# AXIS Q1656 Box Camera
## Outstanding performance in 4 MP

With 4 MP resolution at up to 60 fps, a 1/1.8″ sensor, and Lightfinder 2.0, AXIS Q1656 delivers exceptional video quality even in poor light conditions. Based on the latest Axis system-on-chip (SoC), it offers support for advanced features and powerful applications based on deep learning on the edge. And AXIS Object Analytics offers highly nuanced object classification. This high-performance box camera includes premium Q-line functionality and support for PoE and redundant DC power. Furthermore, built-in cybersecurity features, such as Axis Edge Vault, signed firmware and secure boot, and FIPS-certified TPM, prevent unauthorized access and safeguard your system.

> **Exceptional images with 1/1.8" sensor**
> **Support for analytics with deep learning**
> **Built-in cybersecurity features**
> **Premium Axis Q-line camera functionality**
> **Remote zoom and focus**

# AXIS Q1656 Box Camera

## Camera

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|---|---|
| **Image sensor** | 1/1.8" progressive scan RGB CMOS |
| **Lens** | Varifocal, 3.9–10 mm, F1.5<br>Horizontal field of view: 120°–47°<br>Vertical field of view: 63°–27°<br>Autofocus, i-CS lens, IR corrected, remote zoom and focus, P-Iris control<br>Minimum focus distance: 0.5 m (1.6 ft) |
| **Day and night** | Automatically removable infrared-cut filter |
| **Minimum illumination** | **4 MP 25/30 fps with Forensic WDR and Lightfinder 2.0**<br>**Color:** 0.05 lux at 50 IRE, F1.5<br>**B/W:** 0.01 lux at 50 IRE, F1.5<br>**4 MP 50/60 fps with Lightfinder 2.0**<br>**Color:** 0.1 lux at 50 IRE, F1.5<br>**B/W:** 0.02 lux at 50 IRE, F1.5<br>**4 MP 25/30 fps with Forensic WDR and Lightfinder 2.0**<br>With optional F0.9 lens<br>**Color:** 0.02 lux at 50 IRE, F0.9<br>**B/W:** 0.004 lux at 50 IRE, F0.9 |
| **Shutter speed** | 1/47500 s to 1 s |

## System on chip (SoC)

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| **Model** | ARTPEC-8 |
| **Memory** | 2048 MB RAM, 8194 MB Flash |
| **Compute capabilities** | Deep learning processing unit (DLPU) |

## Video

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| **Video compression** | H.264 (MPEG-4 Part 10/AVC) Baseline, Main and High Profiles<br>H.265 (MPEG-H Part 2/HEVC) Main Profile<br>Motion JPEG |
| **Resolution** | **16:9** 2688x1512 Quad HD to 160x90<br>**4:3** 2016x1512 to 160x120 |
| **Frame rate** | **No WDR:** Up to 60/50 fps (60/50 Hz) in all resolutions<br>**WDR:** Up to 30/25 fps (60/50 Hz) in all resolutions |
| **Video streaming** | Multiple, individually configurable streams in H.264, H.265 and Motion JPEG<br>Axis Zipstream technology in H.264 and H.265<br>Controllable frame rate and bandwidth<br>VBR/ABR/MBR H.264/H.265<br>Video streaming indicator |
| **Multi-view streaming** | Up to 8 individually cropped out view areas |
| **Image settings** | Saturation, contrast, brightness, Forensic WDR: Up to 120 dB depending on scene, white balance, day/night threshold, tone mapping, exposure mode, exposure zones, defogging, barrel distortion correction, electronic image stabilization, compression, rotation: 0°, 90°, 180°, 270° including Corridor Format, mirroring, dynamic text and image overlay, polygon privacy mask |
| **Pan/Tilt/Zoom** | Digital PTZ, 2.5x optical zoom, preset positions<br>Uploadable PTZ driver (Pelco D pre-installed) |

## Audio

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| **Audio streaming** | Two-way, full duplex<br>Noise reduction |
| **Audio encoding** | 24bit LPCM, AAC-LC 8/16/32/48 kHz, G.711 PCM 8 kHz, G.726 ADPCM 8 kHz, Opus 8/16/48 kHz<br>Configurable bit rate |
| **Audio input/output** | External microphone input or line input, line output, built-in microphone (can be disabled), ring power, digital audio input, automatic gain control |

## Network

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| **Security** | Password protection, IP address filtering, HTTPS[a] encryption, IEEE 802.1x (EAP-TLS)[a] network access control, digest authentication, user access log, centralized certificate management, brute force delay protection, signed firmware, secure boot, signed video, Axis Edge Vault, Axis device ID, secure keystore (CC EAL4 certified), TPM (FIPS 140-2 certified) |
| **Network protocols** | IPv4, IPv6 USGv6, HTTP, HTTPS[a], HTTP/2, TLS[a], QoS Layer 3 DiffServ, FTP, SFTP, CIFS/SMB, SMTP, Bonjour, UPnP®, SNMP v1/v2c/v3 (MIB-II), DNS, DynDNS, NTP, RTSP, RTP, SRTP, TCP, UDP, IGMPv1/v2/v3, RTCP, ICMP, DHCPv4/v6, ARP, SSH, LLDP, MQTT v3.1.1, Syslog |

