# HIKVISION®

## AcuSense

**Powered by**
**DarkFighter**

Empowered by deep learning algorithms, Hikvision AcuSense technology brings human and vehicle targets classification alarms to front- and back-end devices. The system focuses on human and vehicle targets, vastly improving alarm efficiency and effectiveness.

- High quality imaging with 6 MP resolution
- Excellent low-light performance with powered-by-DarkFighter technology
- Efficient H.265+ compression technology
- Clear imaging against strong back light due to 120 dB true WDR technology
- Focus on human and vehicle targets classification based on deep learning
- Built-in microphone for real-time audio security (-SU)
- Audio and alarm interface available(-SU)
- Water and dust resistant (IP67) and vandal resistant (IK10)

## ▪ Specification

| Camera | |
|---|---|
| Image Sensor | 1/2.4" Progressive Scan CMOS |
| Max. Resolution | 3200 × 1800 |
| Min. Illumination | Color: 0.003 Lux @ (F1.6, AGC ON), B/W: 0 Lux with IR |
| Shutter Time | 1/3 s to 1/100, 000 s |
| Day & Night | IR cut filter |
| Angle Adjustment | Pan: 0° to 355°, tilt: 0° to 75°, rotate: 0° to 355° |
| **Lens** | |
| Lens Type | Fixed focal lens, 2.8 and 4 mm optional |
| Focal Length & FOV | 2.8 mm, horizontal FOV 105°, vertical FOV 55°, diagonal FOV 127°; <br> 4 mm, horizontal FOV 78°, vertical FOV 38°, diagonal FOV 96° |
| Lens Mount | M12 |
| Iris Type | Fixed |
| Aperture | F1.6 |
| **DORI** | |
| DORI | 2.8 mm: D: 76 m, O: 30 m, R: 15 m, I: 7 m; <br> 4 mm: D: 115 m, O: 45 m, R: 23 m, I: 11 m |
| **Illuminator** | |
| Supplement Light Type | IR |
| Supplement Light Range | Up to 30 m |
| Smart Supplement Light | Yes |
| IR Wavelength | 850 nm |
| **Video** | |
| Main Stream | 50 Hz: 25 fps (3200 × 1800, 2688 × 1520, 1920 × 1080, 1280 × 720) <br> 60 Hz: 30 fps (3200 × 1800, 2688 × 1520, 1920 × 1080, 1280 × 720) |
| Sub-Stream | 50 Hz: 25 fps (1280 x 720, 640 × 480, 640 × 360) <br> 60 Hz: 30 fps (1280 x 720, 640 × 480, 640 × 360) |
| Third Stream | 50 Hz: 10 fps (1920 × 1080, 1280 × 720, 640 × 480, 640 × 360) <br> 60 Hz: 10 fps (1920 × 1080, 1280 × 720, 640 × 480, 640 × 360), <br> *Third stream is supported under certain settings. |
| Video Compression | Main stream: H.265+/H.265/H.264+/H.264, <br> Sub-stream: H.265/H.264/MJPEG, <br> Third stream: H.265/H.264 (*Third stream is supported under certain settings.) |
| Video Bit Rate | 32 Kbps to 16 Mbps |
| H.264 Type | Baseline Profile, Main Profile, High Profile |
| H.265 Type | Main Profile |
| Bit Rate Control | CBR, VBR |
| Scalable Video Coding (SVC) | H.264 and H.265 encoding |
| Region of Interest (ROI) | 1 fixed region(s) for main stream and sub-stream |
| **Audio** | |
| Audio Type | -U: Mono sound |
| Audio Compression | -U: G.711/G.722.1/G.726/MP2L2/PCM/MP3/AAC-LC |
| Audio Bit Rate | -U: 64 Kbps (G.711ulaw/G.711alaw)/16 Kbps (G.722.1)/16 Kbps (G.726)/32 to 192 Kbps (MP2L2)/8 to 320 Kbps (MP3)/16 to 64 Kbps (AAC-LC) |
| Audio Sampling Rate | -U: 8 kHz/16 kHz/32 kHz/44.1 kHz/48 kHz |

