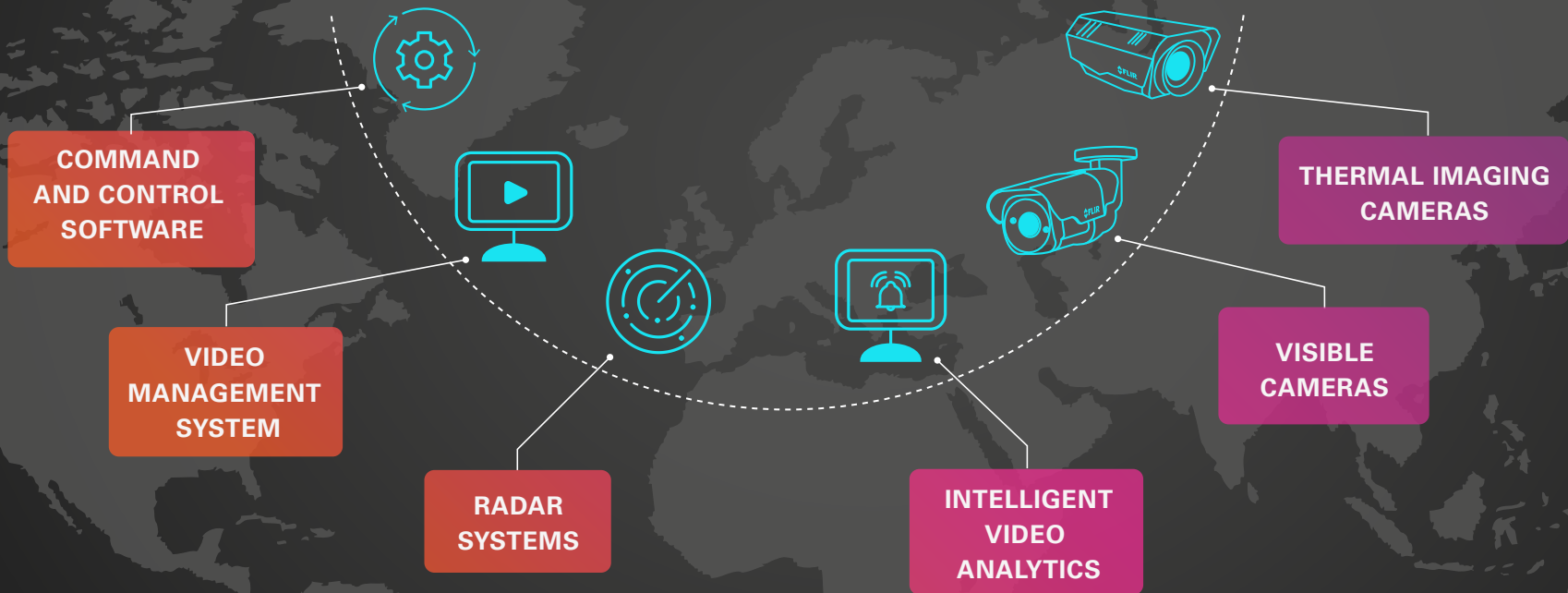


# Teledyne FLIR Total Security Solution



# Teledyne FLIR Security Products:

From industry-leading thermal and visible security cameras to advanced analytics, Teledyne FLIR professional security products provide unparalleled intrusion detection in all lighting conditions. Our range of security products includes:

## **Triton™ Thermal Security Cameras** **p.03**

These mid-range cameras provide best-in class image quality, highly ruggedized enclosures, and support both analog and IP video. Exceptional robustness and durability help minimize total cost of ownership.

## **Elara™ Thermal Security Cameras** **p.04**

Short to Mid-range cameras that include an advanced set of features that makes them suitable for a variety of installations. Elara family of products include a wide range of lens options for optimal site layout.

## **Saros™ Thermal Security Cameras** **p.05**

The Saros family of cameras addresses the premium segment of the commercial market, equipped with both visible and thermal sensors. This gives customers the ability to implement a thermal intrusion detection solution with entry level pricing.

## **Quasar™ Visible Spectrum Cameras** **p.06**

Robust, high-quality cameras that enable excellent video surveillance, delivering optimal performance for live monitoring and forensic purposes. Specialized versions provide superior sets of features for specific applications.

## **Ariel™ Visible Spectrum Cameras** **p.08**

Highly affordable cameras that include a diverse set of resolutions, form factors and features that makes them suitable for a wide choice of installations.

## **ioi Encoders**

**p.09**

The ioi encoders were designed to analyze video signals and sends alarm notifications when people, vehicles, or objects enter pre-defined regions or cross perimeter lines. Auto-tracking option automatically controls the PTZ camera and performs detection on camera presets.

## **United VMS™ (UVMS)**

**p.10**

An enterprise platform of choice for corporations and organizations for more than 18 years, the United VMS family includes Latitude VMS as well as Horizon and Meridian NVRs. These systems provide a global, scalable, flexible solution for effectively managing video surveillance operations over IP networks.

## **USS™ Servers, Clients, and Storage**

**p.11**

The FLIR Universal Systems Solutions are compact, efficient, high-performing and cyber-shielded servers, edge appliance and client workstations. Factory pre-configured UVMS software provides simple set-up and maintenance, and excellent system management capabilities.

**p.13**

## **RANGER® Mid to Long Range Thermal Security Camera**

HDC and HRC thermal imaging multi-sensor systems offer extended range performance with High Definition or VGA (640 × 480) thermal sensors, combined with powerful zoom capabilities. Uncooled High Definition HDC MR UC option minimizes maintenance and logistic costs.

