

KX-F4459TPN

Thermal Network Hybrid Speed Dome Camera

Design and specifications are subject to change without notice. Pictures in the document are for reference only, and the actual product shall prevail.



- Vanadium oxide uncooled focal plane detector.
- 4 megapixel progressive scan CMOS
- AI functions: boat detection, engineering truck detection, heat detection, tripwire, intrusion, and human/vehicle classification.
- Pan: 0° to 360°, tilt: -10° to +90°.
- Maximum IR illumination distance is 150 m.
- Auto rain-sensing wiper.
- 36 VDC ± 25%.
- IP66 rated.

Thermal	
Detector Type	Vanadium oxide uncooled focal plane detector
Effective Pixels	400 (H) × 300 (V)
Pixel Pitch	17 μm
Spectral Range	8 μm–14 μm
Sensitivity (NETD)	<35 mK (@f/1.0)
Focal Length	25 mm; 35 mm; 50mm
Field of View	25 mm: H: 15.5°; V: 11.6° 35 mm: H: 11.1°; V: 8.3° 50 mm:H: 7.8°; V: 5.8°
Thermal Focus Control	Fixed-focal
Close Focus Distance	25 mm: 1 m (3.28 ft) 35 mm: 1 m (3.28 ft) 50 mm: 1 m (3.28 ft)
Detection Distance ^①	25 mm: Vehicle: 2,262 m (7,422.71 ft); Human: 735 m (2,411.42 ft) 35 mm: Vehicle: 3,167 m (10,391.80 ft); Human: 1,029 m (3,375.98 ft) 50 mm: Vehicle: 4,525 m (14,845.43 ft); Human: 1,471 m (4,826.12 ft)
Recognition Distance ^②	25 mm: Vehicle: 555 m (1,820.67 ft); Human: 189 m (620.08 ft) 35 mm: Vehicle: 777 m (2,548.93 ft); Human: 265 m (869.42 ft) 50 mm: Vehicle: 1,110 m (3,641.33 ft); Human: 378 m (1,240.16 ft)
Identification Distance ^③	25 mm: Vehicle: 280 m (919.00 ft); Human: 95 m (311.68 ft) 35 mm: Vehicle: 392 m (1,286.60 ft); Human: 132 m (433.07 ft) 50 mm: Vehicle: 560 m (1,838.01 ft); Human: 189 m (620.08 ft)

Note:

- ① **Detection Distance:** Detects objects, but cannot recognize their characteristics (objects must cover more than 3.6 pixels of the image).
- ② **Recognition Distance:** Classifies objects into general categories, such as human, vehicle (the object must cover more than 14 pixels of the image).
- ③ **Identification Distance:** Classifies objects into specific categories based on their characteristics, such as engineering truck, car (the object must cover more than 28 pixels of the image).

Digital Detail Enhancement (DDE)	Yes
Digital Zoom	19 levels
Thermal AGC	Auto/Manual
Thermal Noise Reduction	2D NR/3D NR
Image Flip	180°; Mirror
Color Palettes	18 (white hot/black hot/fusion/rainbow/golden autumn/midday/iron red/amber/jade/sunset/icefire/painting/pomegranate/emerald /spring/summer/autumn/winter)
Visible	
Image Sensor	1/1.8" CMOS
Max. Resolution	2688 (H) × 1520 (V)
Pixel	4 MP
Horizontal Definition	≥1200 TVL
Min. Illumination	Color: 0.001 lux@F1.4 Black & white: 0.0001 lux@F1.4 0 lux (IR on)
Visible AGC	Auto/Manual
Visible Noise Reduction	2D NR/3D NR
S/N Ratio	≥55 dB
White Balance	Auto; manual; indoor; outdoor; tracking; sodium lamp; street lamp; natural
Defog	Electronic defog
Visible Image Stabilization	Electronic Image Stabilization
Electronic Shutter Speed	1 s–1/30,000 s (auto/manual)
BLC	Yes
WDR	Yes
HLC	Yes
Digital Zoom	Yes
Day/Night	Auto (ICR); Color; B/W

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Iris Control	Auto
Image Flip	Yes
Exposure Compensation	Yes
Visible Focus Control	Auto/semi-auto/manual
Focal Length	5.5 mm–248 mm
Zoom Speed	<7 s
Field of View	H: 62.32°–1.71° V: 36.55°–1.0°
Close Focus Distance	0.5 m–2 m (1.64 ft–6.56 ft)
Optical Zoom	45×
Aperture	F1.4–F4.5
Illuminator On/Off Control	Auto/Manual
Illumination Distance	150 m (492.13 ft)
Audio and Video	
Video Compression	H.265; H.264; H.264H
Resolution	Thermal: Main stream: 1280 × 1024; 1280 × 960; 720p (1280 × 720); 400 × 300; 1280 × 960 (default) Sub stream: 640 × 512; 640 × 480; 400 × 300; 400 × 300 (default) Visible: Main stream: 4 MP (2688 × 1520); 4 MP (2560 × 1440); 1080p (1920 × 1080); 720p (1280 × 720); D1 (704 × 576); 1080p (default) Sub stream: D1 (704 × 576); CIF (352 × 288); D1 (704 × 576) (default)
Video Frame Rate	Thermal: 50 Hz: (main stream) 1 fps–25 fps adjustable, 25 fps by default; (sub stream) 1 fps–25 fps adjustable, 15 fps by default 60 Hz: (main stream) 1 fps–30 fps adjustable, 30 fps by default; (sub stream) 1 fps–30 fps adjustable, 15 fps by default Visible: 50 Hz: (main stream) 1 fps–25 fps adjustable, 25 fps by default; (sub stream) 1 fps–25 fps adjustable, 15 fps by default 60 Hz: (main stream) 1 fps–30 fps adjustable, 30 fps by default; (sub stream) 1 fps–30 fps adjustable, 15 fps by default
Audio Compression	G.711a; G.711mu; AAC
Image Encoding Format	JPEG
PTZ	
Pan/Tilt Range	Pan: 0° to +360° Tilt: –27° to +90°
Manual Control Speed	Pan: 0.1°/s to 200°/s Tilt: 0.1°/s to 120°/s
Preset Speed	Pan: 0.1°/s to 240°/s