| | |
|---|---|
| Environment Noise Filtering | -U: Yes |
| **Network** | |
| Protocols | TCP/IP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, NTP, UPnP, SMTP, IGMP, 802.1X, QoS, IPv4, IPv6, UDP, Bonjour, SSL/TLS, PPPoE, SNMP, ARP, WebSocket, WebSockets, SRTP, SFTP |
| Simultaneous Live View | Up to 6 channels |
| API | Open Network Video Interface (Profile S, Profile G, Profile T), ISAPI, SDK, ISUP |
| User/Host | Up to 32 users<br>3 user levels: administrator, operator, and user |
| Security | Password protection, complicated password, HTTPS encryption, 802.1X authentication (EAP-TLS, EAP-LEAP, EAP-MD5), watermark, IP address filter, basic and digest authentication for HTTP/HTTPS, WSSE and digest authentication for Open Network Video Interface, RTP/RTSP over HTTPS, control timeout settings, security audit log, TLS 1.1/1.2/1.3, host authentication (MAC address) |
| Network Storage | NAS (NFS, SMB/CIFS), Auto Network Replenishment (ANR), Together with high-end Hikvision memory card, memory card encryption and health detection are supported. |
| Client | iVMS-4200, Hik-Connect, Hik-Central |
| Web Browser | Plug-in required live view: IE 10, IE 11,<br>Plug-in free live view: Chrome 57.0+, Firefox 52.0+, Edge 89+,<br>Local service: Chrome 57.0+, Firefox 52.0+, Edge 89+ |
| **Image** | |
| Image Parameters Switch | Yes |
| Image Settings | Rotate mode, saturation, brightness, contrast, sharpness, gain, white balance, adjustable by client software or web browser |
| Day/Night Switch | Day, Night, Auto, Schedule |
| Wide Dynamic Range (WDR) | 120 dB |
| SNR | ≥ 52 dB |
| Image Enhancement | BLC, HLC, 3D DNR |
| Privacy Mask | 4 programmable polygon privacy masks |
| **Interface** | |
| Ethernet Interface | 1 RJ45 10 M/100 M self-adaptive Ethernet port |
| On-Board Storage | Built-in memory card slot, support microSD/microSDHC/microSDXC card, up to 512 GB |
| Built-in Microphone | -U: Yes |
| Audio | -S: 1 input (line in), max. input amplitude: 3.3 vpp, input impedance:4.7 KΩ, interface type: non-equilibrium; 1 output (line out), max. output amplitude: 3.3 vpp, output impedance: 100 Ω, interface type: non-equilibrium, mono sound |
| Alarm | -S: 1 input, 1 output (TTL: max. 12 VDC, 30 mA) |
| Reset Key | Yes |
| **Event** | |
| Basic Event | Motion detection (support alarm triggering by specified target types (human and vehicle)), video tampering alarm, exception, alarm input and output (-S) |
| Smart Event | Line crossing detection, intrusion detection, region entrance detection, region exiting detection (support alarm triggered by specified target types (human and vehicle)), Scene change detection |
| Linkage | Upload to FTP/NAS/memory card, notify surveillance center, send email, trigger recording, trigger capture, trigger alarm output (-S), audible warning (-S) |

| Deep Learning Function | |
|---|---|
| Face Capture | Yes |
| **General** | |
| Power | 12 VDC ± 25%, 0.5 A, max. 6 W, Ø5.5 mm coaxial power plug, reverse polarity protection, <br> PoE: IEEE 802.3af, Class 3, max. 7.5 W |
| Material | Aluminum alloy body, bubble: plastic |
| Dimension | Ø121.4 mm × 92.2 mm (Ø4.8" × 3.6") |
| Package Dimension | 150 mm × 150 mm × 141 mm (5.9" × 5.9" × 5.6") |
| Weight | Approx. 440 g (1.0 lb.) |
| With Package Weight | Approx. 670 g (1.47 lb.) |
| Storage Conditions | -30 °C to 60 °C (-22 °F to 140 °F). Humidity 95% or less (non-condensing) |
| Startup and Operating Conditions | -30 °C to 60 °C (-22 °F to 140 °F). Humidity 95% or less (non-condensing) |
| Language | 33 languages: English, Russian, Estonian, Bulgarian, Hungarian, Greek, German, Italian, Czech, Slovak, French, Polish, Dutch, Portuguese, Spanish, Romanian, Danish, Swedish, Norwegian, Finnish, Croatian, Slovenian, Serbian, Turkish, Korean, Traditional Chinese, Thai, Vietnamese, Japanese, Latvian, Lithuanian, Portuguese (Brazil), Ukrainian |
| General Function | Heartbeat, mirror, flash log, password reset via email, pixel counter, anti-flicker |
| **Approval** | |
| EMC | FCC: 47 CFR Part 15, Subpart B, <br> CE-EMC: EN 55032: 2015, EN 61000-3-2:2019, EN 61000-3-3: 2013+A1:2019, EN 50130-4: 2011 +A1: 2014, <br> RCM: AS/NZS CISPR 32: 2015, <br> KC: KN32: 2015, KN35: 2015 |
| Safety | UL: UL 62368-1, <br> CB: IEC 62368-1: 2014+A11, <br> CE-LVD: EN 62368-1: 2014/A11: 2017 |
| Environment | CE-RoHS: 2011/65/EU, <br> WEEE: 2012/19/EU, <br> Reach: Regulation (EC) No 1907/2006 |
| Protection | IP67: IEC 60529-2013, IK10: IEC 62262:2002 |

## ▪ Typical Application

Hikvision products are classified into three levels according to their anti-corrosion performance. Refer to the following description to choose for your using environment.

