SN-IPS8646WDR-Z40-C

7-inch 4MP 40x Starlight IR Network PTZ Camera



Key Features

- 1/1.8” STARVIS™ CMOS, up to 4MP (2688 × 1520) @ 50/60 fps
- 40x optical zoom, 16x digital zoom
- Supports face, human, and vehicle detection with snapshot capture
- Supports human and vehicle attribute analysis
- Intelligent analytics: Intrusion, smart motion detection, line crossing, loitering, wrong-way detection, area people limit, perimeter detection, illegal parking, running detection, fall detection, fight detection, smoke and flame detection, and people counting.
- Supports alarm-linked tracking and intelligent human/vehicle tracking
- True WDR (120 dB), 3D DNR, ICR, Defog and EIS
- Smart IR illumination up to 400 m
- Hardware Root of Trust with FIPS 140-3 Level 3 validated secure element
- IP66-rated protection

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Specifications

Camera	
Image Sensor	1/1.8” Progressive Scan CMOS
Max. Resolution	4MP, 2688(H) × 1520(V)
Shutter Speed	1/5 to 1/20,000s
Min. Illumination	Color: 0.001 Lux @ (F1.6, AGC ON), B/W: 0.0005 Lux @ (F1.6, AGC ON), 0 Lux with illuminator on
Day & Night	Auto (ICR)
S/N Ratio	55 dB
Lens	
Focal Length	6.8 to 272 mm
Max. Aperture	F1.63 to F4.94
Field of View (FOV)	H: 62.3° to 2.3°, V: 36.9° to 1.3°
Optical Zoom	40x
Digital Zoom	16x
Iris	Auto / Manual
Focus Control	Auto / Manual / Semi-automatic
Illuminator	
Type	IR
IR wavelength	850 nm
Distance	Up to 400 m (1,312.3 ft)
Control	Auto / Manual
Intelligent Analytics	
AI Multi-Target Detection	- Supports face, human, and vehicle detection with snapshot capture - Supports human and vehicle attribute analysis - Supports tracking display modes: Full Frame, Four-Corner Frame, and Mosaic
Attribute Analysis	Human Attributes: Gender, age, glasses, hat, bag, upper clothing color & style, lower clothing color & style, reflective vest. Vehicle Attributes: Type, color, brand, orientation
Intelligent Analysis	Intrusion detection, smart motion detection, single line crossing, double line crossing, loitering, wrong-way detection, area people limit, perimeter detection, illegal parking, running detection, fall detection, fight detection. - Supports alarm triggering based on specified target types (human/vehicle)
Smoke and Flame Detection	Supported
People Counting	Supported
Video & Audio	

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Number of Streams	3 Streams
Resolution	Stream 1: 2688 × 1520, 2560 × 1440, 2304 × 1296, 1920 × 1080, 1280 × 720 Stream 2: D1, VGA, CIF Stream 3: VGA, CIF, QVGA
Frame Rate	Up to 50/60 fps
Bit Rate Control	CBR/VBR
Bit Rate	Stream 1: 200 Kbps to 16 Mbps Stream 2: 100 Kbps to 6 Mbps Stream 3: 100 Kbps to 3 Mbps
Smart Encoding	Supported
Region of Interest (ROI)	Supported
Audio Compression	G.711 A-law, G.711 μ-law, RAW_PCM
Audio Bit Rate	64 kbps (G.711), 128 kbps (RAW_PCM)
Image	
Image Adjustment	Brightness, Sharpness, Contrast, Saturation adjustable
Scene Mode	Indoor, Outdoor, Mirror
Exposure Mode	Auto, Manual, Shutter priority, Iris priority
White Balance	Auto, Tungsten, Fluorescent, Daylight, Shadow, Manual
Day/Night Setting	Auto, Day mode, Night mode, Timer
Noise Reduction	2D/3D DNR
Image Enhancement	HLC, BLC, Defog, WDR, Anti-shake
Wide Dynamic Range	True WDR (120 dB)
Privacy Masking	Up to 40 privacy zones
PTZ	
Pan/Tilt Range	Pan: 0° to 360° endless, Tilt: -10° to +90° (auto-flip)
Pan Speed	Pan speed: 0.1° to 300°/s, preset speed: 300°/s
Tilt Speed	Tilt speed: 0.1° to 300°/s, preset speed: 300°/s
Preset Accuracy	≤ 0.2°
Preset	400
Track	6 Track
Scan	12 Scan
Tour	12 Tour (up to 32 presets each tour)
Intelligent Tracking	Human/Vehicle auto tracking
Power-Off Memory	Supported
3D Positioning	Supported
PTZ Status Display	Supported
Idle Motion	The time can be set (1-240 minutes), and functions such as preset positions, patrols, scans, and tracks can be run.

