SUNELL

SN-TPS4157ET-F

Thermal & Optical Bi-spectrum Network Speed Dome

Key Features

- 384 × 288 (the resolution of output image is 1280 × 720) resolution 12μm, VOx UFPA, NETD ≤ 40mK

- 5/7/15mm thermal lens, 40x optical zoom lens

- Support human/vehicle detection

- Support fire point detection, smoking detection and smoke & fire detection

- Smart events: intrusion, single line crossing, double line crossing, loitering, wrong-way, people counting, enter area, leave area and smart motion detection

- Smart tracking: Cold/hot spot tracking, human/vehicle tracking

- Support 3 temperature measurement rule types (spot, line, area)

- Temperature range: -20°C to 150°C (-4°F to 302°F) or 0°C to 550°C (32°F to 1022°F)
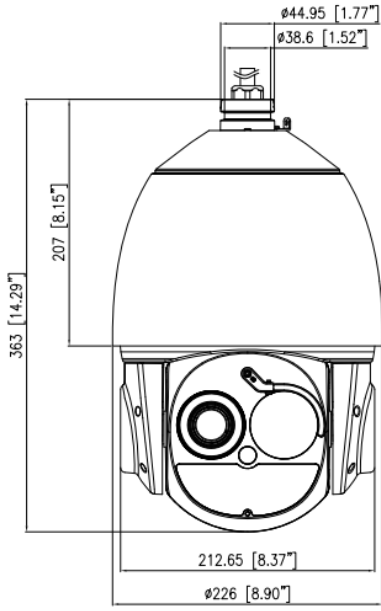
- Smart rain-sensing wiper, IP66

Specification

Thermal Module

Image Sensor	Vanadium Oxide Uncooled Focal Plane Arrays
Resolution	Sensor is 384×288. Image can be scaled up to 1280×720
Pixel Pitch	12μm
NETD	≤ 40mK
Spectral Range	8 to 14 μm
Image Setting	Brightness, Sharpness, Contrast, Mirror, FFC control, 2D/3D DNR
Pseudo-color Setting	White-hot/Black-hot/Rainbow/Ironbow etc. up to 17 modes

Thermal Lens

Focus Control	Free Focus		
Focal Length	5mm	7mm	15mm
Aperture	F1.0	F1.0	F1.0
Angle of View	H: 56°, V: 40°	H: 44°, V: 33°	H: 21°, V: 16°
Detection Distance (Humans: 1.8×0.5m)	208 m (682.4 ft)	291 m (954.7 ft)	624 m (2,047.2 ft)
Detection Distance (Vehicles: 4×1.5m)	639 m (2,096.5 ft)	894 m (2933.1 ft)	1,917 m (6,289.4 ft)
Recognition Distance (Humans: 1.8×0.5m)	52 m (170.6 ft)	73 m (239.5 ft)	156 m (511.8 ft)
Recognition Distance (Vehicles: 4×1.5m)	160 m (524.9 ft)	224 m (734.9 ft)	479 m (1,571.5 ft)
Identification Distance (Humans: 1.8×0.5m)	26 m (85.3 ft)	36 m (118.1 ft)	78 m (255.9 ft)
Identification Range (Vehicles: 4×1.5m)	80 m (262.5 ft)	112 m (367.5 ft)	240 m (787.4 ft)

* The table is only for reference and the performance may vary according to different environment.
* The optimal detection, recognition, and identification distances are calculated according to Johnson's Criteria.
Detection Range: In order to distinguish an object from the background, the object must be covered by 1.5 or more pixels.
Recognition Range: In order to classify the object (animal, human, vehicle, etc.), the object must be covered by 6 or more pixels.
Identification Range: In order to identify the object and describe it in details, the object must be covered by 12 or more pixels.

Detection Range Table

Temperature Measurement (Object: 1 × 1m)	83 m (272.3 ft)	117 m (383.9 ft)	250 m (820.2 ft)
Temperature Measurement (Object: 0.2 × 0.2m)	17 m (55.8 ft)	23 m (75.5 ft)	50 m (164 ft)
Fire Detection (Object: 1 × 1m)	208 m (682.4 ft)	292 m (958 ft)	625 m (2,050.5 ft)
Fire Detection (Object: 0.2 × 0.2m)	42 m (137.8 ft)	58 m (190.3 ft)	125 m (410.1 ft)

Note: 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.

