AXIS M3128-LVE Dome Camera

AI-powered 8 MP turret style camera

This AI-powered camera offers flexible installation both indoors and outdoors. With a turret-style design, it suppresses light reflections and delivers great 8 MP image quality and usability. And OptimizedIR allows for surveillance in complete darkness. It comes preinstalled with AXIS Object Analytics to detect, classify, track and count objects like humans and vehicles. Furthermore, Axis Edge Vault, a hardware-based cybersecurity platform, safeguards the device and offers FIPS 140-3 Level 3 certified secure key storage and operations. This weatherproof camera is IP66-rated and has an operating temperature range from -30 °C to 50 °C (-22 °F to 122 °F).

> **Great image quality in 4K**
> **WDR and OptimizedIR**
> **Available in black or white**
> **AI-based video analytics**
> **Built-in cybersecurity with Axis Edge Vault**

AXIS M3128-LVE Dome Camera

Variants
Black
White

Camera

Image sensor
1/2.8" progressive scan RGB CMOS
Pixel size 1.45 μm

Lens
2.9 mm, F2.0
Horizontal field of view: 110°
Vertical field of view: 60°
Minimum focus distance: 0.5 m (1.6 ft)
M12 mount, fixed iris
Fixed iris, Fixed focus, IR corrected

Day and night
Automatic IR-cut filter

Minimum illumination
Color: 0.22 lux at 50 IRE, F1.2
B/W: 0.05 lux at 50 IRE, F1.2
0 lux with IR illumination on

Shutter speed
1/71500 s to 2 s

Camera adjustment
Pan ±180°, tilt 0 to 60°, rotation ±95°

System on chip (SoC)

Model
CV25

Memory
2048 MB RAM, 512 MB Flash

Compute capabilities
Deep learning processing unit (DLPU)

Video

Video compression
H.264 (MPEG-4 Part 10/AVC) Main and High Profiles
H.265 (MPEG-H Part 2/HEVC) Main Profile
Motion JPEG

Resolution
3840x2160 to 160x90

Frame rate
Up to 12/15 fps (12/15 Hz) with H.264 and H.265[1] 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

Signal-to-noise ratio
>55 dB

WDR
Up to 120 dB depending on scene

Multi-view streaming
2 individually cropped out view areas

Image settings
Saturation, contrast, brightness, sharpness, white balance, day/night threshold, local contrast, exposure mode, exposure zones, compression, rotation: 0°, 90°, 180°, 270° including corridor format, mirroring, text and image overlay, dynamic text and image overlay, privacy masks, polygon privacy mask

Image processing
WDR, OptimizedIR

Pan/Tilt/Zoom
Digital PTZ

Audio

Audio features
Voice enhancer through portcast technology
Speaker pairing

Audio streaming
Two-way (full duplex)

Audio input
Input through portcast technology

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1. Reduced frame rate in Motion JPEG

Audio output
Output through speaker pairing or portcast technology

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

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)

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
Day/night shift
Wide dynamic range
IR illumination
Privacy masks
Media clip
Heater

Edge-to-edge
Speaker pairing

Event conditions
Device status: above/below/within operating
temperature, IP address blocked, IP address removed,
live stream active, network lost, new IP address, system
ready
Edge storage: recording ongoing, storage disruption,
storage health issues detected
I/O: manual trigger, virtual input is active
MQTT: stateless
Scheduled and recurring: schedule
Video: average bitrate degradation, day-night mode,
tampering

Event actions
Day-night mode: use day-night mode while the rule is
active
Illumination: use lights, use lights while the rule is
active
LEDs: flash status LED, flash status LED while the rule is
active
MQTT: send MQTT publish message
Notification: HTTP, HTTPS, TCP and email
Overlay text: use, use while the rule is active
Recordings: record video, record video while the rule is
active
Security: erase configuration
SNMP traps: send, send while the rule is active
Upload of images or video clips: FTP, SFTP, HTTP, HTTPS,
network share and email
WDR mode: set, set while the rule is active

Built-in installation aids
Pixel counter, level grid

Analytics

Applications
Included
AXIS Object Analytics, AXIS Scene Metadata, AXIS Live
Privacy Shield[3], AXIS Video Motion Detection, active
tampering alarm
Supported
Support for AXIS Camera Application Platform enabling
installation of third-party applications, see *axis.com/
acap*

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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).*
3. *Available for download*

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, motion in area, motion line crossing
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 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
CSA, UL/cUL, BIS, CE, KC, EAC, VCCI, RCM, BSMI

Supply chain
TAA compliant

EMC
EN 55024, 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: KC KN35, KC KN32 Class A, KS C 9835, KS C 9832 Class A
USA: FCC Part 15 Subpart B Class A

Safety
IEC/EN/UL 62368-1 ed. 3, IEC/EN 62471 risk group exempt, UL 60950-22, 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 IK08, NEMA 250 Type 4X

Network
NIST SP500-267

Cybersecurity
ETSI EN 303 645, BSI IT Security Label

Cybersecurity

Edge security
Software: Signed firmware, brute force delay protection, digest authentication and OAuth 2.0 RFC6749 OpenID Authorization Code Flow for centralized ADFS account management, password protection
Hardware: Axis Edge Vault cybersecurity platform Secure element (CC EAL 6+, FIPS 140-3 Level 3), 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)[4], IEEE 802.1AE (MACsec PSK/EAP-TLS),

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 IK08-rated
Polycarbonate hard-coated window
Plastic casing
Color: white NCS S 1002-B, black NCS S 9000-N
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*.

