INTELLIO

ILO-621-BL

Bi-Spectrum Bullet camera



NEO ThermalDuo

Made in Japan / NDAA certified

Camera

	Thermal	Visible
Max Resolution	Sensor is 640×512, Image can be scaled up to 1920×1080	4MP, 2688(H) × 1520(V)
Min Illumination	N/A	Color: 0.005Lux @(F1.6, AGC ON), B/W: 0.001Lux @(F1.6, AGC ON), 0Lux with IR on
Image Sensor	Vanadium Oxide Uncooled Focal Plane Arrays	1/1.8" CMOS
Pixel Pitch	12μm	N/A
Spectral Range	8 to 14μm	N/A
NETD	≤ 20mK	N/A
Shutter Speed	N/A	1/5 to 1/20,000s
Day & Night	N/A	Auto (ICR)

Illuminator

Type	IR
IR wavelength	850 nm
Distance	- 4 mm: Up to 70 m (229.6 ft); - 6 mm: Up to 80 m (262.5 ft); - 10 to 30 mm: Up to 100 m (328.0 ft)
Control	Auto / Manual

Lens

Lens Type	Fixed lens	4 mm / 6mm: Fixed lens; 10 to 30 mm: Varifocal lens
Focal Length	9 mm, 15 mm, 25 mm, 35 mm, 50 mm optional	4 mm / 6mm, 10 to 30mm optional
Max. Aperture	F1.0	F1.6
Field of View (FOV)	9 mm - H: 48.1°, V: 37.9°; 15 mm - H: 32.1°, V: 25.9°; 25 mm - H: 17.1°, V: 13.9°; 35 mm - H: 12.1°, V: 9.9°; 50 mm - H: 8.1°, V: 6.9°	4 mm - H: 87.1°, V: 46.9°; 6 mm - H: 55.1°, V: 29.9°; 10 to 30mm - H: 43.5° to 15.4°, V: 23.9° to 8.7°
Focus Control	Focus-free	4 mm / 6mm: Fixed focus 10 to 30 mm: Motorized focus

DORI Distance

Detect	4 mm: 67.5 m (221.46 ft ft) / 6 mm: 96.5 m (316.60 ft) / 10 to 30 mm: 149 to 398 m (488.85 to 1,305.77 ft)
Observe	4 mm: 26.9 m (88.25 ft) / 6 mm: 38.5 m (126.31 ft) / 10 to 30 mm: 59.9 to 159.9 m (196.52 to 524.61 ft)
Recognize	4 mm: 13.4 m (43.96 ft) / 6 mm: 19.2 m (62.99 ft) / 10 to 30 mm: 29.9 to 79.9 m (98.10 to 262.14 ft)
Identify	4 mm: 6.7 m (21.98 ft) / 6 mm: 9.6 m (31.50 ft) / 10 to 30 mm: 14.9 to 39.9 m 48.88 to 130.91 ft)

Thermal DRI Distance

Thermal Lens	9 mm	15 mm	25 mm	35 mm	50 mm
Detection (Human: 1.8×0.5 m)	374 m (1,227.03 ft)	624 m (2,047.24 ft)	1,041 m (3,415.35 ft)	1,457 m (4,780.18 ft)	2,082 m (6,830.71 ft)
Detection (Vehicle: 4×1.5 m)	1,149.90 m (3,772.64 ft)	1,916 m (6,286.09 ft)	3,193 m (10,475.72 ft)	4,471 m (14,668.64 ft)	6,388 m (20,958.01 ft)
Recognition (Human: 1.8×0.5 m)	93.9 m (308.07 ft)	155.9 m (511.48 ft)	259.9 m (852.69 ft)	364.9 m (1,197.18 ft)	520 m (1,706.04 ft)
Recognition (Vehicle: 4×1.5 m)	287.9 m (944.55 ft)	478.9 m (1,571.19 ft)	798 m (2,618.11 ft)	1,117.9 m (3,667.65 ft)	1,596 m (5,236.22 ft)
Identification (Human: 1.8×0.5 m)	46.9 m (153.87 ft)	77.9 m (255.58 ft)	129.9 m (426.18 ft)	181.9 m (596.78 ft)	259.9 m (852.69 ft)
Identification (Vehicle: 4×1.5 m)	143 m (469.16 ft)	239.9 m (787.07 ft)	398.9 m (1,308.73 ft)	558.9 m (1,833.66 ft)	798.9 m (2,621.06 ft)

Note:

Distances are calculated based on Johnson's Criteria.

Detection: Object must be covered by ≥1.5 pixels.

Recognition: Object must be covered by ≥6 pixels.

Identification: Object must be covered by ≥12 pixels.

