

AXIS Q1656-B Box Camera

Indoor barebone model in 4 MP

With 4 MP resolution at up to 60 fps, a 1/1.8" sensor, and Lightfinder 2.0, AXIS Q1656-B 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 applications based on deep learning on the edge. And AXIS Object Analytics provides highly nuanced object classification. With built-in cybersecurity features, it prevents unauthorized access and safeguards your system. This lightweight barebone unit comes without lens for maximum flexibility. It's designed for retrofitting AXIS T92E20 Outdoor Housing, making it easy to add deep-learning capabilities to existing installations.

- > **Exceptional images with 1/1.8" sensor**
- > **Support for analytics with deep learning**
- > **Built-in cybersecurity features**
- > **Support for i-CS lens**
- > **Ready to customize for specific needs**



AXIS Q1656-B Box Camera

Camera

Image sensor

1/1.8" progressive scan RGB CMOS

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

Lens not included

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, HTTPS¹, HTTP/2, TLS¹, QoS Layer 3 DiffServ, FTP, SFTP, CIFS/SMB, SMTP, Bonjour, UPnP®, SNMP v1/v2c/v3 (MIB-II), DNS, DynDNS, NTP, PTP, 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)

1. 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).

System integration

Application Programming Interface

Open API for software integration, including VAPIX® and AXIS Camera Application Platform; specifications at axis.com/developer-community.

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 back focus, leveling assistant, pixel counter

i-CS lens: Remote zoom and focus

Analytics

Applications

Included

AXIS Object Analytics, AXIS Scene Metadata,

AXIS Image Health Analytics, AXIS Live Privacy Shield ²

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 color-coded bounding boxes

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

2. Available for download

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 Client Credential Flow/OpenID Authorization Code Flow for centralized ADFS account management, password protection, Axis Cryptographic Module (FIPS 140-2 level 1), 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)³, IEEE 802.1AE (MACsec PSK/EAP-TLS), IEEE 802.1AR, HTTPS/HSTS³, TLS v1.2/v1.3³, 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

1/4"-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

155 x 80 x 58 mm (6.1 x 3.2 x 2.3 in)

Weight

400 g (0.9 lb)

Included accessories

Installation guide, Windows® decoder 1-user license, drill hole template, connector kit, RESISTORX® L-key

Optional accessories

AXIS T8415 Wireless Installation Tool

AXIS Surveillance Cards

For more accessories, see axis.com

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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

Lens i-CS 1/1.8" 3.9–10 mm F1.5

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