**p.14**

## **RANGER Mid to Long Range Radar Systems**

The Ranger land, coastal and aerial surveillance radars provide accurate, high-resolution detection of vehicles, personnel, and Unmanned Aerial Systems (UAS). Designed to perform in the most demanding environments, they provide 24/7 security to ranges of up to 12 km for detection of a walking person.



	PT-Series HD	PT-602CZ HD	A310 PT	F-Series ID
	HD Visible and Thermal Pan/Tilt	Lon Range HD Visible and Thermal Pan/Tilt	Dual-Sensor Temperature-Measurement Pan/Tilt	Thermal Security Camera with Onboard Analytics
Sensor	Thermal: uncooled sun-safe VOx microbolometer Visible: Full HD 1080p 1/2.8-type Exmor R CMOS	Thermal: cooled sun-safe FPA detector technology Visible: Full HD 1080p 1/2.8-type Exmor R CMOS	Thermal: uncooled sun-safe VOx microbolometer Visible: 1/4" Exview HAD CCD, Effective Pixels (NTSC) 380,000	Thermal: uncooled sun-safe VOx microbolometer
Thermal Sensitivity/ NETD	<35 mK	<30 mK	<50 mK	<35 mK
Resolution	Thermal VGA (640 × 480) Visible – Full HD 1080p	Thermal VGA (640 × 480) Visible – Full HD 1080p	Thermal QVGA (320 × 240) Visible – D1	Fixed IP Thermal VGA (640 × 480) with built-in analytics
Thermal FOV	Continuous optical zoom model 6°–24° (26 mm–105 mm) 5 fix lens models 8° to 44° (13 to 75 mm)	Continuous optical zoom model 2°–28° (19 mm–275 mm)	25° standard (7°/15°/45°/90° options available)	VGA 5 models 8°–44° (13 mm–75 mm)
Wide Dynamic Range Thermal	Yes	Yes	No	Yes
Pan Angle/Speed Tilt Angle/Speed	Continuous 360°, 0.1° to 60°/sec 90° to -90°, 0.1° to 30°/sec	Continuous 360°; 0.1° to 60°/sec 90° to -90°, 0.1° to 30°/sec	Continuous 360°, 0.1° to 60°/sec 90° to -90°, 0.1° to 30°/sec	Fixed
Video Outputs	IP & Analog	IP & Analog	IP & Analog	IP & Analog
IP Video	Dual stream H.264 & MJPEG for each sensor	Dual stream H.264 & MJPEG for each sensor	Dual stream H.264, MPEG-4 & MJPEG	Dual stream H.264 & MJPEG
On-board Analytics	No	No	No	Yes
Visible Camera	CMOS, 30x optical zoom with autofocus and 12x digital zoom FOV 63.7°–2.3°	CMOS, 30x optical zoom with autofocus and 12x digital zoom FOV 63.7°–2.3°	HAD CCD, 36x optical zoom, 12x digital FOV 57.8°–1.7°	No
ONVIF Conformance	Profile S	Profile S	Profile S	Profile S
Ingress Rating	IP66	IP66	IP66	IP67
Minimum Operating Temperature	-40°C to 70°C (-40°F to 158°F) cold start	-32°C to 55°C (-25°F to 131°F) cold start	-25°C to 50°C (-13°F to 122°F)	-50°C to 70°C (-58°F to 158°F) continuous operation, -40°C to 70°C (-40°F to 158°F) cold start
Anti-Ice/De-Ice	Yes	Yes	Yes	Yes
Power Inputs	24 VAC, 24 VDC	24 VAC, 24 VDC	24 VAC, 24 VDC	24 VAC, 24 VDC
High Performance Surge Protection	Yes	Yes	Yes	Yes
Warranty Period	3 years on fixed cameras, 2 years on PTZ cameras, 10 years on thermal sensor			

See the entire range of thermal security cameras at [www.flir.com/thermal-security-cameras](http://www.flir.com/thermal-security-cameras)

