الهيئة العربية للتصنيع
مصنع الالكترونيات

ZERO TECH
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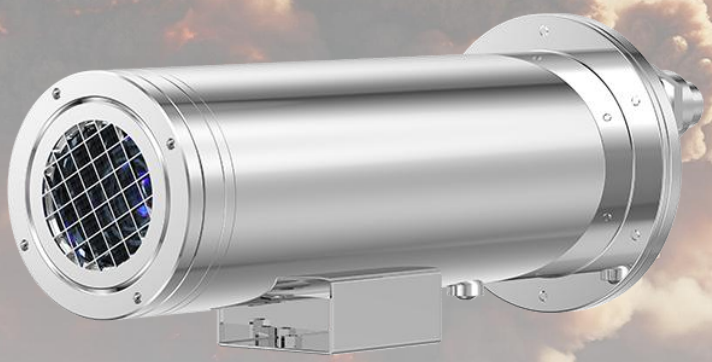
Explosion-proof Bullet Thermal Camera



SN-TPH4204DA-M

Key Features

- Resolution & Sensor: 384 × 288, 17 μm VOx UFPA, NETD ≤ 40 mK
- Lens: 25 mm / 50 mm motorized focus lens optional
- Detection: Human, vehicle, smoking, and fire point detection
- Intelligent Analytics: Intrusion, single/double line crossing, loitering, wrong-way, enter/leave area detection, smart motion detection, people counting
- Temperature Measurement: Spot, line, area; -20°C to 150°C, accuracy: ±2°C / ±2%
- Material: 316L Stainless steel
- ATEX II 2 G Ex db IIC T6 Gb; II 2 D Ex tb IIIC T80°C Db
- NDAA Compliance, IP68

16105 HOTLINE الخط الساخن

Camera	
Image Sensor	Vanadium Oxide Uncooled Focal Plane Arrays
Max. Resolution	Sensor is 384×288, Image can be scaled up to 1280×720
Pixel Pitch	17µm
Spectral Range	8 to 14µm
NETD	≤ 40mK
Lens	
Lens Type	Fixed lens
Focal Length	25 mm, 50 mm optional
Max. Aperture	F1.0
Field of View (FOV)	25 mm, H: 14°, V: 11° 50 mm, H: 7.4°, V: 5.6°
Focus Control	Motorized focus
Intelligent Analytics	
AI Multi-Target	Human / vehicle detection
Intelligent Analysis	Intrusion detection, smart motion detection, single line crossing, double line crossing, loitering, wrong-way detection, enter/leave area detection - Supports accurate target classification (human/vehicle)
People Counting	Supported
Smoking Detection	Supported
Fire Spot Detection	Supported
Video and Audio	
Resolution	Stream1: 1280×720, 704×576, 384×288 Stream2: 704×576, 384×288, 352×240
Frame Rate	Up to 25fps
Bit Rate Control	CBR/VBR
Bit Rate	Stream1: 100 Kbps to 8 Mbps, Stream2: 100 Kbps to 6 Mbps
Smart Encoding	Supported
Image	
Image Adjustment	Brightness, Contrast, Sharpness
Scene Mode	Mirror
Pseudo-color Setting	Up to 17 colors (White-hot / Black-hot / Rainbow / Iron red / HSV /Bone / Cool / Copper / Fire-hot / Pink / Spring / Summer / Autumn / Winter / Jet / Flame / Rose -Bengal)

FFC Control	Auto / Manual
Noise Reduction	2D/3D DNR
OSD	Up to 8 OSD
Privacy Masking	4 areas
Thermal Function	
Temperature Range	-20°C to 150°C (-4°F to 302°F)
Accuracy	±2°C / ±2%
Temperature Detection	3 temperature measurement rule types, 20 rules in total, 1 full screen, 19 others (spot, areas, line).
Temperature Alarm	Supports threshold alarm, temperature difference alarm, range alarm, and temperature rise alarm.
Temperature Display	Display in the lower left corner; follow the cursor display of the highest temperature, lowest temperature or average temperature
Response Time	≤ 30ms
Event	
Alarm Triggers	IVS, Temperature anomaly, Motion detection, Alarm input, Disk alarm, Network alarm
Event Actions	Alarm output, Alarm record, SMTP, FTP upload
Network	
Protocols	IPv4/IPv6, HTTP/HTTPS, DNS, DDNS, DHCP, PPPOE, RTSP/RTP/RTCP, TCP/UDP, NTP, ARP, UPnP, FTP, SMTP, QoS, 802.1x, SNMP, Multicast
Application Programming Interface	ONVIF (Profile S/T/G/M), CGI, SDK
Max Concurrent Streams	10 channels
User/Host Level	32+ users, 3 levels: Administrator, Operator, Media user
Web Viewer	<IE11, Chrome, Firefox, Microsoft Edge
Security	
OS / Firmware Protect	Encrypted firmware, Secure boot, Signed firmware
User Authentication	Digest authentication, Prevent brute-force attack
Network Authentication	IEEE 802.1X (EAP-TLS)
Secure Communication	HTTPS, WSS (WebSocket Secure), SRTP
Access Control	IP-based access control, Auto logout
Data Protect	Encryption credentials
Audit	Access / System / Event Log management

