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

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Camera

Image sensor	1/1.8" progressive scan RGB CMOS
Lens	Varifocal, 3.9–10 mm, F1.5 Horizontal field of view: 120°–47° Vertical field of view: 63°–27° Autofocus, i-CS lens, IR corrected, remote zoom and focus, P-Iris control 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** **Color:** 0.05 lux at 50 IRE, F1.5 **B/W:** 0.01 lux at 50 IRE, F1.5 **4 MP 50/60 fps with Lightfinder 2.0** **Color:** 0.1 lux at 50 IRE, F1.5 **B/W:** 0.02 lux at 50 IRE, F1.5 **4 MP 25/30 fps with Forensic WDR and Lightfinder 2.0** With optional F0.9 lens **Color:** 0.02 lux at 50 IRE, F0.9 **B/W:** 0.004 lux at 50 IRE, F0.9
Shutter speed	1/47500 s to 1 s

System on chip (SoC)

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

Video

Video compression	H.264 (MPEG-4 Part 10/AVC) Baseline, Main and High Profiles H.265 (MPEG-H Part 2/HEVC) Main Profile Motion JPEG
Resolution	**16:9** 2688x1512 Quad HD to 160x90 **4:3** 2016x1512 to 160x120
Frame rate	**No WDR:** Up to 60/50 fps (60/50 Hz) in all resolutions **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 Axis Zipstream technology in H.264 and H.265 Controllable frame rate and bandwidth VBR/ABR/MBR H.264/H.265 Low latency mode 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 Scene profiles: forensic, vivid, traffic overview
Pan/Tilt/Zoom	Digital PTZ, preset positions Uploadable PTZ driver (Pelco D pre-installed)

Audio

Audio streaming	Two-way, full duplex 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 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

Network protocols	IPv4, IPv6 USGv6, HTTP, HTTPS[a], HTTP/2, TLS[b], QoS Layer 3 DiffServ, FTP, SFTP, CIFS/SMB, SMTP, Bonjour, UPnP®, SNMP v1/v2c/v3 (MIB-II), DNS, DynDNS, NTP, NTS, RTSP, RTP, SRTP/RTSPS, TCP, UDP, IGMPv1/v2/v3, RTCP, ICMP, DHCPv4/v6, ARP, SSH, LLDP, MQTT v3.1.1, Secure syslog (RFC 3164/5424, UDP/TCP/TLS)

System integration

Application Programming Interface	Open API for software integration, including VAPIX®, metadata, and AXIS Camera Application Platform (ACAP); specifications at *axis.com/developer-community*. ACAP includes Native SDK and Computer Vision SDK. One-click cloud connection ONVIF® Profile G, ONVIF® Profile M, ONVIF® Profile S, and ONVIF® Profile T, specification at *onvif.org*
Onscreen controls	Electronic image stabilization Day/night shift Defogging Wide dynamic range Video streaming indicator
Event conditions	Application Audio: audio detection, audio clip playing Device status: above/below/within operating temperature, IP address blocked, IP address removed, live stream active, network lost, new IP address, ring power overcurrent protection, system ready Digital audio: digital signal contains Axis metadata, digital signal has invalid sample rate, digital signal missing, digital signal okay Edge storage: recording ongoing, storage disruption, storage health issues detected I/O: digital input, manual trigger, virtual input MQTT: stateless PTZ: PTZ malfunctioning, PTZ movement, PTZ preset position reached, PTZ ready Scheduled and recurring: schedule Video: average bitrate degradation, day-night mode, tampering
Event actions	Overlay text, external output activation, play audio clip, zoom preset I/O: toggle I/O once, toggle I/O while the rule is active MQTT: publish Notification: HTTP, HTTPS, TCP, and email Pre- and post-alarm video or image buffering for recording or upload PTZ: PTZ preset, start/stop guard tour Record video: SD card and network share SNMP traps: send, send while the rule is active Upload of images or video clips: FTP, SFTP, HTTP, HTTPS, network share, and email
Built-in installation aids	Remote zoom and focus, remote back focus, leveling assistant, pixel counter