Optical Module

Image Sensor	1/1.8" CMOS
Max. Resolution	2688 (H)×1520 (V), 4MP
Shutter Speed	1/5 to 1/20,000s
Min. Illumination	Color: 0.001 Lux @ (F1.5, AGC ON), B/W: 0.0001 Lux, 0 Lux with IR
WDR	True WDR

Focal Length	6.27 to 251mm, 40x optical zoom
Aperture	F1.5 to F4.8
Angle of View	H: 60.7° to 2.33°, V: 36.8° to 1.38°
Digital Zoom	16x
Focus Control	Auto/Manual/Semi-automatic
Mirror	Support
Defog	Support
Anti-shake	Support Gyroscope
Privacy Masking	Support
PTZ	
Pan/Tilt Range	Pan: 0° to 360° endless, Tilt: -10° to 90°
Pan Speed	Pan: 0.01° to 300°/s, preset speed: 300°/s
Tilt Speed	Tilt: 0.01° to 240°/s, preset speed: 240°/s
Wiper	Support
Preset Accuracy	≤ 0.2°
Presets	400
Scan	12 scans
Patrol	12 patrols, up to 32 presets per patrol
Track	6 tracks
3D Positioning	Support
Speed Setup	Auto/Manual (0-8)
Power Off Memory	Support
Idle Motion	The time can be set (1-240 minutes), and functions such as preset positions, patrols, scans, and tracks can be run.
Illuminator	
Illuminator Type	IR
Illumination Distance	Up to 300m (984.25ft)
Illumination Intensity And Angle	Automatically adjusted
Video and Audio	
Main Stream	Thermal: 1280×720, 704×576, 384×288 @ 25fps Optical: 2688×1520, 2560×1440, 2304×1296, 1920×1080, 1280×720 @25/30fps
Sub Stream	Thermal: 704×576, 384×288, 352×240 @ 25fps Optical: D1, VGA @25/30fps
Bit Rate Control	CBR/VBR

Bit Rate	Thermal: Main stream: 100Kbps to 8Mbps
	           Sub stream: 100Kbps to 6Mbps
	Optical: Main stream: 100Kbps to 16Mbps,
	           Sub stream: 100Kbps to 6Mbps

Region of Interest (Thermal)	Off/On (8 Zone, Rectangle)
Audio Compression	G711: 64kbps, RAW_PCM: 128kbps
Smart Function	
Smart Alarm	Motion detection, Disk alarm, I/O alarm, IVS alarm, Temperature detection & alarm
Smart Detection	Support human/vehicle detection, fire point detection, smoking detection and smoke & fire detection

Intelligent Analysis	Intrusion, Single line crossing, Double line crossing, Loitering, Wrong-way, Enter area, Leave area and Smart motion detection (these functions support accurate detection of human/vehicles)
People Counting	Support
Smart Tracking	Cold/hot spot tracking, human/vehicle tracking

Temperature Detection

Temperature Detection	3 temperature measurement rule types, 20 rules in total, 1 full screen, 19 others (spot, areas, line).
Temperature Alarm	Over temperature alarm, Temperature difference alarm
Accuracy	±2℃ / ±2%
Temperature Range	-20°C to 150°C (-4°F to 302°F) or 0°C to 550°C (32°F to 1022°F)

Network

Protocols	IPv4/IPv6, HTTP, RTSP/RTP/RTCP, TCP/UDP, DHCP, DNS, DDNS, PPPoE, UPNP, ICMP, IGMP, FTP, NTP, SMTP, 802.1x, SNMP
Interoperability	ONVIF, SDK
Max. User Access	10 Users
Web Viewer	<IE11, Chrome, Firefox, Microsoft Edge
Web Language	English, Chinese, Polish, Italian, Portuguese, Spanish. Russian, French, Czech, Hungarian

Interface

Network Interface	1 Ethernet (10/100 Base-T) RJ-45 Connector
Audio Interface	1ch Audio In, 1ch Audio Out
Alarm Interface	7ch Alarm In, 2ch Alarm Out
RS485	Support
BNC Output	Support
SD Card Slot	Built-in, up to 256GB

General

Power Supply	24VAC/36VDC/PoE++ (802.3bt), Standard Equipped: 36VDC
Power Consumption	Max 45 W
Working Temperature	-40°C to 60°C (-40°F to 140°F)
Storage Conditions	0 to 90% RH
Certifications	CE /FCC
Ingress Protection	IP66
Casing	Metal
Dimensions	φ226 × 362.8mm (φ8.9 × 14.28 inch)
Net Weight	6kg (13.2 lb)

Ordering Information

Model	Description
SN-TPS4157ET-F5-ZSD40	Thermal Focal Length: 5mm Optical Focal Length: 6.27 to 251mm, 40x optical zoom
SN-TPS4157ET-F7-ZSD40	Thermal Focal Length: 7mm Optical Focal Length: 6.27 to 251mm, 40x optical zoom
SN-TPS4157ET-F15-ZSD40	Thermal Focal Length: 15mm Optical Focal Length: 6.27 to 251mm, 40x optical zoom

Dimensions (mm)

Accessories

Optional：

SN-CBK506B Wall Bracket	SN-BK348A Ceiling Bracket	SN-BK605 Corner Mount	SN-BK604B Pole Mount
SN-BK367 Junction Box	SN-BK355 Wall Bracket	SN-BK358 Corner Mount	SN-BK359 Pole Mount