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	FC-Series R	FB-Series O/ID	FC-Series O/ID	DX-Series
	Fixed IP Thermal Camera with Radiometrics	Fixed IP Thermal Camera	Fixed IP Thermal Camera	Multispectral PTZ Thermal Camera
Sensor	Uncooled sun-safe VOx microbolometer	Uncooled sun-safe VOx microbolometer	Uncooled sun-safe VOx microbolometer	Thermal: Uncooled sun-safe VOx microbolometer Visible 4K 1/1.8-type CMOS
Resolution	VGA (640 × 480),	VGA (640 × 480), QVGA (320 × 240)	VGA (640 × 480), QVGA (320 × 240)	Thermal: VGA (640 × 480), QVGA (320 × 240) Visible: 4K (3840 × 2160)
Thermal Sensitivity/NETD	<50 mK	<50 mK	<35 mK	<50 mK
Thermal FOV	VGA 2 models: 32° and 45° (13 mm and 19 mm)	9°–93° QVGA, 5 models (3.7 mm–24 mm) 18°–95° VGA, 4 models (4.9 mm–24 mm)	4°–69° QVGA, 9 models (9 mm–75 mm) 8°–90° VGA, 8 models (7.5 mm–75 mm)	6°–50° QVGA, 4 models (4.3 mm–36 mm) 8°–50° VGA, 4 models (8.7 mm–55 mm)
Wide Dynamic Range Thermal	Yes	Yes	Yes	Yes
Pan Angle/Speed, Tilt Angle/Speed	NA	NA	NA	Pan Angle/Speed Continuous 360°, 0.1°–90°/sec Tilt Angle/Speed -10° to 190°, 0.1°–60°/sec
Video Outputs	IP & Analog	IP & Analog	IP & Analog	IP
Video	Dual stream H.264, MPEG-4 & MJPEG	Dual stream H.264 & MJPEG	Dual stream H.264, MPEG-4 & MJPEG	Thermal: One channel of H.264 & M-JPEG Visible: Two independent channels of H.264 & M-JPEG
Onboard Analytics	No	FC-ID models only	FC-ID models only	No
ONVIF Conformance	Profile S	Profile S	Profile S	Profile S
Ingress Rating	IP67	IP66	IP67	IP66
Operating Temperature Range	-50°C to 70°C (-58°F to 158°F) continuous operation -40°C to 70°C (-40°F to 158°F) cold start	-40°C to 50°C (-40°F to 122°F) cold start	-50°C to 70°C (-58°F to 158°F) continuous operation -40°C to 70°C (-40°F to 158°F) cold start	-40°C to 60°C (-40°F to 140°F) continuous operation
Anti-Ice/De-Ice	Yes	No	Yes	No
Power Inputs	PoE, PoE+, 18-32 VAC, 18-44 VDC	12 VDC, 24VAC, PoE	PoE, PoE+, 14-32 VAC, 11-44 VDC	Universal POE injector 24 VAC (±10%)
High Performance Surge Protection	Yes	Yes	Yes	No
Warranty Period	3 years on fixed cameras, 2 years on PTZ cameras, 10 years on thermal sensor			

See the entire range of thermal security cameras at [www.flir.com/thermal-security-cameras](http://www.flir.com/thermal-security-cameras)

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	DH-390 Dome	DM-Series
	Multi-Spectral Intrusion Solution	Multispectral PTZ Thermal Camera
Sensor	Thermal: 2x Lepton® 3.5 LWIR micro thermal camera module Visible: 1/2.8 Full HD	Thermal: uncooled sun-safe VOx microbolometer 1/2.3-type Exmor R CMOS
Thermal Sensitivity/NETD	<50 mK	<50 mK
Resolution	Thermal: 320 × 120 native Visible: 1920 × 1080, 2.1 MP	Thermal: QVGA, VGA Visible: 4K
Thermal FOV	2x Lepton 3.5 HFOV 57° each Min. stitched HFOV 90°	12°–92° QVGA, 4 models, 2.3 mm–18 mm 12°–95° VGA, 4 models 4.9 mm–36 mm
Wide Dynamic Range Thermal	Yes	Yes
Pan Angle/Tilt Angle	NA	Pan Angle Continuous 360° Tilt Angle 10° – 190°
Video Outputs	IP	IP
IP Video	Independent channels of streaming H.264 or M-JPEG	Thermal: one channel of H.264 & M-JPEG Visible: two independent channels of H.264 & M-JPEG
On-board Analytics	Person and vehicle object classification, Crossline detection, Object in region, Rule dependency/multi-rule trigger, Event notification via relay out, white light LED activation	No
Visible Camera	3-9 mm, Optical FOV 95° × 53°	2.8-12 mm, Optical FOV 110 to 36 3 options
ONVIF Conformance	Profile S	Profile S
Ingress Rating	IP66	IP66
Minimum Operating Temperature	-40°C to 60°C (-40°F to 140°F) without LEDs enabled, 40°C max with LEDs	Operating Temp. -40°C to 55°C (-40°F to 131°F)
Power Inputs	12 VDC, 24 VAC, PoE	24 VAC, Universal PoE Injector
Warranty Period	3 years on fixed cameras, 2 years on PTZ cameras, 10 years on thermal sensor	

