AXIS Q3628-VE Dome Camera

Advanced 8 MP dome with remote adjustment

With remote pan-tilt-roll-zoom functionality, this top-of-the-line camera lets you easily adjust and readjust the camera view over the network. Thanks to Lightfinder 2.0 and Forensic WDR, it delivers outstanding image quality and great detail even in challenging light or near darkness. Built on the latest Axis system-on-chip, it supports advanced analytics based on deep learning on the edge. For instance, AXIS Object Analytics lets you detect and classify moving objects. This robust, IK10-rated camera comes enclosed in a metal casing. Furthermore, Axis Edge Vault safeguards your device and offers secure key storage with FIPS 140-2 level 2 certification.

- > Outstanding image quality in 8 MP
- > Remote adjustment of the camera angle
- > Analytics with deep learning
- > Electronic image stabilization
- > Axis Edge Vault safeguards device

4K NETWORK VIDEO

AXIS Q3628-VE Dome Camera

Camera

Image sensor
1/1.2" progressive scan RGB CMOS
Pixel size 2.9 µm

Lens
Varifocal, 6.2–12.9 mm, F1.6–2.9
Horizontal field of view: 103°–48°
Vertical field of view: 56°–27°
Minimum focus distance: 1.5 m (4.8 ft)
IR corrected, remote zoom and focus, P-Iris control

Day and night
Automatic IR-cut filter

Minimum illumination
Color: 0.07 lux at 50 IRE, F1.6
B/W: 0.01 lux at 50 IRE, F1.6

Shutter speed
1/66500 s to 2 s with 60 Hz

Camera adjustment
Pan ±190°, tilt -8 to +75°, roll ±97°

System on chip (SoC)

Model
ARTPEC-8

Memory
2048 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
16:9: 3840x2160 to 160x90
16:10: 1280x800 to 160x100
4:3: 2880x2160 to 160x120

Frame rate
With Forensic WDR: Up to 25/30 fps (50/60 Hz) in all resolutions
No WDR: Up to 50/60 fps (50/60 Hz) in all resolutions

Video streaming
Up to 20 unique and configurable video streams[1]
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

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
Saturation, contrast, brightness, sharpness, white balance, day/night threshold, local contrast, 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,target aperture

Image processing
Axis Zipstream, Forensic WDR, Lightfinder 2.0

Pan/Tilt/Zoom
Digital PTZ with preset positions
PTRZ preset positions

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.*

Audio

Audio features
AGC automatic gain control
Network speaker pairing

Audio streaming
Configurable duplex:
Two-way (half duplex, full duplex)

Audio input
10-band graphic equalizer
Input for external unbalanced microphone, optional 5 V microphone power
Digital input, optional 12 V ring power
Unbalanced line input

Audio output
Output via network speaker pairing

Audio encoding
24bit LPCM 48 kHz, AAC-LC 8/16/32/44.1/48 kHz, G.711 PCM 8 kHz, G.726 ADPCM 8 kHz, Opus 8/16/48 kHz
Configurable bit rate

Network

Network protocols
IPv4, IPv6 USGv6, ICMPv4/ICMPv6, HTTP, HTTPS[2], HTTP/2, TLS[2], QoS Layer 3 DiffServ, FTP, SFTP, CIFS/SMB, SMTP, mDNS (Bonjour), UPnP®, SNMP v1/v2c/v3 (MIB-II), DNS/DNSv6, DDNS, NTP, 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*
Support for Session Initiation Protocol (SIP) for integration with Voice over IP (VoIP) systems, peer to peer or integrated with SIP/PBX.

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
Autofocus
Electronic image stabilization
Day/night shift
Defogging
Heater
Media clip
Privacy mask
Video streaming indicator
Wide dynamic range

Event conditions
Application
Audio: audio detection
Call: state, state change
Device status: above/below/within operating temperature, IP address removed, new IP address, shock detected, network lost, system ready, ring power overcurrent protection, live stream active, casing open
Digital audio input status
Edge storage: recording ongoing, storage disruption, storage health issues detected
I/O: digital input, manual trigger, virtual input
MQTT: subscribe
Scheduled and recurring: schedule
Video: average bitrate degradation, tampering

Event actions
Audio clips: play, stop
Calls: answer call, end SIP call, make SIP call
Day-night mode
Defog 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
Pre- and post-alarm video or image buffering for recording or upload
Recordings: SD card and network share
SNMP traps: send, send while the rule is active
Status LED: flash
Upload of images or video clips: FTP, SFTP, HTTP, HTTPS, network share and email
WDR mode

Built-in installation aids
Pan-tilt-roll: designed to withstand at least 500 full movement cycles, autoroll, pixel counter, remote zoom and focus, level grid