## System integration

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| **Application Programming Interface** | Open API for software integration, including VAPIX® and AXIS Camera Application Platform; specifications at *axis.com*<br>One-click cloud connection<br>ONVIF® Profile G, ONVIF® Profile M, ONVIF® Profile S, and ONVIF® Profile T, specification at *onvif.org* |
| **Onscreen controls** | Electronic image stabilization<br>Day/night shift<br>Defogging<br>Wide dynamic range<br>Video streaming indicator |
| **Event conditions** | Analytics, external input, supervised external input, edge storage events, virtual inputs through API<br>Audio: audio detection<br>Device status: above operating temperature, above or below operating temperature, below operating temperature, IP address removed, network lost, new IP address, shock detected, storage failure, system ready, within operating temperature<br>Video: tampering, average bitrate degradation, day-night mode<br>Edge storage: recording ongoing, storage disruption<br>I/O: digital input, manual trigger, virtual input<br>PTZ: PTZ malfunctioning, PTZ movement, PTZ preset position reached, PTZ ready<br>Scheduled and recurring: scheduled event<br>Video: live stream open |
| **Event actions** | Overlay text, external output activation, play audio clip, zoom preset<br>I/O: toggle I/O once, toggle I/O while the rule is active<br>MQTT: publish<br>Notification: HTTP, HTTPS, TCP, and email<br>Pre- and post-alarm video or image buffering for recording or upload<br>PTZ: PTZ preset, start/stop guard tour<br>Record video: SD card and network share<br>SNMP traps: send, send while the rule is active<br>Upload of images or video clips: FTP, SFTP, HTTP, HTTPS, network share, and email |
| **Data streaming** | Event data |
| **Built-in installation aids** | Remote zoom and focus, remote back focus, leveling assistant, pixel counter |

## Analytics

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| **AXIS Object Analytics** | **Object classes:** humans, vehicles (types: cars, buses, trucks, bikes)<br>**Trigger conditions:** line crossing, object in area, time in area[BETA]<br>Up to 10 scenarios<br>Metadata visualized with trajectories and color-coded bounding boxes<br>Polygon include/exclude areas<br>Perspective configuration<br>ONVIF Motion Alarm event |
| **Applications** | **Included**<br>AXIS Object Analytics<br>AXIS Video Motion Detection<br>**Supported**<br>Support for AXIS Camera Application Platform enabling installation of third-party applications, see *axis.com/acap* |

## General

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| **Casing** | Aluminum casing<br>Color: black NCS S 9000-N |
| **Mounting** | ¼"-20 UNC tripod screw thread |

## Sustainability

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| **Power** | Power over Ethernet (PoE) IEEE 802.3af/802.3at Type 1 Class 3<br>Typical 5.1 W, max 8.2 W<br>10–28 V DC, typical 4.6 W, max 7.7 W<br>Power redundancy |
| **Connectors** | RJ45 10BASE-T/100BASE-TX/1000BASE-T PoE<br>Terminal block for two supervised and two unsupervised configurable inputs / digital outputs (12 V DC output, max load 50 mA) |

| | RS485/RS422, 2 pcs, 2 pos, full duplex, terminal block<br>DC input, terminal block, 3.5 mm mic/line in, 3.5 mm line out<br>i-CS connector (compatible with P-Iris and DC-iris)<br>AXIS T92G20 connector, Security lock slot |
|---|---|
| **Storage** | Support for microSD/microSDHC/microSDXC card<br>Support for SD card encryption (AES-XTS-Plain64 256bit)<br>Recording to network-attached storage (NAS)<br>For SD card and NAS recommendations see *axis.com* |
| **Operating conditions** | –20 °C to 60 °C (–4 °F to 140 °F)<br>Humidity 10–85% RH (non-condensing) |
| **Storage conditions** | –40 °C to 65 °C (–40 °F to 149 °F)<br>Humidity 5–95% RH (non-condensing) |
| **Approvals** | EMC<br>CISPR 24, CISPR 35, EN 55032 Class A, EN 55035,<br>EN 61000-3-2, EN 61000-3-3, EN 61000-6-1, EN 61000-6-2,<br>FCC Part 15 Subpart B Class A, ICES-3(B)/NMB-3(B),<br>KS C 9832 Class A, KS C 9815, KS C 9835, KS C 9547,<br>RCM AS/NZS CISPR 32 Class A, VCCI Class A<br>Safety<br>IEC/EN/UL 62368-1<br>Environment<br>Environment<br>IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-6, IEC 60068-2-14,<br>IEC 60068-2-27, IEC 60068-2-78<br>Network<br>NIST SP500-267 |

| **Dimensions** | 214 x 80 x 68 mm (8.4 x 3.2 x 2.7 in) |
|---|---|
| **Weight** | 790 g (1.7 lb) |
| **Included accessories** | Installation guide, Windows® decoder 1-user license, stand, drill hole template, connector kit, RESISTORX® L-key |
| **Optional accessories** | AXIS T8415 Wireless Installation Tool<br>AXIS Surveillance Cards<br>For more accessories, see *axis.com* |
| **Optional lenses** | Lens CS 4-10 mm F0.9 P-Iris<br>Lens i-CS 9–50 mm F1.5 8 MP<br>Lens CS 12-50 mm F1.4 P-Iris 8 MP |
| **Video management software** | AXIS Companion, AXIS Camera Station, video management software from Axis Application Development Partners available at *axis.com/vms* |
| **Languages** | English, German, French, Spanish, Italian, Russian, Simplified Chinese, Japanese, Korean, Portuguese, Polish, Traditional Chinese |
| **Warranty** | 5-year warranty, see *axis.com/warranty* |

a. *This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (openssl.org), and cryptographic software written by Eric Young (eay@cryptsoft.com).*

Environmental responsibility:

*axis.com/environmental-responsibility*

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