# SN-PMD2046DN-Z40

## 4MP 40x Starlight Network Camera Module

## Key Features

- 1/1.8" STARVIS™ CMOS

- Max. 4MP(2688×1520) @50/60fps resolution, 40x optical zoom, 16x digital zoom

- Supports face, human, and vehicle detection & capture.

- Supports human and vehicle attribute detection.

- Intelligent analytics: Intrusion, 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, smoke and flame detection, and people counting.

- True WDR(120dB), 3D DNR, ICR, Defog and EIS

- 1/1 audio input/output, 1/1 alarm input/output

- Support ONVIF, access third party

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## Specifications

### Camera

| | |
|---|---|
| Image Sensor | 1/1.8" Progressive Scan CMOS |
| Max Resolution | 2688(H) × 1520(V) |
| Shutter Speed | 1/5 to 1/20,000s |
| Min Illumination | Color: 0.001 Lux @ (F1.6, AGC ON), <br> B/W: 0.0005 Lux @ (F1.6, AGC 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 |

### Intelligent Analytics

| | |
|---|---|
| Multi-Object Detection | - Supports face, human, and vehicle detection & capture; <br> - Supports human and vehicle attribute detection; <br> - Supports multiple frame modes: Full Frame, Four-Corner Frame, Mosaic. |
| Attribute Extraction | Human Attributes: Gender, age, glasses, hat, bag, upper clothing color & style, lower clothing color & style, reflective vest. <br> 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. <br> - Supports accurate target classification (human/vehicle) |
| Smoke and Flame Detection | Supported |
| People Counting | Supported |

### Video & Audio

| | |
|---|---|
| Number of Streams | 3 Streams |
| Resolution | Stream1: 2688×1520, 2560×1440, 2304×1296, 1920×1080, 1280×720 <br> Stream2: D1, VGA, CIF <br> Stream3: VGA, CIF, QVGA |
| Frame Rate | Up to 50/60fps |
| Bit Rate Control | CBR/VBR |

| Bit Rate | Stream1: 200 Kbps to 16 Mbps<br>Stream2: 100 Kbps to 6 Mbps<br>Stream3: 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, Night, Timer |
| Noise Reduction | 2D/3D DNR |
| Image Enhancement | HLC, BLC, Defog, WDR, Anti-shake |
| Wide Dynamic Range | True WDR (120dB) |
| Privacy Masking | Up to 8 zones, mask color configurable |

## Event

| Alarm Triggers | IVS, Motion detection, Alarm input, Network alarm, Disk alarm, Day/Night switch alarm, Abnormal sound detection |
|---|---|
| Event Actions | Alarm record, Alarm output, FTP upload, SMTP upload, Snapshot, 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 levels: Administrator, Operator, Media user |
| Web Viewer | <IE11, Chrome, Firefox, Microsoft Edge |

## Security

| OS / Firmware Protect | Encrypted firmware, 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

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|---|---|
| Network Interface | 1 × Ethernet (10/100 Base-T), RJ-45 connector |
| Audio Interface | 1ch input, 1ch output |
| Alarm Interface | 1ch input, 1ch output |
| RS-485 | Supported |
| CVBS Output | Supported |
| SD Card Slot | Built-in microSD card slot, up to 1 TB |
| Reset Button | Supported |

## General

| | |
|---|---|
| Language | English, Chinese, Traditional Chinese, Polish, Italian, Portuguese, Spanish, Russian, French, Czech, Hungarian, Japanese, Korean. Default: English |
| Power Supply | 12 VDC ± 20% |
| Power Consumption | Static: 4.5 W, Dynamic: 6.6 W |
| Operating Temperature | -20℃ to 60℃ (-4℉ to 140℉ ) |
| Operating Humidity | Less than 90% RH (no condensation) |
| Ingress Protection | N/A |
| Certifications | CE-EMC<br>- EN 55032, EN IEC 61000-6-3, EN IEC 61000-3-2, EN 61000-3-3, EN 55035, EN 50130-4<br>FCC 47 CFR Part 15 Subpart B |
| Material | Metal |
| Dimensions | 149.8 × 65.6 × 75.8 mm (5.9 × 2.58 × 2.98 inch) |
| Net Weight | Approx. 0.61 kg (1.34 lb) |

## DORI Distance (EN62676-4 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)



Unit:mm

Remarks: The left and right side screws can penetrate into the structure 3.5mm (including wall thickness). Therefore, when fixing the camera through the side, it is necessary to select the appropriate screw length to prevent the screw from reaching the internal components.

16–M3

1/4-20UNC-2A