Analytics

Applications	**Included** AXIS Object Analytics, AXIS Scene Metadata, AXIS Image Health Analytics, AXIS Live Privacy Shield [c] AXIS Video Motion Detection Support for AXIS Camera Application Platform enabling installation of third-party applications, see *axis.com/acap*
AXIS Object Analytics	**Object classes:** humans, vehicles (types: cars, buses, trucks, bikes, other) **Scenarios**: line crossing, object in area, time in area, crossline counting, occupancy in area Up to 10 scenarios **Other features**: triggered objects visualized with trajectories, color-coded bounding boxes and tables Polygon include/exclude areas Perspective configuration ONVIF Motion Alarm event
AXIS Image Health Analytics	**Detection settings:** Tampering: blocked image, redirected image Image degradation: blurred image, underexposed image **Other features:** sensitivity, validation period
AXIS Scene Metadata	**Object classes**: humans, faces, vehicles (types: cars, buses, trucks, bikes), license plates **Object attributes**: vehicle color, upper/lower clothing color, confidence, position

Approvals

EMC	EN 55032 Class A, EN 55035, EN 61000-3-2, EN 61000-3-3, EN 61000-6-1, EN 61000-6-2 **Australia/New Zealand:** CISPR 24, CISPR 35, RCM AS/NZS CISPR 32 Class A

	Canada: ICES-3(B)/NMB-3(B) **Japan:** VCCI Class A **Korea:** KS C 9832 Class A, KS C 9815, KS C 9835, KS C 9547 **USA:** FCC Part 15 Subpart B Class A
Safety	IEC/EN/UL 62368-1
Environment	IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-6, IEC 60068-2-14, IEC 60068-2-27, IEC 60068-2-78
Network	NIST SP500-267
Cybersecurity	ETSI EN 303 645, BSI IT Security Label, FIPS 140

Cybersecurity

Edge security	**Software:** Signed OS, brute force delay protection, digest authentication and OAuth 2.0 RFC6749 OpenID Authorization Code Flow for centralized ADFS account management, password protection, AES-XTS-Plain64 256bit SD card encryption **Hardware:** Axis Edge Vault cybersecurity platform TPM 2.0 (CC EAL4+, FIPS 140-2 Level 2), secure element (CC EAL 6+), system-on-chip security (TEE), Axis device ID, secure keystore, signed video, secure boot, encrypted filesystem (AES-XTS-Plain64 256bit)
Network security	IEEE 802.1X (EAP-TLS, PEAP-MSCHAPv2)[d], IEEE 802.1AE (MACsec PSK/EAP-TLS), IEEE 802.1AR, HTTPS/HSTS[e], TLS v1.2/v1.3[f], Network Time Security (NTS), X.509 Certificate PKI, host-based firewall
Documentation	*AXIS OS Hardening Guide* *Axis Vulnerability Management Policy* *Axis Security Development Model* AXIS OS Software Bill of Material (SBOM) To download documents, go to *axis.com/support/cybersecurity/resources* To read more about Axis cybersecurity support, go to *axis.com/cybersecurity*

General

Casing	Aluminum casing Color: black NCS S 9000-N
Mounting	¼"-20 UNC tripod screw thread
Sustainability	PVC free, BFR/CFR free, 0% recycled plastics, 4% bio-based plastics
Power	Power over Ethernet (PoE) IEEE 802.3af/802.3at Type 1 Class 3 Typical 5.1 W, max 8.2 W 10–28 VDC, typical 4.6 W, max 7.7 W Power redundancy
Connectors	RJ45 10BASE-T/100BASE-TX/1000BASE-T PoE Terminal block for two supervised and two unsupervised configurable inputs / digital outputs (12 VDC output, max load 50 mA) RS485/RS422, 2 pcs, 2 pos, full duplex, terminal block DC input, terminal block, 3.5 mm mic/line in, 3.5 mm line out i-CS connector (compatible with P-Iris and DC-iris) AXIS T92G20 connector, Security lock slot
Storage	Support for microSD/microSDHC/microSDXC card Support for SD card encryption (AES-XTS-Plain64 256bit) Recording to network-attached storage (NAS) For SD card and NAS recommendations see *axis.com*
Operating conditions	-20 °C to 60 °C (-4 °F to 140 °F) Humidity 10–85% RH (non-condensing)
Storage conditions	-40 °C to 65 °C (-40 °F to 149 °F) Humidity 5–95% RH (non-condensing)
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 AXIS Surveillance Cards For more accessories, see *axis.com*
Optional lenses	Lens CS 4-10 mm F0.9 P-Iris Lens i-CS 9-50 mm F1.5 8 MP Lens CS 12-50 mm F1.4 P-Iris 8 MP
Video management software	AXIS Camera Station and 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, Dutch, Czech, Swedish, Finnish, Turkish, Thai, Vietnamese
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).*
b. *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).*
c. *Available for download*
d. *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).*
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