

Camera Overview

- **Appearance:** Eyeball
 - **Image Sensor:** 1/1.8" CMOS
 - **Effective Pixels:** 8 MP
 - **Maximum Resolution:** 3840 × 2160 (4K)
 - **Scanning System:** Progressive
 - **ROM / RAM:** 4 GB / 2 GB
 - **Electronic Shutter:** Auto / Manual, 1/3 s–1/100,000 s
 - **Minimum Illumination:**
 - 0.0008 lux @ F1.6 (Color, 30 IRE)
 - 0.0004 lux @ F1.6 (B/W, 30 IRE)
 - 0 lux (IR on)
 - **S/N Ratio:** >56 dB
 - **IR Illumination Distance:** Up to 30 m (98 ft)
 - **IR Control:** Auto / Manual
 - **IR LEDs:** 2
 - **Angle Adjustment:** Pan 0°–360° | Tilt 0°–78° | Rotate 0°–360°
 - **Built-in Battery:** 1 mAh rechargeable button lithium battery
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Lens

- **Lens Mount:** M16
- **Focal Length:** 2.8 mm
- **Maximum Aperture:** F1.6
- **Field of View:** H 111° | V 59° | D 131°
- **Iris Control:** Fixed
- **Minimum Focus Distance:** 1.8 m (5.9 ft)
- **DORI Distance:**
 - Detect: 85.4 m (280 ft)
 - Observe: 34.2 m (112 ft)
 - Recognize: 17.1 m (56 ft)
 - Identify: 8.5 m (28 ft)

Intelligent Functions

- **ePTZ:** Supported
 - **IVS (Perimeter Protection):** Intrusion, tripwire, fast moving, loitering, people gathering, parking detection (human & vehicle classification)
 - **Smart Object Detection:** Abandoned object, missing object
 - **SMD:** SMD 3.0
 - **AI SSA:** Supported
 - **Face Detection:** Detection, tracking, snapshot optimization, face enhancement, attribute extraction (gender, age, glasses, expression, mask, beard), expression analysis (8 types)
 - **People Counting:** Tripwire, area counting, queue management with report export (day/week/month/year)
 - **Heat Map:** Supported
 - **Video Metadata:** Vehicle, non-motor vehicle, human body, and face attributes
 - **Smart Search:** Supported with Smart NVR
 - **Smart Sound Detection:** Supported
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Video

- **Video Compression:** H.265 / H.264 / H.264H / H.264B / MJPEG (sub stream)
- **Smart Codec:** Smart H.265+ / Smart H.264+
- **AI Coding:** AI H.265 / AI H.264
- **Streaming Capability:** 4 streams
- **Frame Rate:**
 - Main: 3840 × 2160 @ 1–25/30 fps
 - Sub: 704 × 576 @ 1–25 fps / 704 × 480 @ 1–30 fps
 - Third: 1920 × 1080 @ 1–25/30 fps
 - Fourth: 1280 × 720 @ 1–10 fps
- **Supported Resolutions:** 8M to CIF
- **Bit Rate Control:** CBR / VBR
- **Video Bit Rate:**
 - H.264: 32 kbps–16,384 kbps
 - H.265: 12 kbps–11,776 kbps

- **Day/Night:** Auto (ICR) / Color / B/W
 - **WDR:** 120 dB
 - **Image Enhancements:** BLC, HLC, 3D NR, Defog, SSA, RoI (4 areas), LDC, Time-Division Exposure
 - **Image Adjustment:** Brightness, contrast, sharpness, saturation, gamma
 - **Privacy Masking:** 8 areas
 - **Image Rotation:** 0° / 90° / 180° / 270°
 - **Default Bit Rate:** 5120 kbps @ 3840 × 2160
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Audio

- **Built-in Microphone:** Yes
 - **Audio Compression:** G.711a / G.711Mu / PCM / G.726 / G.723
 - **Sampling Rate:** 8 kHz–64 kHz
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Alarm

- **Alarm Events:** Motion, IVS, face detection, people counting, audio detection, storage/network exceptions, security alerts
 - **Alarm Input:** 1 channel (wet contact, 5 mA, 3–5 VDC)
 - **Alarm Output:** 1 channel (wet contact, 300 mA, 12 VDC)
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Network

- **Network Port:** RJ-45 (10/100 Base-T)
 - **Protocols:** IPv4/IPv6, HTTP, TCP/IP, RTSP, FTP, SNMP, ONVIF, and more
 - **Interoperability:** ONVIF Profile S/G/T, CGI
 - **Max Users:** 20 (80 Mbps total bandwidth)
 - **Storage:** Micro SD (up to 512 GB), FTP/SFTP, NAS
 - **Browser Support:** IE9+, Chrome 102+, Firefox 88+
 - **Management Software:** SmartPSS Lite, DSS, DMSS
 - **Mobile Support:** iOS, Android
 - **Security:** HTTPS, 802.1x, X.509, IP/MAC filtering, trusted boot/execution/upgrade
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Power

- **Power Supply:** 12 VDC $\pm$ 30%, PoE (802.3af), ePoE
 - **Power Consumption:**
 - Basic: 4.1 W (DC) / 5.2 W (PoE)
 - Max: 6.8 W (DC) / 8.8 W (PoE)
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Environmental & Mechanical

- **Operating Temperature:** -40°C to $+60^{\circ}\text{C}$ (-40°F to $+140^{\circ}\text{F}$)
 - **Operating Humidity:** $\leq 95\%$
 - **Ingress Protection:** IP67
 - **Anti-corrosion:** Moderate (suitable for coastal and acid rain environments ≥ 2 km inland)
 - **Casing Material:** Metal body, plastic trim ring
 - **Dimensions:** 99.2 mm $\times$ $\varnothing$ 106.0 mm (3.91" $\times$ $\varnothing$ 4.17")
 - **Net Weight:** 500 g (1.10 lb)
 - **Gross Weight:** 770 g (1.70 lb)
 - **Installation:** Ceiling, junction, pole mount
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Certifications

- CE-LVD (EN62368-1)
 - CE-EMC (2014/30/EU)
 - FCC Part 15, Subpart B
 - UL / CUL 62368-1
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Included / Optional

- **Lens:** Included
- **Power Adapter:** Optional