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).*

Analytics

Applications
Included
AXIS Object Analytics, AXIS Scene Metadata, AXIS Image Health Analytics, AXIS Video Motion Detection, active tampering alarm, audio detection
AXIS Live Privacy Shield
Supported
AXIS Perimeter Defender, AXIS License Plate Verifier
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, crossline counting, occupancy in area, time 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

Product markings
CE, EAC, FCC, ICES, KC, RCM, UKCA, UL, VCCI

Supply chain
TAA compliant

EMC
CISPR 35, CISPR 32 Class A, EN 55035,
EN 55032 Class A, EN 50121-4, EN 61000-6-1,
EN 61000-6-2
Australia/New Zealand: RCM AS/NZS CISPR 32 Class A
Canada: ICES-3(A)/NMB-3(A)
Japan: VCCI Class A
Korea: KS C 9835, KS C 9832 Class A
USA: FCC Part 15 Subpart B Class A
Railway: IEC 62236-4

Safety
CAN/CSA C22.2 No. 62368-1 ed. 3,
IEC/EN/UL 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, IEC/EN 62262 IK10, NEMA 250 Type 4X, NEMA TS 2 (2.2.7-2.2.9), ISO 21207 (Method B), ISO 20653 IP6K9K

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/HSTS[3], TLS v1.2/v1.3[3], Network Time Security (NTS), X.509 Certificate PKI, host-based firewall

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).*

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
IP66-, NEMA 4X- and IK10-rated
Polycarbonate hard-coated dome
Aluminum casing, weathershield (PA+GF)
Color: white NCS S 1002-B
For repainting instructions, go to the product's support page. For information about the impact on warranty, go to *axis.com/warranty-implication-when-repainting*.

Mounting
Mounting bracket with junction box holes (double-gang, single-gang, 4" square, and 4" octagon)
¾" (M25) conduit side entries

Power
Power over Ethernet (PoE) IEEE 802.3at Type 2 Class 4
Typical 8 W, max 25 W
10–28 V DC, typical 7 W, max 25 W

Connectors
Network: Shielded RJ45 10BASE-T/100BASE-TX/1000BASE-T PoE
I/O: 4-pin 2.5 mm terminal block for two configurable supervised inputs / digital outputs (12 V DC output, max load 50 mA)
Audio: 3.5 mm mic/line in
Power: DC input, terminal block

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
-50 °C to 55 °C (-58 °F to 131 °F)
Maximum temperature according to NEMA TS 2 (2.2.7): 74 °C (165 °F)
Start-up temperature: -40 °C (-40 °F)
Humidity 10–100% RH (condensing)

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

Dimensions
Height: 141 mm (5.6 in)
ø 184 mm (7.2 in)
Effective Projected Area (EPA): 0.0399 m^2 (0,4294 ft^2)

Weight
2100 g (4.6 lb)

Box content
Camera, weathershield, installation guide, conduit adapter, RESISTORX® TR20 screw bit, terminal block connectors, connector guard, cable gasket, owner authentication key

Optional accessories
AXIS TQ3103-E Pendant Kit, AXIS TQ3202-E Recessed Mount
AXIS T8415 Wireless Installation Tool
AXIS Surveillance Cards