	Tilt: 0.1°/s to 200°/s
Preset	300
Tour	8 (up to 32 presets per tour)
Pattern	5
Scan	5
Power-off Memory	Yes
Privacy Masking	4 by default
Idle Motion	Preset; Pattern; Tour; Scan; Horizontal Rotation
Timing Task	Preset; Pattern; Tour; Scan; Horizontal Rotation
Position Display	On/Off
Wiper	Auto rain-sensing. Supports setting wiper running times, frequency, and period.
3D Positioning	Yes
Function	
Two-way Audio	Yes
Network Protocol	HTTPS; HTTP; TCP; ARP; RTSP; RTP; UDP; RTCP; SMTP; FTP; DHCP; DNS; DDNS; PPPOE; IPv4/v6; SNMP; QoS; UPnP; NTP
Region of Interest (RoI)	Yes (customizable)
Storage	Micro SD card
Micro SD Card (Max.)	512 GB
Interoperability	ONVIF; CGI; SDK
Browser	IE: IE8 and later Chrome: 42 and earlier Firefox: 42 and earlier
User/Host	Up to 20 (total bandwidth: 64 MB)
Security	Authorized username and password; attached MAC address; encrypted HTTPS; IEEE 802.1x; controlled network access
User Management	Up to 20 users; supports multi-level user permissions (2 levels): management group and user group
Malfunction Detection	Network disconnection detection; IP conflict detection; memory card state detection; memory space detection
PIP	Yes
Intelligence	
Heat Detection	Yes
Cold/Hot Spot Trace	Yes
IVS (Perimeter Protection)	Yes. Supports tripwire and intrusion.
Target Distinction	Human/Vehicle Classification
Target Tracking	Yes
Target Filtering	Yes
Smoking Detection	Yes
Call Detection	Yes
Smoke Detection	Yes

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Boat Detection	Yes
Engineering Truck Detection	Yes
Panoramic PTZ	Yes
Port	
Analog Output	1 × CVBS output; BNC port
Network Port	1 × RJ-45 (10/100 Base-T)
Alarm Input	7
Alarm Output	2
Audio Input	1
Audio Output	1
RS-485	1
Power	
Power Supply	36 VDC ± 25%
Power Consumption	Basic: 30 W Max: 50 W (illuminator)
Environment	
Operating Temperature	-40 °C to +70 °C (-40 °F to +158 °F)
Operating Humidity	≤95%
Storage Temperature	-50 °C to +80 °C (-58 °F to +176 °F)
Physical Characteristics	
Protection	IP66
Reliability	Surge protection: 6 kV Air discharge: 15 kV Contact discharge: 8 kV
Structure	
Product Dimensions	300 mm × 300 mm × 500 mm (11.81" × 11.81" × 19.69") (L × W × H)
Packaging Dimensions	435 mm × 435 mm × 666 mm (17.13" × 17.13" × 26.22") (L × W × H)
Net Weight	≤13 kg (28.66 lb)
Gross Weight	≤16 kg (35.27 lb)
Heat Detection Distance	
Focal Length	Max. Distance
25 mm	1,548 m (5,078.74 ft)
35 mm	2,167 m (7,109.58 ft)

50 mm 3,096 m (10,127.48 ft)

Note:

The table displays the measured distances obtained from using the target size 2 m × 2 m for testing in an environment where the temperature is 23 °C and the relative humidity is below 60%.

The table is for reference only. The distances within it are subject to actual conditions including atmospheric conditions, target size, the installation site, and more.

Perimeter Protection Distance

Focal Length	Distance (Human)	Distance (Vehicle)
25 mm	175 m (574.15 ft)	525 m (1,722.44 ft)
35 mm	245 m (803.81 ft)	735 m (2,411.42 ft)
50 mm	350 m (1,148.29 ft)	1,050 m (3,444.88 ft)

Note:

The table displays the measured distances obtained from using the target sizes 1.8 m × 0.5 m (human) and 1.4 m × 4 m (vehicle) for testing in an environment where the temperature is 23 °C and the relative humidity is below 60%.

The table is for reference only. The distances within it are subject to actual conditions including atmospheric conditions, target size, the installation site, and more.

Dimensions (mm[inch])