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	CM-6408-11	CM-6405-11	CB-6408-11-I/21-I	CB-6404-11-I/21-I
	Premium Mini-Dome 4K UHD	Premium Mini-Dome 5MP HD	Premium Bullet 4K UHD	Premium Bullet 4MP QHD
Resolution	3840 × 2160 4K Ultra HD	2688 × 1944 5 MP HD	3840 × 2160 4K Ultra HD	2560 × 1440 4 MP Quad HD
Image Sensor	1/1.8" Progressive CMOS	1/2.7" Progressive CMOS	1/1.8" Progressive CMOS	1/2.8" Progressive CMOS
WDR support	130 db on 15 fps 120 db on 30 fps	130 db on 15 fps 120 db on 30 fps	130 db on 15 fps 120 db on 30 fps	130 db on 15 fps 120 db on 30 fps
Focal Length/FOV (H)	Varifocal 4.46 mm–11 mm, 40.4°–110.7° HFOV, 22.6°–57.1° VFOV, f/1.47–f/2.5, D/N, zoom, autofocus/auto-iris, P-Iris	Varifocal 2.7 mm–12 mm, 31.5°–102° HFOV, 22.7°–70.2° VFOV, f/1.6, D/N, motorized autofocus/auto-iris, P-Iris	CB-6408-11-I: Varifocal 3.6 mm–10 mm, 97°–46° HFOV, f/1.5, D/N, motorized autofocus/auto-iris, P-Iris lens  CB-6408-21-I: Varifocal 9 mm–22mm, 62°–26° HFOV, f/1.6, D/N, motorized autofocus/auto-iris, P-Iris lens	CB-6404-11-I: Varifocal 2.7 mm–13.5 mm, 102°–32° HFOV, f/1.4, D/N, motorized autofocus/auto-iris, P-Iris lens  CB-6404-21-I: Varifocal 9 mm–22mm, 39°–16.5° HFOV, f/1.6, D/N, motorized autofocus/auto-iris, P-Iris lens
Built-in IR	Up to 40 m (131 ft.) Sunshield: 28 m (91.8 ft.)	Up to 40 m (131 ft.) Sunshield: 28 m (91.8 ft.)	CM-6408-11-I: 40 m (131 ft.) CM-6408-21-I: 60 m (197 ft.)	CM-6408-11-I: 40 m (131 ft.) CM-6408-21-I: 60 m (197 ft.)
ONVIF Conformance	Profile G/T/S	Profile G/T/S	Profile G/T/S	Profile G/T/S
Edge Storage Support*	microSD/microSDHC/microSDXC 8 GB to 512 GB (Class 10)	microSD/microSDHC/microSDXC 8 GB to 512 GB (Class 10)	MicroSDXC from 32 GB up to 1 TB, SD Bus Mode UHS I	MicroSDXC from 32 GB up to 1 TB, SD Bus Mode UHS I
Audio Support	Bi-Directional Audio 1 Audio Line Input, G.711 a/μ-law, AAC support + 1 Audio Line Output	Bi-Directional Audio 1 Audio Line Input, G.711 a/μ-law, AAC support + 1 Audio Line Output	Bi-Directional Audio 1 Audio Line Input, G.711 a/μ-law, AAC support + 1 Audio Line Output	Bi-Directional Audio 1 Audio Line Input, G.711 a/μ-law, AAC support + 1 Audio Line Output
Ingress Rating/Vandal Protection	IP66, IK10	IP66, IK10	IP67, IK10	IP67, IK10
Operating Temperature	-40°C to 60°C (-40°F to 140°F) cold start	-40°C to 60°C (-40°F to 140°F) cold start	-40°C to 60°C (-40°F to 140°F) cold start	-40°C to 60°C (-40°F to 140°F) cold start
Power Inputs	PoE IEEE802.3af, class 0 AC24 V, DC12 V, max 12.43 watt	PoE IEEE802.3af, class 0 AC24 V, DC12 V, max 11.5 watt	PoE+ IEEE802.3at, class 4 AC24 V, DC12 V, max 18 watt	PoE+ IEEE802.3at, class 4 AC24 V, DC12 V, max 18 watt
Warranty Period	4 years			

\*SD/microSD card not included

See the entire range of visible security cameras at [www.flir.com/visible-security-cameras](http://www.flir.com/visible-security-cameras)



	CF-6308	CP-6408-21-I/ 31-I	CP-6302-31-I	CP-6302-31-P/-30-R	CM-6308-P1-I
	4K IP Fixed Box	4K IR PTZ	1080P FHD Dome PTZ	1080P FHD Dome PTZ Pendant/Recessed	4x2K Panoramic
Resolution	4K UHD 3840 × 2160 @ 30/25 fps	4K UHD 3840 × 2160	1080p 1920 × 1080 @ 30/25 fps	1080p 1920 × 1080 @ 30 fps	180 mode: 3840 × 1440 @ 30/25 fps 360 mode: 4K (4x 1080p) @ 30/25 fps
Image Sensor	1/2.5" BSI CMOS	1/1.8" Progressive CMOS	1/2.8" CMOS	1/2.8" CMOS	1/2.8" BSI CMOS (x4 each) 5th imager as accessory
WDR support	Shutter WDR	Shutter WDR, 130 dB	Shutter WDR, 120 dB	Shutter WDR, 120 dB	Shutter WDR
Focal Length/FOV (H)	Refer to accessories guide	22x and 31x continuous zoom lens options, up to 8x digital zoom 22x zoom: 6.4 mm–138.5 mm, 64°–3° 31x zoom: 6.5 mm–202 mm, 61.8°–2.15°	30x continuous zoom lens 4.3 mm–129 mm, 2.6°–68.7° HFOV	4.3 mm–129 mm, 2.6°–68.7° HFOV	Fixed 3.6 mm, 92° HFOV (each) System: 360° or 180°
Built-in IR	Available with housing accessory	Up to 200 m (656 ft.)	Up to 200 m (656 ft.)	N/A	Up to 25 m (82 ft.)
ONVIF Conformance	Profile S/G/T	Profile S	Profile S/G	Profile S/G	Profile S/G/T
Edge Storage Support*	microSDXC up to 128 GB (Class 10)	N/A	microSDXC up to 128 GB (Class 10)	microSDXC up to 128 GB (Class 10)	microSDXC up to 128 GB (Class 10)
Audio Support	Yes, full duplex	Yes, full duplex	Yes, full duplex	Yes, full duplex	Yes, full duplex
Ingress Rating/Vandal Protection	Available housing accessory IP66 and IK10 rating	IK10 Upper/IP66 Overall	IK10 Upper/IK8 Lower IP66 Overall	IP66 /IK10	IK10/IP67
Operating Temperature	-20°C to 50°C (-4°F to 122°F) without enclosure -20°C to 60°C (-4°F to 140°F) with available enclosure (IR-off)	-40°C to 60°C (-40°F to 140°F)	-45°C to 60°C (-49°F to 140°F)	-45°C to 50°C (-49°F to 122°F)	-40°C to 50°C (-40°F to 122°F)
Power Inputs	12 VDC, 24 VAC, PoE IEEE 802.3af, 7.5 watts	Universal PoE++ 4 wire 60 W 24 VAC, 61 watts	Universal PoE++ 4 wire 60 W 24 VAC, 39 watts	Universal POE+ IEEE 802.3at, 25 W 24 VAC, 25.4 watts	24V AC PoE+ IEEE 802.3at, 25 watts
Warranty Period	2 years				4 years