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*

Part numbers
Available at *axis.com/products/axis-q3628-ve#part-numbers*

Sustainability

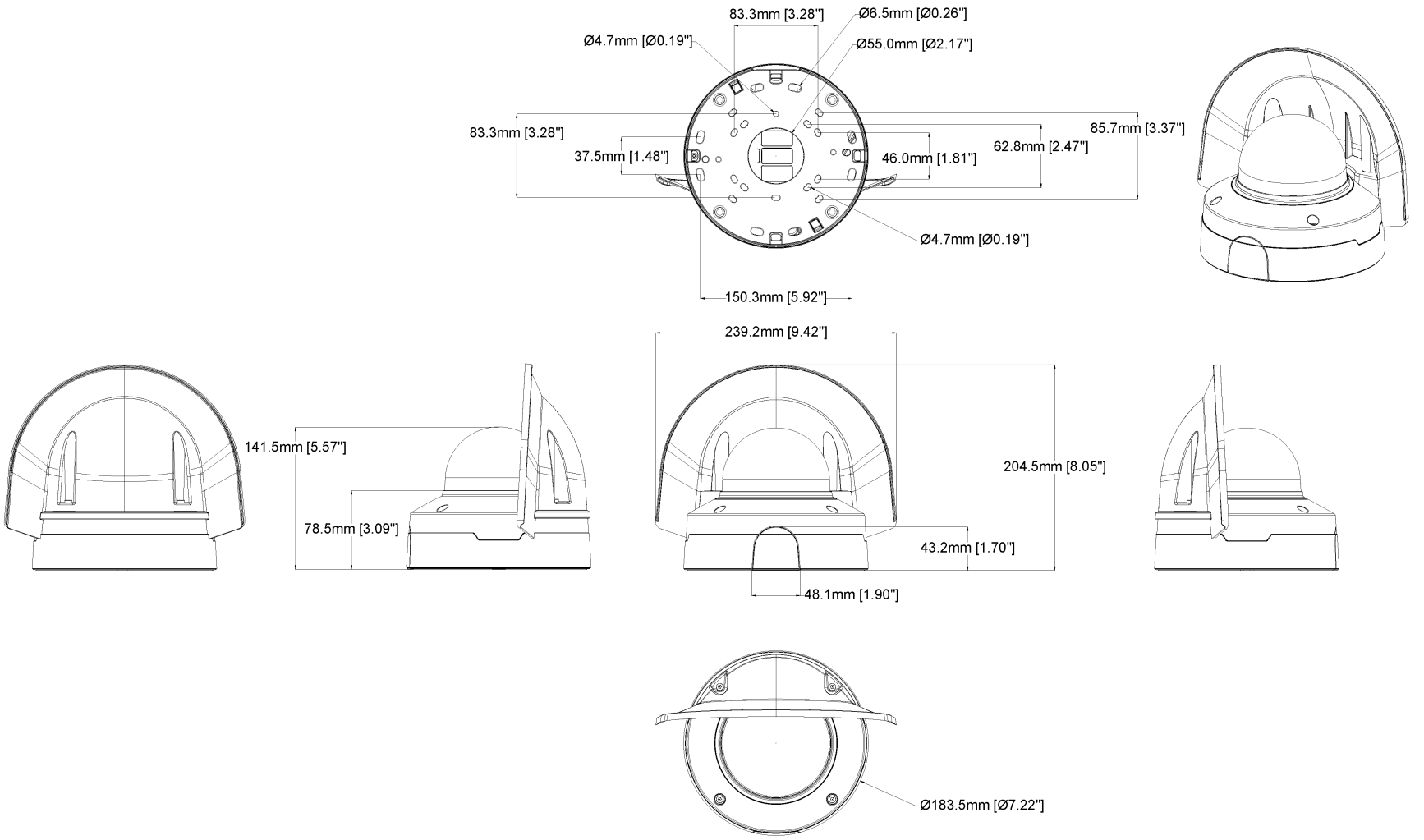
Substance control
PVC free, BFR/CFR free in accordance with JEDEC/ECA Standard JS709
RoHS in accordance with EU RoHS Directive 2011/65/EU/ and EN 63000:2018
REACH in accordance with (EC) No 1907/2006. For SCIP UUID, see *axis.com/partner.*

Materials

Renewable carbon-based plastic content: 62% (bio-based)
Screened for conflict minerals in accordance with OECD guidelines
To read more about sustainability at Axis, go to *axis.com/about-axis/sustainability*

Environmental responsibility

axis.com/environmental-responsibility
Axis Communications is a signatory of the UN Global Compact, read more at *unglobalcompact.org*



AXIS Q3628-VE Dome Camera

Revision	v.02	Revision date	2023-04-06
Paper size	A4	Release date	2023-04-03
Created by	MS	Scale	1:5

Highlighted capabilities

Pan-tilt-roll-zoom (PTRZ)

PTRZ functionality includes the ability of a camera to rotate around its vertical, lateral, and longitudinal axes. The camera's focal length is adjustable to achieve a narrower or wider field of view. Thanks to the remote functionality, you can quickly adjust and readjust the camera view remotely over the network, saving time and effort. PTRZ functionality also gives you the flexibility to make future adjustments easily, ensuring less disruption, less downtime, and that no dispatched technician is needed.

AXIS Object Analytics

AXIS Object Analytics is a preinstalled, multifeatured video analytics that detects and classifies humans, vehicles, and types of vehicles. Thanks to AI-based algorithms and behavioral conditions, it analyzes the scene and their spatial behavior within – all tailored to your specific needs. Scalable and edge-based, it requires minimum effort to set up and supports various scenarios running simultaneously.

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*.

Electronic image stabilization

Electronic image stabilization (EIS) provides smooth video in situations where a camera is subject to vibrations. Built-in gyroscopic sensors continuously detect the camera's movements and vibrations, and they automatically adjust the frame to ensure you always capture the details you need. Electronic image stabilization relies on different algorithms for modeling camera motion, which are used to correct the images.

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.

For more information, see *axis.com/glossary*