Thermal & Optical Network Bullet Camera

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PIXELab ITW5025-100W Thermal Bi-spectrum Network Bullet Camera is applied to perimeter defense and fire-prevention purposes in critical infrastructures such as: airport, railway, prison, power station, 4S stores, and so on. The pre-alarm system helps you discover unexpected events immediately and protects you from property loss.
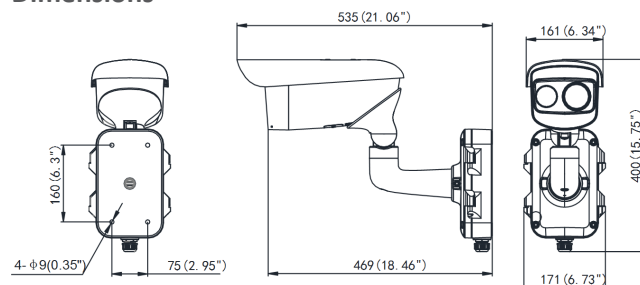
Smart Function (Thermal Imaging)

- Leading image processing technology: Adaptive AGC, DDE, 3D DNR, NETD less than 40 mk (@25°C,F#=1.0)
- Powerful behavior analysis function, based on deep learning algorithm: Line crossing, Intrusion, Region Entrance & Exit
- Reliable temperature exception alarm function
- Advanced fire detection algorithm
- Bi-spectrum image fusion, picture in picture preview

Thermal Imaging Module Function

- 384 × 288 resolution sensor, high sensitivity sensor, support contrast adjustment
- Shutter adjustment in various modes
- 3D DNR, 15 palettes of color adjustable, image detail enhancement
- Mirror image, digital zoom ×2, ×4, ×8, and local output

Dimensions

535 (21. 06") 161 (6. 34")

160 (6. 3") 400 (15. 75")

4- φ9(0.35") 75 (2. 95") 469 (18. 46") 171 (6. 73")

Technical Specifications

Thermal Module

Image Sensor	Vanadium Oxide Uncooled Focal Plane Arrays
Max. Resolution	384 × 288
Pixel Interval	17 µm
Response Waveband	8 µm to 14 µm
NETD	less than 40 mk (@25°C,F#=1.0)
Lens (Focal Length)	50 mm
MRAD	0.34 mrad
Field of View	7.47°× 5.61° (H × V)
Min. Focusing Distance	50 m
Aperture	F 1.0

Technical Specifications

Optical Module

Max. Image Resolution	1920 × 1080
Image Sensor	1/2.8" Progressive Scan CMOS
Min. Illumination	Color: 0.001 Lux @(F1.2, AGC ON), B/W: 0.0001 Lux @(F1.2, AGC ON)
Shutter Speed	1s to 1/100,000s
Lens (Focal Length)	25 mm
Field of View	12.7° × 7.2°(H × V)
WDR	120 dB
Day & Night	IR cut filter with auto switch

Image Function

Bi-spectrum Image Fusion	Fusion Fusion view of thermal view and overlaid details of the optical channel
Picture in Picture	Combins details of thermal and optical image PIP, overlay thermal image on optical image

Smart Function

VCA (Video Content Analysis)	4 VCA rule types (Line Crossing, Intrusion, Region Entrance, and Region Exiting), up to 8 VCA rules.
Temperature Measurement	3 temperature measurement rule types, 21 rules (10 points, 10 regions, and 1 line).
Temperature Range	-20°C to +150°C (-4°F to +302°F)
Temperature Accuracy	±8℃ (±14.4°F)
Fire detection	Dynamic fire point detection, up to 10 fire points detectable.