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
Image Fusion	Fusion view of thermal view and overlaid details of the optical channel

Thermal Smart Detection

Lens	9 mm	15 mm	25 mm	35 mm	50 mm
VCA Detection (Human: 1.8×0.5 m)	134 m (439.6 ft)	189 m (620 ft)	279 m (915.3 ft)	379 m (1,243 ft)	479 m (1,571.5 ft)
VCA Detection (Vehicle: 4×1.5 m)	199 m (652.8 ft)	289 m (948.1 ft)	419.9 m (1,377.6 ft)	579 m (1,899.6 ft)	719.9 m (2,361.8 ft)
Temperature Measurement (1 ×1 m)	149.9 m (491.8 ft)	249.9 m (819.8 ft)	416 m (1,364.8 ft)	582 m (1,909.4 ft)	832 m 2,729.6 ft)
Temperature Measurement (0.2×0.2 m)	29.9 m (98.1 ft)	49.9 m (163.7 ft)	82.9 m (271.9 ft)	116.9 m (383.5 ft)	166.9 m (547.5 ft)
Fire Detection (1×1 m)	374 m (1,227 ft)	624 m (2,047.2 ft)	1,041 m (3,415.3 ft)	1,457 m (4,780.1 ft)	2,082 m (6,830.7 ft)
Fire Detection (0.2×0.2 m)	74.9 m (245.7 ft)	124.9 m (409.7 ft)	207.9 m (682 ft)	291.9 m (957.6 ft)	416 m (1,364.8 ft)
Smoking Detection	24.9 m (81.6 ft)	34.9 m (114.5 ft)	54.9 m (180.1 ft)	79.9 m (262.1 ft)	109.9 m (360.5 ft)

Note:

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

Image Settings

Image Adjustment	Brightness, Contrast, Sharpness	Brightness, Saturation, Contrast, Sharpness
Scene Mode	Mirror	Indoor, Outdoor, 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)	N/A
FFC Control	Auto / Manual	N/A
Exposure Mode	N/A	Auto, Manual
White Balance	N/A	Auto / Tungsten / Fluorescent / Daylight / Shadow / Manual
Day/Night Setting	N/A	Auto / Day / Night / Timer
Noise Reduction	2D/3D DNR	2D/3D DNR
Image Enhancement	N/A	WDR, HLC, BLC, Defog
Wide Dynamic Range	N/A	True WDR 120dB
OSD	Up to 8 OSD	Up to 8 OSD
Privacy Masking	4 areas	4 areas

Video & Audio Streams

Main Stream	1920×1080, 1280×1024, 1280×720, 640×512	2688×1520, 2560×1440, 2304×1296, 1920×1080, 1280×720
Sub Stream	D1, VGA, 640×512, CIF	D1, VGA
Frame Rate	Up to 25fps	Up to 25fps
Bit Rate Control	CBR/VBR	CBR/VBR
Bit Rate	Main Stream: 100 Kbps to 12 Mbps, Sub Stream: 100 Kbps to 6 Mbps	Main Stream: 100 Kbps to 16 Mbps, Sub Stream: 100 Kbps to 6 Mbps
Smart Encoding	Supported	Supported
Audio Compression	G.711 A-law, G.711 μ-law, RAW_PCM	G.711 A-law, G.711 μ-law, RAW_PCM
Audio Bit Rate	64 Kbps (G.711), 128 Kbps (RAW_PCM)	64 Kbps (G.711), 128 Kbps (RAW_PCM)

Events & Alarms

Alarm Triggers	IVS, Motion detection, Alarm input, Network alarm, Disk alarm, Abnormal sound detection
Event Actions	Alarm output, Alarm record, SMTP, FTP upload, Flashing light alarm, Audible alarm output

Intelligent Analytics

AI Multi-Target	Supports fullbody and vehicle detection	
Smart Detectors	Intrusion, Smart Motion, Single-Line Crossing, Double-Line Crossing, Loitering, Wrong-Way, Enter Area and Leave Area Supports accurate target classification (fullbody/vehicle)	
Statistical Detectors	People Counting	
Thermal Detectors	Smoking and Fire Spot Detection	Smoke and Flame Detection

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

Network

Protocols	IPv4/IPv6, TCP/UDP, DNS, DHCP, HTTP/HTTPS, DDNS, PPPoE, RTSP/ RTCP/RTP, NTP, ARP, UPnP, FTP, SMTP, QoS, ICMP, IGMP, SMTP, 802.1x, SNMP, Multicast
Application Programming	ONVIF (Profile G/S/T/M), SDK, CGI
Max Concurrent Streams	10 channels
User/Host Level	32+ users, 3 levels: Administrator, Operator, Media user
Web Viewer	<IE11, Chrome, Firefox, Microsoft Edge

Interfaces

Network Interface	1 × Ethernet (10/100 Base-T), RJ-45 connector
Built-in Microphone	Supported
Built-in Speaker	Supported
Audio Interface	1ch input, 1ch output
Alarm Interface	2ch input, 2ch output
Control Interface	1ch RS-485
CVBS Output	Supported (Thermal imaging or Visible switchable)
SD Card Slot	Built-in MicroSD slot, supports up to 1 TB
Reset Button	Supported

General Specifications

Language	English (default), Hungarian, Japanese, Polish, Italian, Portuguese, Spanish, Russian, Chinese, Traditional Chinese, Korean, French, Czech
Power Supply	12 VDC / 24 VAC / PoE+ (802.3at)
Power Consumption	Max 25 W
Operating Temperature	-40°C to 60°C (-40°F to 140°F)
Operating Humidity	0 to 90% RH (non-condensing)
Ingress Protection	IP66, NEMA 4X (optional)
Certifications	CE-EMC - EN 55032, EN IEC 61000-6-3, EN IEC 61000-3-2, EN 61000-3-3, EN 55035, EN 50130-4 FCC 47 CFR Part 15 Subpart B
Material	Metal
Dimensions	(327.41 to 347.41) × 140.05 × 120.73 mm, (12.89 to 13.55) × 5.59 × 4.75 inch)
Net Weight	Approx. 2.0 Kg (4.41 lb) with 50 mm lens

Accessories (optional)

Junction box	 ILA-106
Pole mount	 ILA-304

Dimensions (mm)

