

AXIS Q3839-SPVE Panoramic Camera

180° overview with stainless steel casing

Enclosed in an electropolished stainless steel casing, AXIS Q3839-SPVE is designed for the harshest environments. It offers 29 MP and seamless stitching of all four images to deliver cohesive 180° panoramic overviews for complete situational awareness. Lossless zoom and remote pan/tilt/roll functionality ensure fast, cost-efficient installation. Built on a dual Axis system-on-chip, it includes a deep learning processing unit to run advanced features and powerful analytics on the edge. For instance, AXIS Object Analytics can detect, classify, track, and count humans, vehicles, and types of vehicles. Furthermore, Axis Edge Vault safeguards the device and offers FIPS 140-2 Level 2 certified key storage and operations.

- > **Withstand corrosive and harsh conditions**
- > **8K multisensor camera with one IP address**
- > **AI-powered with support for advanced analytics**
- > **Horizon straightening and lossless zoom**
- > **Built-in cybersecurity with Axis Edge Vault**



AXIS Q3839-SPVE Panoramic Camera

Camera

Image sensor

4 x 8.3 MP 1/1.8" progressive scan RGB CMOS
Pixel size 2.0 µm

Lens

4.6 mm, F1.8
Horizontal field of view: 180°
Vertical field of view: 90°
Fixed iris

Day and night

Automatic IR-cut filter

Minimum illumination

Color: 0.1 lux at 50 IRE, F1.8
B/W: 0.03 lux at 50 IRE, F1.8

Shutter speed

1/8500 s to 1/5 s

Camera adjustment

Pan $\pm 176^\circ$, tilt 30° to 88° , roll $\pm 7^\circ$

System on chip (SoC)

Model

ARTPEC-8 (x2)

Memory

4096 (x2) MB RAM, 8192 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

7552x3776 to 512x256

Frame rate

Up to 25/30 fps (50/60 Hz) in all resolutions

Video streaming

Up to 20 unique and configurable video streams¹
Axis Zipstream technology in H.264 and H.265
VBR/ABR/MBR H.264/H.265
Low latency mode
Video streaming indicator

Signal-to-noise ratio

>55 dB

WDR

Forensic WDR: Up to 120 dB depending on scene

Multi-view streaming

Up to 8 individually cropped out view areas

Noise reduction

Spatial filter (2D noise reduction)
Temporal filter (3D noise reduction)

Image settings

Horizon straightening, saturation, contrast, brightness, sharpness, white balance, day/night threshold, local contrast, tone mapping, exposure mode, compression, dynamic text and image overlay, privacy masks

Image processing

Axis Zipstream, Forensic WDR, Lightfinder 2.0

Pan/Tilt/Zoom

Digital PTZ
Control queue
Lossless zoom

Audio

Features

Automatic gain control
Speaker pairing

Streaming

Configurable duplex:
One-way (simplex, half duplex)

1. We recommend a maximum of 3 unique video streams per camera or channel, for optimized user experience, network bandwidth, and storage utilization. A unique video stream can be served to many video clients in the network using multicast or unicast transport method via built-in stream reuse functionality.

Input

Input for external unbalanced microphone, optional 5 V microphone power
Digital input, optional 12 V ring power
Unbalanced line input

Output

Output through speaker pairing

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 bitrate

Network

Network protocols

IPv4, IPv6 USGv6, ICMPv4/ICMPv6, HTTP, HTTPS², HTTP/2, TLS², QoS Layer 3 DiffServ, FTP, SFTP, CIFS/SMB, SMTP, mDNS (Bonjour), UPnP[®], SNMP v1/v2c/v3 (MIB-II), DNS/DNSv6, DDNS, NTP, PTP, NTS, RTSP, RTP, SRTP/RTSPS, TCP, UDP, IGMPv1/v2/v3, RTCP, ICMP, DHCPv4/v6, ARP, SSH, LLDP, CDP, MQTT v3.1.1, Secure syslog (RFC 3164/5424, UDP/TCP/TLS), Link-Local address (ZeroConf), IEEE 802.1X (EAP-TLS), IEEE 802.1AR

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.

One-click cloud connection

ONVIF[®] Profile G, ONVIF[®] Profile M, ONVIF[®] Profile S, and ONVIF[®] Profile T, specifications at onvif.org

Video management systems

Compatible with AXIS Camera Station Edge, AXIS Camera Station Pro, AXIS Camera Station 5, and video management software from Axis' partners available at axis.com/vms.