Infrared

IR Distance	Up to 100 m
IR Intensity and Angle	Automatically adjusted

Network

Main Stream	Visible Light: 50Hz: 25fps (1920 × 1080), 25fps (1280 × 960), 25fps (1280 × 720) Visible Light: 60Hz: 30fps (1920 × 1080), 30fps (1280 × 960), 30fps (1280 × 720) Thermal: 50fps (384 × 288)
Sub Stream	Visible Light: 50Hz: 25fps (704 × 576), 25fps (352 × 288), 25fps (176 × 144) Visible Light: 60Hz: 30fps (704 × 480), 30fps (352 × 240), 30fps (176 × 120) Thermal: 50fps (384 × 288)
Video Compression	H.265/H.264/MJPEG, H.265+/H.264+ encoding with Baseline/Main/High Profile
Audio Compression	G .711u/G.711a/G.722.1/MP2L2/G.726/PCM
Protocols	IPv4/IPv6, HTTP, HTTPS, 802.1x, Qos, FTP, SMTP, UPnP, SNMP, DNS, DDNS,NTP, RTSP, RTCP, RTP, TCP, UDP, IGMP, ICMP, DHCP, PPPoE
Simultaneous Live View	Up to 20
User/Host level	Up to 32 users, 3 levels: Administrator, Operator, User
Security Measures	User authentication (ID and PW), MAC address binding, HTTPS encryption, IEEE 802.1x access control, IP address filtering

Technical Specifications

Integration

Alarm Input	2-ch inputs (0-5V DC)
Alarm Output	2-ch relay outputs, alarm response actions configurable
Alarm Action	SD recording/Relay output/Smart capture/FTP upload/Email linkage
Audio Input	1 3.5mm Mic in/Line in interface. Line input: 2-2.4V[p-p], output impedance:1KΩ±10%
Audio Output	Linear Level; Impedance: 600Ω
Reset	1 Reset Button
Ethernet	1 RJ45 10M/100M Self-adaptive Ethernet interface
SD Memory Card	Built-in Micro SD card slot, support Micro SD/SDHC/SDXC card (up to 128G), support manual/alarm recording
Analog Video Output	1.0V [p-p]/75Ω, PAL/NTSC/BNC
Application Programming	Open-ended API, support ISAPI, SDK and third-party management platform
Client	Intelligent VMS
Web Browser	IE9+, chrome31-chrome44, Firefox 30-Firefox51, Safari 5.02+(mac)

General

Menu language	English
Power	24 VAC± 25%, 12 VDC± 20%, two-core terminal block PoE (802.3at, class 4)
Power Consumption	24 VAC± 25%: 0.92 A, 12 VDC ± 20%: 1.9 A, max. 15W (22W with De-icingHeater On), PoE (802.3at, class 4): 42.5 V to 57 V, 0.4 A to 0.5 A
Working Temperature/Humidity	-40 °C to 60 °C (-40 °F to 140 °F), 90% or less
Protection Level	IP66 Standard TVS 6000V Lightning protection, surge protection, voltage transient protection
Dimensions	535 mm × 171 mm × 400 mm (21.06 " × 6.73" × 15.75 ")
Weight	Approx. 6 Kg (13.23 lb)

Detection Range Tab

* The table is only for reference, the performance may vary from camera to camera

Smart functions Range
Different targets trigger the VCA events within different range limits.

VCA Range (Vehicles: 1.4×4.0m)	VCA Range (Humans: 1.4×4.0m)	Temperature Measurement (Object:2×2 m)	Temperature measurement (Object:1×1 m)	Fire Detection (Object:2×2 m)	Fire Detection (Object:1×1 m)
1500 m	500 m	1170 m	590 m	2940 m	1470 m

Wide Range Coverage
There is range limit for detecting, recognizing, and identifying human/vehicle targets.

Detection Range (Vehicles: 1.4×4.0m)	Detection Range (Humans: 1.8×0.5m)	Recognition Range (Vehicles: 1.4×4.0m)	Recognition Range (Humans: 1.8×0.5m)	Identification Range (Vehicles: 1.4×4.0m)	Identification Range (Humans: 1.8×0.5m)
4510 m	1471 m	1127 m	368 m	564 m	184 m

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