

# AXIS M3085-V Dome Camera

## Fixed 2 MP mini dome with deep learning

This cost-efficient mini dome features Wide Dynamic Range (WDR) to ensure clarity even when there's both dark and light areas in the scene. With Lightfinder, it delivers sharp color images even in low light. A deep learning processing unit enables intelligent analytics based on deep learning on the edge. And AXIS Object Analytics offers detection and classification of different types of objects – all tailored to your specific needs. Furthermore, this compact, easy-to-install, vandal-resistant camera comes factory focused so there's no manual focusing required.

- > [Great image quality in 2 MP](#)
- > [Compact, discreet design](#)
- > [WDR and Lightfinder](#)
- > [Support for analytics with deep learning](#)
- > [Built-in cybersecurity features](#)



# AXIS M3085-V Dome Camera

|                                |   |  |   |
|--------------------------------|---|--|---|
| <b>Camera</b>                  |   | <b>Video management systems</b>          | Compatible with AXIS Companion, AXIS Camera Station, video management software from Axis' Application Development Partners available at <a href="http://axis.com/vms">axis.com/vms</a>  |
| <b>Image sensor</b>            | 1/2.9" progressive scan RGB CMOS  | <b>Onscreen controls</b>                 | Privacy masks<br>Media clip   |
| <b>Lens</b>                    | 3.1 mm, F2.0<br>Horizontal field of view: 102°<br>Vertical field of view: 55°<br>Fixed iris, IR corrected   | <b>Edge-to-edge</b>                      | Speaker pairing   |
| <b>Day and night</b>           | Automatic IR-cut filter   | <b>Event conditions</b>                  | Application<br>Audio: audio detection<br>Device status: above/below/within operating temperature, IP address blocked, IP address removed, new IP address, network lost, system ready, live stream active<br>Edge storage: recording ongoing, storage disruption, storage health issues detected<br>I/O: manual trigger, virtual input, digital input via accessories using portcast technology<br>MQTT: subscribe<br>Scheduled and recurring: schedule<br>Video: average bitrate degradation, tampering |
| <b>Minimum illumination</b>    | With Lightfinder:<br>Color: 0.18 lux at 50 IRE F2.0<br>B/W: 0.03 lux at 50 IRE F2.0   | <b>Event actions</b>                     | Day-night mode<br>LEDs: flash status LED, flash status LED while the rule is active<br>MQTT: publish<br>Notification: HTTP, HTTPS, TCP and email<br>Overlay text<br>Recordings<br>SNMP traps<br>Upload of images or video clips: FTP, SFTP, HTTP, HTTPS, network share and email<br>WDR mode<br>External output activation via accessories using portcast technology  |
| <b>Shutter speed</b>           | 1/19000 s to 1/5 s  | <b>Built-in installation aids</b>        | Pixel counter, level grid   |
| <b>Camera angle adjustment</b> | Pan ±175°, tilt ±80°, rotation ±175°<br>Can be directed in any direction and see the wall/ceiling   | <b>Analytics</b>                         |   |
| <b>System on chip (SoC)</b>    |   | <b>Applications</b>                      | Included<br>AXIS Object Analytics, AXIS Scene Metadata, AXIS Live Privacy Shield <sup>c</sup> , AXIS Video Motion Detection, active tampering alarm, audio detection<br>Supported<br>AXIS People Counter<br>Support for AXIS Camera Application Platform enabling installation of third-party applications, see <a href="http://axis.com/acap">axis.com/acap</a>  |
| <b>Model</b>                   | CV25  | <b>AXIS Object Analytics</b>             | Object classes: humans, vehicles (types: cars, buses, trucks, bikes)<br>Scenarios: line crossing, object in area, time in area, crossline counting, occupancy in area, motion in area, motion line crossing<br>Up to 10 scenarios<br>Other features: triggered objects visualized with color-coded bounding boxes, polygon include/exclude areas, perspective configuration, ONVIF motion alarm event   |