This model has NO SPECIFIC PROTECTION.

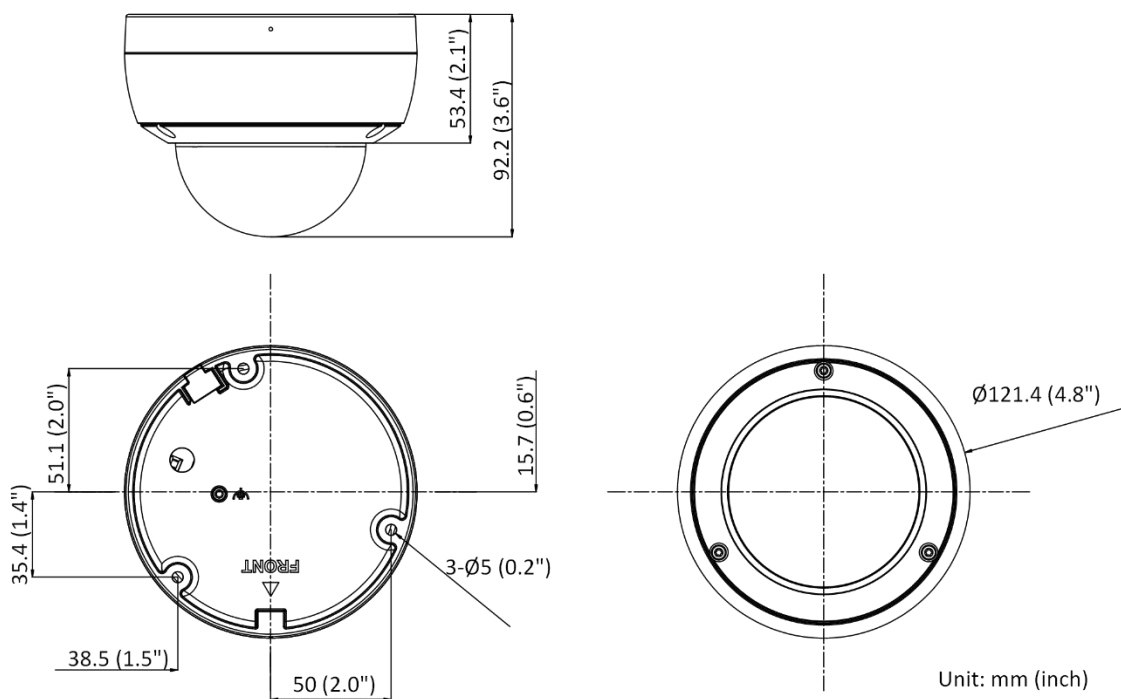| Level | Description |
|---|---|
| Top-level protection | Hikvision products at this level are equipped for use in areas where professional anti-corrosion protection is a must. Typical application scenarios include coastlines, docks, chemical plants, and more. |
| Moderate protection | Hikvision products at this level are equipped for use in areas with moderate anti-corrosion demands. Typical application scenarios include coastal areas about 2 kilometers (1.24 miles) away from coastlines, as well as areas affected by acid rain. |
| No specific protection | Hikvision products at this level are equipped for use in areas where no specific anti-corrosion protection is needed. |

▪ **Available Model**

DS-2CD2166G2-I (2.8/4/6 mm)

DS-2CD2166G2-ISU (2.8/4/6 mm)

DS-2CD2166G2-ISU (2.8/4/6 mm) (Black)

▪**Dimension**



Unit: mm (inch)

▪ **Accessory**

▪**Optional**

| DS-1253ZJ-M Rain Shade | DS-1271ZJ-120 Pendant Mount | DS-1272ZJ-120 Wall Mount | DS-1272ZJ-120B Wall Mount | DS-1275ZJ-SUS(Black) Vertical Pole Mount |
|---|---|---|---|---|
|  |  |  |  |  |
| DS-1280ZJ-DM46 (Black) Junction Box | DS-1280ZJ-DM46 Junction Box | DS-1276ZJ-SUS Corner Mount | DS-1271ZJ-120(Black) Pendant Mount | DS-1276ZJ-SUS(Black) Corner Mount |
|  |  |  |  |  |
| DS-1275ZJ-SUS Vertical Pole Mount | | | | |
|  | | | | |

*Please choose accessories of the same color as the camera.*

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