Onscreen controls

Privacy masks
Media clip
Heater
Fan

Edge-to-edge

Radar pairing
Speaker pairing

Event conditions

Device status: above/below/within operating temperature, fan failure, IP address blocked, IP address removed, live stream active, network lost, new IP address, ring power overcurrent protection, system ready

Digital audio input status

Edge storage: recording ongoing, storage disruption, storage health issues detected

I/O: digital input, manual trigger, virtual input

MQTT: stateless

Scheduled and recurring: schedule

Video: average bitrate degradation, day-night mode, tampering

Event actions

Day-night mode

I/O: toggle I/O once, toggle I/O while the rule is active

MQTT: publish

Notification: HTTP, HTTPS, TCP and email

Overlay text

Recordings: 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

LEDs: flash status LED, flash status LED while the rule is active

Built-in installation aids

Remote Pan/tilt/roll: designed to withstand at least 200 full cycles, autoroll, pixel counter, level grid

Analytics

Applications

Included

AXIS Object Analytics, AXIS Scene Metadata, AXIS Video Motion Detection, active tampering alarm, audio detection

Supported

Support for AXIS Camera Application Platform enabling installation of third-party applications, see axis.com/acap

2. 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).

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, tailgating detection, PPE monitoring^{BETA}, motion in area, motion line crossing

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 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

Product markings

UL/cUL, BIS, CE, KC, VCCI, RCM

Supply chain

TAA compliant

EMC

CISPR 32 Class A, EN 55035, EN 55032 Class A, EN 61000-6-1, EN 61000-6-2

Australia/New Zealand: RCM AS/NZS CISPR 32 Class A

Canada: ICES(A)/NMB(A)

Japan: VCCI Class A

Korea: KS C 9835, KS C 9832 Class A

USA: FCC Part 15 Subpart B Class A

Safety

CAN/CSA C22.2 No. 62368-1 ed. 3, IEC/EN 62368-1 ed. 3, IS 13252

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, IEC/EN 60529 IP66/IP67/IP68, ISO 20653 IP6K9K, IEC/EN 62262 IK10, NEMA 250 Type 4X, NSF/ANSI 169-2016

Network

IPv6 USGv6, NIST SP500-267

Cybersecurity

ETSI EN 303 645, BSI IT Security Label, FIPS 140

Certifications

NSF

Certificate: C0759806

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)

Hardware: Axis Edge Vault cybersecurity platform

Secure keystore: TPM 2.0 (CC EAL4+, FIPS 140-2 Level 2), secure element (CC EAL 6+), system-on-chip security (TEE)

Axis device ID, 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

Lossless zoom whitepaper, available at axis.com/learning/white-papers

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

IP66-, IP67-, IP68-, IP6K9K, NEMA 4X- and IK10-rated Stainless steel (EN 1.4404) casing, polycarbonate (PC) dome

Color: NCS S 5502-B

Mounting

Mounting bracket with junction box holes (double-gang, single-gang, 4" square, and 4" octagon)

3/4" (M25) conduit side entry

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 (ey@cryptsoft.com).

Power

Power over Ethernet (PoE) IEEE 802.3af/802.3at Type 2 Class 4
Typical 9.74 W, max 19.1 W
Features: power meter

I/O functionality

2 configurable (digital input, supervised input, digital output) I/Os, 12 VDC output, max load 50 mA

Connectors

Audio: 3.5 mm mic/line in
I/O: 4-pin 2.5 mm terminal block
Network: Shielded RJ45 1000BASE-T PoE

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

Temperature: -40 °C to 50 °C (-40 °F to 122 °F)
Maximum temperature according to NEMA TS 2 (2.2.7): 74 °C (165 °F)
Installation temperature: -20 °C (-4 °F)⁴
Start-up temperature: -40 °C (-40 °F)⁵
Humidity: 10–100% RH (condensing)

Storage conditions

Temperature: -40 °C to 65 °C (-40 °F to 149 °F)
Humidity: 5–95% RH (non-condensing)

Dimensions

For the overall product dimensions, see the dimension drawing in this datasheet.
Effective Projected Area (EPA): 0.0374 m² (0.4 ft²)

Weight

4800 g (10.58 lb)

Box content

Camera, installation guide, terminal block connector, connector guard, cable gaskets, wall gasket, plugs, owner authentication key

System tools

AXIS Site Designer, AXIS Device Manager, product selector, accessory selector, lens calculator
Available at axis.com