Secure Storage	SDcard partition encrypt (AES-256), Secure element
Supply Chain Security	SBOM

Interface

Network Interface	1 × Ethernet (10/100 Base-T), RJ-45 connector
Alarm Interface	1 × Input, 1 × Output
Control Interface	1 × RS-485
CVBS Output	Supported
SD Card Slot	Built-in microSD slot, supports up to 1TB ** If needed, we recommend purchasing the memory card with the product so it can be pre-installed during production.*
Reset Button	Supported

General

Language	English, Chinese, Traditional Chinese, Polish, Italian, Portuguese, Spanish, Russian, French, Czech, Hungarian, Japanese, Korean. Default: English
Power Supply	100 to 240 VAC
Power Consumption	Max 36 W
Operating Temperature	-40°C to 60°C (-40°F to 140°F)
Operating Humidity	≤ 95% RH (non-condensing)
Ingress Protection	IP68
Certifications	CE / FCC ATEX: Ex II 2GD Ex db IIC T6 Gb / Ex tb IIIC T80°C Db; IECEx: Ex db IIC T6 Gb / Ex tb IIIC T80°C Db
Material	SUS316L
Dimensions	464 × 166 × 171mm (18.27 × 6.54 × 6.73 inch)
Net Weight	Approx. 10 kg (22.05 lb)

Thermal DRI Distance

Thermal Lens	25 mm	50 mm
Detection (Human: 1.8×0.5 m)	735 m (2,411.4 ft)	1,471 m (4,826.1 ft)
Detection (Vehicle: 4×1.5 m)	2,255 m (7,398.3 ft)	4,510 m (14,796.6 ft)
Recognition (Human: 1.8×0.5 m)	184 m (603.7 ft)	368 m (1,207.4 ft)
Recognition (Vehicle: 4×1.5 m)	564 m (1,850.4 ft)	1,127 m (3,697.5 ft)
Identification (Human: 1.8×0.5 m)	92 m (301.8 ft)	184 m (603.7 ft)

Identification (Vehicle: 4×1.5 m)	282 m (925.2 ft)	564 m (1,850.4 ft)

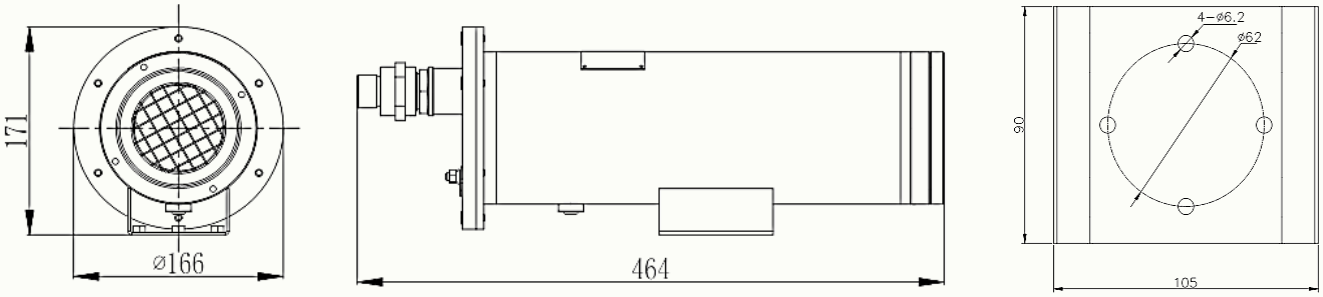
Note: The table is only for reference and the performance may vary according to different environment.
Note: The optimal detection, recognition, and identification distances are calculated according to Johnson's Criteria.
Detection Range: In order to distinguish an object from the background, the object 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.

Thermal Smart Distance

Lens	25 mm	50 mm
Temperature Measurement (1 ×1 m)	294 m (964.6 ft)	588 m (1,929.1 ft)
Temperature Measurement (0.2×0.2 m)	59 m (193.6 ft)	118 m (387.1 ft)
Fire Detection (1×1 m)	735 m (2,411.2 ft)	1,471 m (4,826.1 ft)
Fire Detection (0.2×0.2 m)	147 m (482.3 ft)	294 m (964.6 ft)
Lens	25 mm	50 mm

Note:
Values are for reference only. Actual detection range may vary with atmospheric conditions, target size, and installation environment.

Dimensions (mm)



Accessories

Optional:

SN-BK401A-SS
Wall Mount

SN-BK406-SS
Pole Mount

SN-BK407-SS
Corner Mount

SN-BK400-SS(P/F)
Junction Box

Flexible Tube