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, HTTPS[1], HTTP/2, TLS[1], QoS Layer 3 DiffServ, FTP, SFTP, CIFS/SMB, SMTP, Bonjour, UPnP®, SNMP v1/v2c/v3 (MIB-II), DNS, DynDNS, NTP, 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)

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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

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, 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/HSTS[3], TLS v1.2/v1.3[3], 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

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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3. *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).*

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*