\*SD/microSD card not included

See the entire range of visible security cameras at [www.flir.com/visible-security-cameras](http://www.flir.com/visible-security-cameras)

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	CM-3308 Series	CM-3304 Series	CM-3202 Series	CB-3308 Series	CB-3304 Series	CB-3308 Series
	4K UHD Mini-Dome	Quad HD Mini-Dome	Full HD Mini-Dome	4K UHD Bullet	Quad HD Bullet	3 MP Corner Camera
Resolution	4K 3840 × 2160 @ 30/25 fps	Quad HD 2560 × 1440 @ 30/25 fps	1080p 1920 × 1080 @ 30/25 fps	4K 3840 × 2160	Quad HD 2560 × 1440 @ 30/25 fps	2048 × 1536
Image Sensor	1/2.5" BSI CMOS	1/2.9" BSI CMOS	1/2.8", DOL 2F CMOS	1/2.5" BSI CMOS	1/2.9" BSI CMOS	1/2.5" BSI CMOS
WDR support	Shutter WDR	Shutter WDR	Shutter WDR	Shutter WDR	Shutter WDR	Digital WDR
Focal Length/FOV (H)	Motorized Varifocal 3.4 mm–9 mm, 42°–104° HFOV	CM-3304-11-I: Motorized Varifocal 2.8 mm–8.5 mm, 36°–103° HFOV CM-3304-21-I: Motorized Varifocal 9 mm–22 mm, 15°–34° HFOV	Varifocal 2.7 mm–13.5 mm, 35°–105° HFOV	Motorized Varifocal 3.4 mm–9 mm, 42°–104° HFOV	CB-3304-11-I: 2.8 mm–8.5 mm, 36°–103° HFOV CB-3304-21-I: Motorized Varifocal 9 mm–22 mm, 15°–34° HFOV	Fixed 2.1 mm/120° HFOV × 90° VFOV
Built-In IR	Up to 30 m (98 ft)	Up to 30 m (98 ft)	Up to 30 m (98 ft)	Up to 30 m (98 ft)	Up to 30 m (98 ft)	Up to 10 m (33 ft)
General Purpose Video Analytics *	Border Line, Counting, Area Protection, Loitering, Object, Dropped, Object Removed	Border Line, Counting, Area Protection, Loitering, Object, Dropped, Object Removed	N/A	Border Line, Counting, Area Protection, Loitering, Object, Dropped, Object Removed	Border Line, Counting, Area Protection, Loitering, Object, Dropped, Object Removed	N/A
ONVIF Conformance	Profile S/G/T	Profile S/G/T	Profile S/G/T	Profile S/G/T	Profile S/G/T	Profile S/G/T
Edge Storage Support **	microSDXC up to 128 GB (Class 10)	microSDXC up to 128 GB (Class 10)	microSDXC up to 256 GB (Class 10)	microSDXC up to 128 GB (Class 10)	microSDXC up to 128 GB (Class 10)	microSDXC up to 128 GB (Class 10)
Audio Support	Yes/Full Duplex	Yes/Full Duplex	Yes/Full Duplex	Yes/Full Duplex	Yes/Full Duplex	Yes/Full Duplex (built-in mic, no line-in)
Ingress Rating	IK10/IP67	IK10/IP67	IK10/IP67	IP67/IK7	IP67/IK7	IP66/IK10
Operating Temperature	-40°C to 50°C (-40°F to 122°F)	-40°C to 50°C (-40°F to 122°F)	-30°C to 60°C (-22°F to 140°F)	-40°C to 50°C (-40°F to 122°F)	-40°C to 50°C (-40°F to 122°F)	-40°C to 50°C (-40°F to 122°F)
Power Inputs	PoE IEEE802.3af, 12 watts	PoE IEEE802.3af, 12 watts	12VDC POE IEEE802.3af class 3, 7.5 watts	PoE IEEE802.3af, 12 watts	PoE IEEE802.3af, 12 watts	PoE IEEE802.3af, 9.4 watts
Warranty Period	4 years					

\*Requires license activation

\*\*SD/microSD card not included

See the entire range of visible security cameras at [www.flir.com/visible-security-cameras](http://www.flir.com/visible-security-cameras)