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

Software support

New feature development until 2028 (AXIS OS Active 11, 12 and 13)
Support until 2033-12-31 (AXIS OS LTS 2028)
Read more about the AXIS OS lifecycle at help.axis.com/axis-os

Part numbers

Available at axis.com/products/axis-q3839-spve#part-numbers

Optional accessories

Mounting

AXIS T91F61 Wall Mount, AXIS T91F67 Pole Mount, AXIS TQ3003-SE Wall Mount, AXIS TQ3105-SE Pendant Kit

Storage

AXIS Surveillance Cards

For more accessories, go to axis.com/products/axis-q3839-spve#compatible-products

Sustainability

Substance control

PVC free, BFR/CFR free in accordance with JEDEC/ECA Standard JS709
RoHS in accordance with EU RoHS Directive 2011/65/EU and standard EN IEC 63000:2018
REACH in accordance with (EC) No 1907/2006. For SCIP UUID, see echa.europa.eu

Materials

Renewable carbon-based plastic content: 69% (recycled: 31%, bio-based: 1%, carbon capture based: 37%)
To read more about sustainability at Axis, go to axis.com/about-axis/sustainability

4. PTR functionality is only guaranteed from -20 °C

5. Video stream becomes available within 60 minutes.

Environmental responsibility

axis.com/environmental-responsibility

Axis Communications is a signatory of the UN Global Compact, read more at unglobalcompact.org

Detect, Observe, Recognize, Identify (DORI)

	DORI definition	Distance
Detect	25 px/m (8 px/ft)	88.3 m (289.6 ft)
Observe	63 px/m (19 px/ft)	35 m (114.8 ft)
Recognize	125 px/m (38 px/ft)	17.7 m (58.1 ft)
Identify	250 px/m (76 px/ft)	8.8 m (28.9 ft)

The DORI values are calculated using pixel densities for different use cases as recommended by the EN-62676-4 standard. The calculations use the center of the image as the reference point and consider lens distortion. The possibility to recognize or identify a person or object depends on factors such as object motion, video compression, lighting conditions, and camera focus. Use margins when planning. The pixel density varies across the image, and the calculated values can differ from the distances in the real world.

Highlighted capabilities

Stainless steel casing

Stainless steel (SS 316L) is a material with a high resistance to rusting and corrosion with a lower proportion of carbon in its composition. The Electropolished surface is free from imperfections and micro roughness's ensuring the stainless steel casing to remain resistant to rust, staining and environmental degradation.

Axis Edge Vault

Axis Edge Vault is the hardware-based cybersecurity platform that safeguards the Axis device. It forms the foundation that all secure operations depend on and offer features to protect the device's identity, safeguard its integrity and protect sensitive information from unauthorized access. For instance, **secure boot** ensures that a device can boot only with **signed OS**, which prevents physical supply chain tampering. With signed OS, the device is also able to validate new device software before accepting to install it. And the **secure keystore** is the critical building-block for protecting cryptographic information used for secure communication (IEEE 802.1X, HTTPS, Axis device ID, access control keys etc.) against malicious extraction in the event of a security breach. The secure keystore and secure connections are provided through a Common Criteria or FIPS 140 certified hardware-based cryptographic computing module.

Furthermore, signed video ensures that video evidence can be verified as untampered. Each camera uses its unique video signing key, which is securely stored in the secure keystore, to add a signature into the video stream allowing video to be traced back to the Axis camera from where it originated.

To read more about Axis Edge Vault, go to axis.com/solutions/edge-vault.

Forensic WDR

Axis cameras with wide dynamic range (WDR) technology make the difference between seeing important forensic details clearly and seeing nothing but a blur in challenging light conditions. The difference between the darkest and the brightest spots can spell trouble for image usability and clarity. Forensic WDR effectively reduces visible noise and artifacts to deliver video tuned for maximal forensic usability.

Lightfinder

The Axis Lightfinder technology delivers high-resolution, full-color video with a minimum of motion blur even in near darkness. Because it strips away noise, Lightfinder makes dark areas in a scene visible and captures details in very low light. Cameras with Lightfinder discern color in low light better than the human eye. In surveillance,

color may be the critical factor to identify a person, an object, or a vehicle.

Zipstream

The Axis Zipstream technology preserves all the important forensic in the video stream while lowering bandwidth and storage requirements by an average of 50%. Zipstream also includes three intelligent algorithms, which ensure that relevant forensic information is identified, recorded, and sent in full resolution and frame rate.