Power
Power over Ethernet (PoE) IEEE 802.3af/802.3at Type 1 Class 3
Typical 4.3 W, max 10.5 W
Features: power meter

Connectors
Network: RJ45 10BASE-T/100BASE-TX PoE

IR illumination
OptimizedIR with power-efficient, long-life 850 nm IR LEDs
Range of reach 20 m (65 ft) or more depending on the scene

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4. *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).*

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: -30 °C to 50 °C (-22 °F to 122 °F)
Maximum temperature according to NEMA TS 2 (2.2.7): 74 °C (165 °F)
Humidity: 10–100% RH (non-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): 0.008 m^2 (0.03 ft^2)

Weight

390 g (0.9 lb)

Box content

Camera, installation guide, connector guard, cable gaskets, owner authentication key

Optional accessories

AXIS TM3212 Recessed Mount, AXIS TM3213 Recessed Mount, AXIS TM3824-E Weathershield, AXIS T94B01P Conduit Back Box, AXIS T94B02D Pendant Kit
AXIS T8415 Wireless Installation Tool
AXIS Surveillance Cards
For more accessories, go to *axis.com/products/axis-m3128-lve#accessories*

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-m3128-lve#part-numbers*

Sustainability

Substance control

PVC free
RoHS in accordance with EU RoHS Directive 2011/65/EU/ and 2015/863, 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: 49% (recycled: 6%, bio-based: 43%)
Screened for conflict minerals in accordance with OECD guidelines
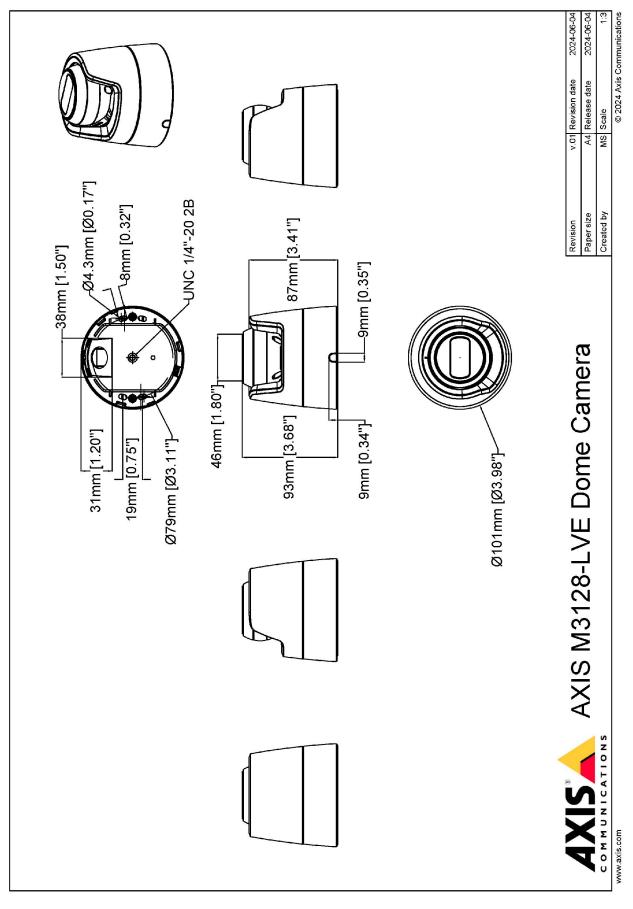To read more about sustainability at Axis, go to *axis.com/about-axis/sustainability*

Environmental responsibility

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

Detect, Observe, Recognize, Identify (DORI)

	DORI definition	Distance
Detect	25 px/m (8 px/ft)	80 m (262 ft)
Observe	63 px/m (19 px/ft)	31.7 m (104.0 ft)
Recognize	125 px/m (38 px/ft)	16 m (52 ft)
Identify	250 px/m (76 px/ft)	8 m (26 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.

38mm [1.50"]

Ø4.3mm [Ø0.17"]

8mm [0.32"]

UNC 1/4"-20 2B

31mm [1.20"]

19mm [0.75"]

Ø79mm [Ø3.11"]

87mm [3.41"]

9mm [0.35"]

46mm [1.80"]

93mm [3.68"]

9mm [0.34"]

Ø101mm [Ø3.98"]

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AXIS COMMUNICATIONS

www.axis.com

Highlighted capabilities

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.

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

OptimizedIR

Axis OptimizedIR provides a unique and powerful combination of camera intelligence and sophisticated LED technology, resulting in our most advanced camera-integrated IR solutions for complete darkness. In our pan-tilt-zoom (PTZ) cameras with OptimizedIR, the IR beam automatically adapts and becomes wider or narrower as the camera zooms in and out to make sure that the entire field of view is always evenly illuminated.

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.

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