	TRK-101	TRK-101 P PTZ
	Video Encoder with Built-in Analytics–IP & Analog Input	TRK-101 with Support for PTZ Camera Detection on Presets & Auto-tracking
Supported via IP	FLIR – F-Series, FC-Series S, FC-Series R, FC-Series ID, Ariel Gen 2 & 3 & CF-6308, 3rd Party – Axis, Sony, Bosch	Quasar IR PTZ, Quasar 30x PTZ, PT-Series, A310pt, PT-Series HD, PT-602CZ HD
IP Input	H.264 main profile, via RTSP	H.264 main profile, via RTSP
Channels	1	1
IP Video Streaming	H.264, MPEG-4 SP, MJPEG	H.264, MPEG-4 SP, MJPEG
On-board Analytics	Intrusion: PTZ target hand-off, Regional entrance, Tripwire, Fence trespassing, Unattended baggage, Object removal, Stopped vehicle, Loitering, Camera tampering	Intrusion: Regional entrance, Tripwire, Fence trespassing, Unattended baggage, Object removal, Stopped vehicle, Loitering, Camera tampering, Autonomous object tracking
Physical Connector	1x BNC 75Ω	1x BNC 75Ω
Frame Rate	MPEG-4 25/30 fps for all resolutions H.264 D1 half framerate, VGA 18 fps	MPEG-4 25/30 fps for all resolutions H.264 D1 half framerate, VGA 18 fps
Bit Rate	CBR (128 Kbps-4 Mbps), VBR	CBR (128 Kbps-4 Mbps), VBR
Network Video Streaming	RTP/RTSP	RTP/RTSP
Alarms/Commands	TCP/IP, HTTP	TCP/IP, HTTP
Operating Temperature	0°C to 60°C (32°F to 140°F)	0°C to 60°C (32°F to 140°F)
Alarms	In – 1, Out – 1	In – 1, Out – 1
Warranty Period	2 Years	

Learn more about security encoders at [www.flir.com/ioi-encoders](http://www.flir.com/ioi-encoders)

# FLIR United VMS™



	Latitude	Horizon	Meridian
Type	Network VMS	Enterprise-Grade NVR	Enterprise-Grade Compact NVR with Built-in POE for Small Enterprises
Hardware Options	Available with FLIR USS servers or as software only	Supplied with FLIR USS BSC Servers	Supplied on FLIR USS Edge appliance with built-in 8-port POE
Cameras	Effectively unlimited with multiple servers (see server specs) Guideline: up to 500 per high spec server	Up to 150 cameras	8, 16, or 24 cameras
Max Users	Unlimited (requires license)	Up to 10	Up to 4
Base License	Includes 5 users Classic, Elite and Enterprise base licenses available. Camera channel licenses purchased separately	Includes 10 users Pre-licensed with 24 camera channels	Includes 4 users Pre-licensed with 8, 16, or 24 camera channels
Channel Licenses	Up to 70 cameras requires Classic base license Up to 250 requires Elite base license Above 250 requires Enterprise base license	Additional camera channels may be purchased	No additional camera channels may be purchased
Architecture	Multiple server configuration with failover and/or redundancy available	All-in-one	All-in-one
Client Applications	Control Center, Admin Center, Web Client (desktop and mobile), Health Monitor	Control Center, Admin Center, Web Client (desktop and mobile)	Control Center, Admin Center, Web Client (desktop and mobile)
Storage	Various FLIR USS servers available with up to 272 TB* Additional storage modules may be purchased separately	Up to 48 TB with RAID5 Up to 64 TB when RAID not configured	Up to 16 TB non-RAID
*See USS page for more details			

See the entire range of United VMS products at [www.flir.com/security/united-vms](http://www.flir.com/security/united-vms)