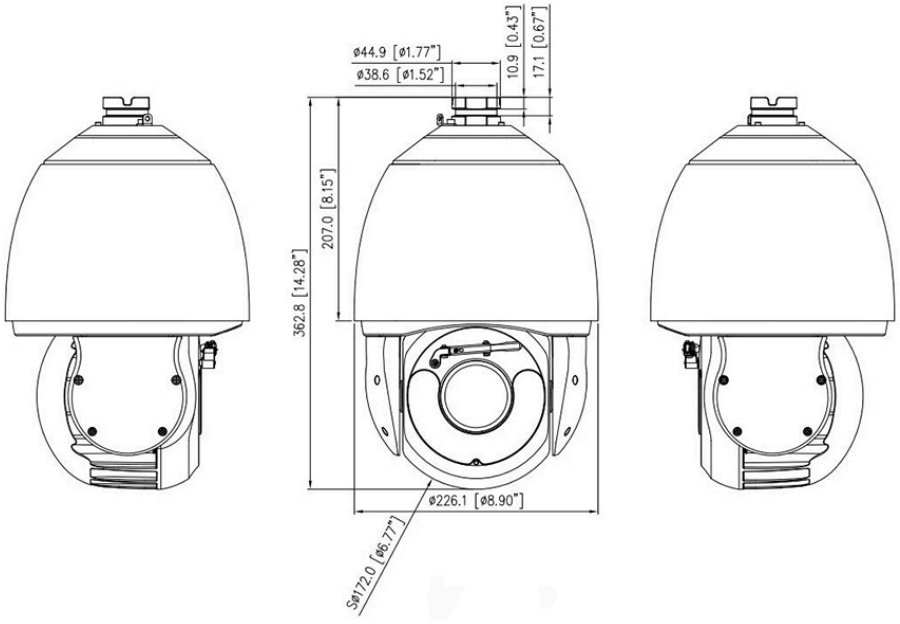
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Event	
Alarm Triggers	IVS, Motion detection, Alarm input, Network alarm, Disk alarm, Day/Night switch alarm, Abnormal sound detection
Event Actions	Alarm record, FTP upload, Email notification, Snapshot, Alarm output, Alarm-linked tracking, Audible alarm output
Network	
Protocols	IPv4/IPv6, HTTP/HTTPS, DNS, DDNS, DHCP, PPPoE, RTSP/ RTCP/RTP, TCP/UDP, NTP, ARP, UPnP, FTP, SMTP, QoS, ICMP, IGMP, SMTP, 802.1x, SNMP, Multicast
Application Programming Interface	ONVIF (Profile S/T/G/M), SDK, CGI
Max Concurrent Streams	10 channels
User/Host Level	32+ users, 3 user levels: Administrator, Operator, and Media User
Web Viewer	Chrome, Firefox, Microsoft Edge, IE11 or earlier
Security	
OS / Firmware Protect	Encrypted firmware, Secure boot, Signed firmware
User Authentication	Digest authentication, Brute-force attack protection
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, and event logs
Secure Storage	AES-256 encrypted SD card storage
Supply Chain Security	SBOM
Hardware Security	FIPS 140-3 Level 3 validated secure element
Interface	
Network Interface	1 × RJ45 10/100 Mbps Ethernet port
Audio Interface	1 input (RCA), 1 output (RCA)
Alarm Interface	7 inputs, 2 outputs
RS-485	1 × RS-485
CVBS Output	1 × BNC
SD Card Slot	Built-in microSD card slot (up to 1 TB)
General	
Language	English, Chinese, Traditional Chinese, Polish, Italian, Portuguese, Spanish, Russian, French, Czech, Hungarian, Japanese, Korean. Default: English
Power Supply	24 VAC / 36 VDC / PoE++ (802.3bt), Standard Equipped: 36 VDC
Power Consumption	Max. 45 W
Operating Temperature	-40 °C to 60 °C (-40 °F to 140 °F)

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Operating Humidity	≤ 95% RH (Non-condensing)
Ingress Protection	IP66, NEMA 4X (optional)
Wiper	Supported
Certifications	CE-EMC: EN 55032, EN IEC 61000-6-3, EN IEC 61000-3-2, EN 61000-3-3, EN 55035, EN 50130-4 CE-LVD: EN IEC 62368-1 FCC: 47 CFR Part 15, Subpart B
Material	Aluminum alloy housing
Dimensions	φ226.1 × 362.8 mm (φ8.9 × 14.28 inch)
Net Weight	Approx. 5.5 kg (12.13 lb)
DORI Distance (EN 62676-4 standard)	
Detect	95 to 5,600 m (311.68 to 18,372.7 ft)
Observe	38 to 1,520 m (124.67 to 4,986.88 ft)
Recognize	19 to 760 m (62.34 to 2,493.44 ft)
Identify	9.5 to 380 m (31.17 to 1,246.72 ft)

Dimensions (mm)



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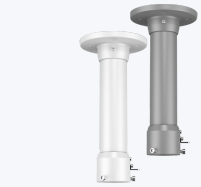
Accessories

Optional:



SN-CBK506B

Wall Mount Bracket



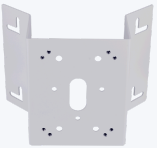
SN-BK348A

Ceiling Mount Bracket



SN-BK604B

Pole Mount Bracket



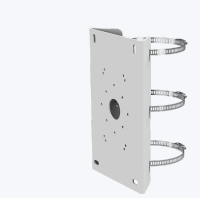
SN-BK605

Corner Mount Bracket



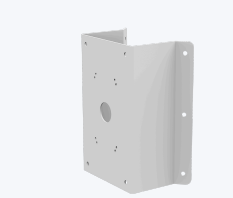
SN-BK367

Junction Box



SN-BK359

Pole Mount Bracket



SN-BK358

Corner Mount Bracket

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