| <b>Memory</b>                  | 1024 MB RAM, 512 MB Flash   | <b>AXIS Scene Metadata</b>               | Object classes: humans, faces, vehicles (types: cars, buses, trucks, bikes), license plates<br>Object attributes: vehicle color, upper/lower clothing color, confidence, position<br>Audio data: audio level  |
| <b>Compute capabilities</b>    | Deep learning processing unit (DLPU)  | <b>Approvals</b>                         |   |
| <b>Video</b>                   |   | <b>Product markings</b>                  | CE, FCC, ICES, RCM, VCCI, BIS   |
| <b>Video compression</b>       | H.264 (MPEG-4 Part 10/AVC) Main and High Profiles<br>H.265 (MPEG-H Part 2/HEVC)<br>Motion JPEG  | <b>Supply chain</b>                      | TAA compliant   |
| <b>Resolution</b>              | 16:9: 1920x1080 (1080p) to 640x360<br>4:3: 1280x960 to 320x240  | <b>EMC</b>                               | EN 55032 Class A, EN 55035, EN 61000-6-1, EN 61000-6-2<br>Australia/New Zealand: RCM AS/NZS CISPR 32 Class A<br>Canada: ICES-3(A)/NMB-3(A)<br>Japan: VCCI Class A<br>Korea: KS C 9835, KS C 9832 Class A<br>USA: FCC Part 15 Subpart B Class A  |
| <b>Frame rate</b>              | 25/30 fps with power line frequency 50/60 Hz in H.264 and H.265 <sup>a</sup>  | <b>Safety</b>                            | IEC/EN/UL 62368-1, IS 13252   |
| <b>Video streaming</b>         | Multiple, individually configurable streams in H.264, H.265 and Motion JPEG<br>Axis Zipstream technology in H.264 and H.265<br>Controllable frame rate and bandwidth<br>VBR/ABR/MBR H.264/H.265   | <b>Environment</b>                       | 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 IP42, IEC/EN 62262 IK08   |
| <b>WDR</b>                     | WDR: Up to 120 dB depending on scene  | <b>Network</b>                           | NIST SP500-267  |
| <b>Multi-view streaming</b>    | Up to 2 individually cropped out view areas in full frame rate streaming  | <b>System integration</b>                |   |
| <b>Image settings</b>          | Saturation, contrast, brightness, sharpness, white balance, day/night threshold, exposure mode, exposure zones, compression, rotation: 0°, 90°, 180°, 270° including corridor format, mirroring, dynamic text and image overlay, privacy masks  | <b>Application Programming Interface</b> | Open API for software integration, including VAPIX <sup>®</sup> , metadata and AXIS Camera Application Platform (ACAP); specifications at <a href="http://axis.com/developer-community">axis.com/developer-community</a> . ACAP includes Native SDK. One-click cloud connection<br>ONVIF <sup>®</sup> Profile G, ONVIF <sup>®</sup> Profile M, ONVIF <sup>®</sup> Profile S, and ONVIF <sup>®</sup> Profile T, specifications at <a href="http://onvif.org">onvif.org</a>                               |
| <b>Image processing</b>        | Axis Zipstream, WDR, Lightfinder  |  |   |
| <b>Pan/Tilt/Zoom</b>           | Digital PTZ   |  |   |
| <b>Audio</b>                   |   |  |   |
| <b>Audio features</b>          | Automatic gain control<br>10-band graphic equalizer for audio input<br>Voice enhancer through portcast technology<br>Speaker pairing  |  |   |
| <b>Audio streaming</b>         | Two-way (full duplex)   |  |   |
| <b>Audio input</b>             | Input through portcast technology   |  |   |
| <b>Audio output</b>            | Output through speaker pairing or portcast technology   |  |   |
| <b>Audio encoding</b>          | AAC-LC 8/16/32/44.1/48 kHz, G.711 PCM 8 kHz, G.726 ADPCM 8 kHz, Opus 8/16/48 kHz, LPCM 48 kHz<br>Configurable bitrate   |  |   |
| <b>Network</b>                 |   |  |   |
| <b>Network protocols</b>       | IPv4, IPv6 USGv6, ICMPv4/ICMPv6, HTTP, HTTPS <sup>b</sup> , HTTP/2, TLS <sup>b</sup> , QoS Layer 3 DiffServ, FTP, SFTP, CIFS/SMB, SMTP, mDNS (Bonjour), UPnP <sup>®</sup> , SNMP v1/v2c/v3 (MIB-II), DNS/DNSv6, DDNS, NTP, NTS, RTSP, RTCP, RTP, SRTP/RTSPS, TCP, UDP, IGMPv1/v2/v3, DHCPv4/v6, 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 |  |   |