	USS Edge Appliance	USS BSC 1U	USS SMB Elite 1U	USS Premium 2U	USS Enterprise 2U
	Compact IP Video Appliance with Built-in PoE	High Performance Server	High Performance Server	High Performance Scalable Server Optimized for United VMS	High Performance Scalable Server Optimized for United VMS
Form Factor	Small and compact Form Factor with 8-port POE switch	1U Rack Server	1U Rack Server	2U Rack Server	2U Rack Server
Operating System	Microsoft® Windows 10 IoT 2019 Enterprise 64 bit	Microsoft® Windows 10 IoT 2019 Enterprise 64 bit	Microsoft® Windows Server 2016/2019 64-bit	Microsoft® Windows Server 2016/2019 Embedded	Microsoft® Windows Server 2016/2019 Embedded
Processor	2 TB & 4 TB: Intel® Core™ Skylake i3-6100 8 TB, 12 TB, and 16 TB: Intel® Core™ Skylake i5-6500	Intel® Core™ i3-8100 CPU @ 3.60 GHz	Enterprise Quad-core Intel® Xeon™ E-2136	Enterprise Eight-core Intel® Xeon™ Silver 4208	Enterprise Eight-core Intel® Xeon™ Silver 4208
I/O Ports	External Ports: 1x ESATA, 2x USB 3.0 Alarm: 4x alarm-in; 4x alarm-out Display: 2x Standard HDMI, 1x Display Port (only 2 are supported simultaneously) Audio: Via HDMI or 3.5 mm audio jack 1x Mic-in/1x Headphone-out	2x PCIe slots, 2x USB 3.0, 1x USB 2.0, 1x IDRAC micro USB 2.0	2x PCIe slots, 2x USB 3.0, 1x USB 2.0, 1x IDRAC micro USB 2.0	2x PCIe slots, 2x USB 3.0, 2x USB 2.0, 1x IDRAC RJ45	2x PCIe slots, 2x USB 3.0, 2x USB 2.0, 1x IDRAC RJ45
Storage	2 TB, 4 TB, 8 TB, 12 TB, and 16 TB	Enterprise-class, hot-swap hard drives Maximum internal storage 64 TB RAID0 or 48 TB RAID5	Enterprise-class, hot-swap hard drives Maximum internal storage 64 TB RAID0 or 48 TB RAID5	Enterprise-class, hot-swap hard drives Maximum internal storage 224 TB – usable RAID5 208 TB/usable RAID6/Hot-Spare 192 TB	Enterprise-class, hot-swap hard drives Maximum internal storage 288 TB - usable RAID5 272 TB/usable RAID6/Hot-Spare 256 TB
Communications	Embedded dual port 1 Gb NIC Built-in POE: 8 × 10/100 RJ-45 ports	Embedded dual port 1 Gb NIC	Embedded dual port 1 Gb NIC	Embedded dual port 1 Gb NIC	Embedded quad port 1 Gb NIC
Weight/Dimensions	1.6 kg (3.5 lb)/43.9 × 220.0 × 244.3 mm (1.72 × 8.66 × 9.62 in)	12.2 kg (26.89 lb.)/434.0 × 595.6 × 42.8 mm (17.08 × 23.44 × 1.69 in)	Max: 13.8 kg (30.42 lbs)/434.0 × 595.6 × 42.8 mm (17.08 × 23.44 × 1.69 in)	31.11 kg (68.58 lb)/86.8 × 434.0 × 647.0 mm (3.42 × 17.08 × 25.47 in)	33.1 kg (72.91 lb)/86.8 × 434.0 × 678.8 mm (3.42 × 17.08 × 26.72 in)
Memory	8 GB DDR4	16 GB 2666 MT/s DDR4	16 GB 2666 MT/s DDR4	16 GB RDIMM RAM	16 GB RDIMM RAM
Recording Throughput	2 TB & 4 TB: 80 Mbps 8 TB, 12 TB & 16 TB: 120 Mbps	All-in-one: 150 Mbps Dedicated archiver: 200 Mbps	All-in-one: 200 Mbps Dedicated archiver: 300 Mbps	All-in-one: 450 Mbps Dedicated archiver: 550 Mbps	All-in-one: 500 Mbps Dedicated archiver: 650 Mbps
Power	AC 100–240V, 80 W min, 200 W max, POE Power 120 W (8 ports)	Single, cabled power supply, 250 W	Single hot plug 350 W, 100–240 VAC 50/60 Hz (auto)	Dual, hot-plug, redundant power supply, 750 W, 100–240 VAC 50/60 Hz (auto)	Dual, hot-plug, redundant power supply, 750 W, 100–240 VAC 50/60 Hz (auto)
Warranty	3 years, normal RMA	3-year Pro Support and Next Business Day On-site Service	3-year Basic Support and Next Business Day On-site Service	3-year Pro Support and Next Business Day On-site Service	3-year Pro Support and Next Business Day On-site Service

iDRAC license purchased separately  
See the entire range of FLIR security servers at [www.flir.com/servers-storage-clients](http://www.flir.com/servers-storage-clients)

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	USS Client Dual Monitor	USS Client Quad Monitor	USS Client Quad Monitor High Performance
	High-performance client workstation optimized for United VMS monitoring		
Form Factor	Workstation - small form factor		
Operating System	Microsoft Windows 10 Professional (x64)		
Processor	Enterprise Quad-core Intel® Xeon® E2-2124		Enterprise Quad-core Intel® Xeon® E2-2174
I/O Ports	6x USB 3.1, 4x USB 2.0, 1x RJ45, 1x audio line-out, 1x universal audio jack 1x serial, 2x PS/2		
Storage	2.5" 256 GB class 20 SATA solid state drive		
Communications	Integrated Gigabit Ethernet controller		
Weight	5.26 kg (11.57 lb)		
Memory	8 GB 2666 MHz DDR4	16 GB 2666 MHz DDR4	
Power	260 W, 100~240 VAC 50/60 Hz (auto)		
Warranty	3-year Pro Support and Next Business Day On-site Service		

See the entire range of FLIR security servers at [www.flir.com/servers-storage-clients](http://www.flir.com/servers-storage-clients)

# FLIR RANGER CAMERA SYSTEMS™



	HDC MR UC	HDC MR	HDC-800/1200 MS	HRC-E/S/U/X MS
	Uncooled High Definition Surveillance System	High Definition Surveillance System	High Definition Long Range Surveillance System	Long Range Pan-Tilt, EO and IR Multi-Sensor
<b>Thermal Camera</b>				
Detector Type	LWIR Microbolometer FPA	MWIR indium antimonide (InSb)		MWIR: indium antimonide (InSb) or mercury cadmium telluride (MCT)
Horizontal Field of View (±7%)	From narrow 5.4° to wide 16.8°	2 available options Narrow 3.0° to wide 38.0° on HDC 350 Narrow 1.9° to wide 24° HDC 550	2 available options From 1.35° to 30° on HDC-800 MS From 0.92° to 20.4° on HDC-1200 MS	4 available options From narrow 2° to wide 25° on HRC-E to narrow 0.5° to wide 6.3° on HRC-X
Focal Length	Narrow lens: 129 mm, Wide lens: 4.3 mm Two optical fields of view with seamlessly integrated digital zoom between wide FOV and NFOV. Digital zoom: 16x	4.3 mm to 129 mm	HDC-800 MS: 36 mm–800 mm HDC-1200 MS: 55 mm–1.200 mm	4 available options From 22 mm–275 mm lens on HRC-E to 88 mm–1100 mm lens on HRC-X
Resolution	1024 × 576 pixels	1280 × 720 pixels		640 × 480 pixels
<b>Visible Camera</b>				
Detector Type	1920 x 1080 HD Color TV camera		2 available options 1/2" Color CCD, 1280 × 720 pixels 1/2" Color CMOS, 1920 × 1080 pixels	SR-TV NTSC 1/4" Color CCD HD LR-TV 750 Type 1/1.8" Full HD CMOS HD LR-TV 1000 Type 1/1.8" Full HD CMOS
Horizontal Field of View (±7%)	From narrow: 2.3° to wide 63.0°		4 available options From 0.54° (0.27° with 2x extender) to 31.5° to 0.38° (0.19° with 2x extender) to 22.4°	3 available options From 1.7° to 57.8° on SR-TV to 0.19° to 10.5° ±7% on HD LR TV 1000 (with 2x Extender)
Focal Length	4.3 mm–129 mm		2 available options From 112 mm–750 mm on HDC-800 MS (25 mm–1500 mm with 2 extenders) From 16.7 mm–1000 mm on HDC-1000 MS (33.4 mm–2000 mm with 2x extender)	4 available options From 3.4 mm–122.4 mm lens on SR-TV to 33.4 mm–2000 mm (with 2x extender) on HD LR-TV 1000
Video	HD-SDI video output format: 1920 × 1080p 29.97 YCbCr 4:2:2 according to SMPTE 274 M carried over SMPTE 292 M Ethernet video output format: H.264 carrying 1920 × 1080p 29.97		2x HD SDI, and h.264	NTSC or PAL composite video. Optional embedded encoders provide simultaneous H.264, IR + TV digital videos/HD LR-TV option: Full HD 1080p digital video (H.264)
Pan/Tilt Az Range; Az Velocity	nx 360°; 0.08°/s–120°/s		nx 360°; 0.03°–100°/sec continuous	nx 360°; 0.03°–65°/sec continuous
Pan/Tilt El Range; El Velocity	-35°–90°; 0.08°/s–120°/s		±90°; 0.03°–100°/sec	±35°; 0.03°–30°/sec
Pan/Tilt Accuracy	±0.5 mrad		±0.5 mrad	1 mrad
Pan/Tilt Resolution	≤0.05 mrad		0.2 mrad	0.1 mrad
Merlin ASX Turbulence Filter Option	Optionally available			No
Hardware Options	Laser Range Finder (LRF), Geo Positioning (GPS), Digital Magnetic Compass (DMC)			
Power Input	31 VDC (operates between 20–32 VDC)		+31 VDC (operates between 18-32 VDC)	28 V ±4 V

See all the Ranger products at [www.flir.com/ranger-security](http://www.flir.com/ranger-security)

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# FLIR RANGER RADARS™



	R1,2,3	R5	R3D, R5D	R6SS, R8SS	R20SS	R8SS-3D	R20SS-3D
	Perimeter Surveillance Radar	High Resolution Perimeter Surveillance Radar	Perimeter Surveillance Switchable FMCW and Pulse Doppler Radars	Man-Portable Perimeter Surveillance Radar	High Resolution Perimeter Surveillance Radar	Drone Surveillance Radar	Drone Surveillance Radar
Application	Ground			Ground & Portable	Coastal & Ground	Airspace & Ground	
Radar Technology	FMCW		FMCW/Doppler	FMCW/Doppler	FMCW/Doppler	FMCW/Doppler	
Operating Frequency	Ka-Band			X-band	X-Band	X-Band	
Target Type	Human/Vehicle	Human/Vehicle	Human/Vehicle	Human/Vehicle	Human/Vehicle, Rubber Rafts/Boats	Drone/Human/Vehicle	
Scan Sector	360°			90°, 360° with optional pan/tilt device	90°, 360° with optional pan/tilt device	90° (fixed)–360° with P/T or 4-panel option Vertical coverage 40°	
Scan Rate	1 rev/sec (60 rpm)		3 rpm–60 rpm, continuous or sector	2 Hz or 4 Hz (90 deg sector)	2 Hz (90 deg sector)	2 Hz or 4 Hz (90 deg sector)	
Accuracy	0.3 m range, 1° azimuth	0.7 m range, 1° azimuth	2 m range, 0.4° azimuth	3 m range, 0.2° azimuth	3 m range, 0.2° azimuth	Elevation 3° 3 m range 0.8° azimuth	Elevation 2° 3 m range, 0.5° azimuth
Minimum Detection Velocity (MDV)	0.1 m/s		0.1 m/s	0.1 m/s	0.1 m/s	0.1 m/s	
Detection Range	R1: 5 m–700 m walking person R2: 5 m–1,400 m walking person R3: 5 m–1,900 m walking person	10 m–3,000 m walking person	5 m–3,500 m walking person R5D: 5 m–5,500 m walking person	R8SS: 10 m–8,000 m walking person R6SS: 10 m–6,000 m walking person	Up to 12,000 m walking person Up to 12,000 m rubber raft (1 m2 RCS, ss 3)	10 m–3,000 m walking person MicroUAS 10 m–1,200 m MiniUAS 10 m–2,100 m Small UAS 10 m–4,000 m	5,000 m walking person Micro UAS 20 m–2,000 m Mini UAS 20 m–3,500 m Small UAS 20 m–6,700 m
Operating Temperature Range	-30°C to 65°C (-22°F to 149°F)	-30°C to 60°C (-22°F to 140°F)	-30°C to 60°C (-22°F to 140°F)	-30°C to 60°C (-22°F to 140°F)	-30°C to 60°C (-22°F to 140°F)	-30°C to 60°C (-22°F to 140°F)	-30°C to 60°C (-22°F to 140°F)

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