|                             |  |
|-----------------------------|--|
| <b>Cybersecurity</b>        | ETSI EN 303 645  |
| <b>Cybersecurity</b>        |  |
| <b>Edge security</b>        | <p>Software: Signed OS, brute force delay protection, digest authentication, password protection</p> <p>Hardware: Axis Edge Vault cybersecurity platform 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)</p>  |
| <b>Network security</b>     | IEEE 802.1X (EAP-TLS) <sup>b</sup> , IEEE 802.1AR, HTTPS/HSTS <sup>b</sup> , TLS v1.2/v1.3 <sup>b</sup> , Network Time Security (NTS), X.509 Certificate PKI, IP address filtering   |
| <b>Documentation</b>        | <p><i>AXIS OS Hardening Guide</i></p> <p><i>Axis Vulnerability Management Policy</i></p> <p><i>Axis Security Development Model</i></p> <p>AXIS OS Software Bill of Material (SBOM)</p> <p>To download documents, go to <a href="https://axis.com/support/cybersecurity/resources">axis.com/support/cybersecurity/resources</a></p> <p>To read more about Axis cybersecurity support, go to <a href="https://axis.com/cybersecurity">axis.com/cybersecurity</a></p> |
| <b>General</b>              |  |
| <b>Casing</b>               | <p>IP42 water- and dust-resistant (to comply with IP42, follow Installation Guide), IK08 impact-resistant, polycarbonate/ABS casing</p> <p>Encapsulated electronics</p> <p>Color: white NCS S 1002-B</p> <p>For repainting instructions, go to the product's support page. For information about the impact on warranty, go to <a href="https://axis.com/warranty-implication-when-repainting">axis.com/warranty-implication-when-repainting</a>.</p>              |
| <b>Power</b>                | Power over Ethernet (PoE) IEEE 802.3af/802.3at Type 1 Class 2 Typical 3.6 W, max 4.2 W   |
| <b>Connectors</b>           | <p>Network: Shielded RJ45 10BASE-T/100BASE-TX PoE</p> <p>Audio: Audio and I/O connectivity via portcast technology</p>   |
| <b>Storage</b>              | <p>Support for microSD/microSDHC/microSDXC card</p> <p>Support for SD card encryption (AES-XTS-Plain64 256bit)</p> <p>Recording to network-attached storage (NAS)</p> <p>For SD card and NAS recommendations see <a href="https://axis.com">axis.com</a></p>   |
| <b>Operating conditions</b> | <p>Temperature: 0 °C to 45 °C (32 °F to 113 °F)</p> <p>Humidity: 10–85% RH (non-condensing)</p>  |
| <b>Storage conditions</b>   | <p>Temperature: –40 °C to 65 °C (–40 °F to 149 °F)</p> <p>Humidity: 5–95% RH (non-condensing)</p>  |

|                                     |   |
|-------------------------------------|---|
| <b>Dimensions</b>                   | For the overall product dimensions, see the dimension drawing in this datasheet.  |
| <b>Weight</b>                       | 150 g (0.33 lb)   |
| <b>Box content</b>                  | Camera, installation guide  |
| <b>Optional accessories</b>         | <p>AXIS TM3812 Tamper Cover</p> <p>AXIS T61 Audio and I/O Interface Series</p> <p>Black casing</p> <p>Smoked dome</p> <p>AXIS Surveillance microSDXC™ Card</p> <p>For more accessories, go to <a href="https://axis.com/products/axis-m3085-v#accessories">axis.com/products/axis-m3085-v#accessories</a></p> |
| <b>System tools</b>                 | <p>AXIS Site Designer, AXIS Device Manager, product selector, accessory selector, lens calculator</p> <p>Available at <a href="https://axis.com">axis.com</a></p>   |
| <b>Languages</b>                    | English, German, French, Spanish, Italian, Russian, Simplified Chinese, Japanese, Korean, Portuguese, Polish, Traditional Chinese, Dutch, Czech, Swedish, Finnish, Turkish, Thai, Vietnamese  |
| <b>Warranty</b>                     | 5-year warranty, see <a href="https://axis.com/warranty">axis.com/warranty</a>  |
| <b>Part numbers</b>                 | Available at <a href="https://axis.com/products/axis-m3085-v#part-numbers">axis.com/products/axis-m3085-v#part-numbers</a>  |
| <b>Sustainability</b>               |   |
| <b>Substance control</b>            | <p>PVC free, BFR/CFR free in accordance with JEDEC/ECA Standard JS709</p> <p>RoHS in accordance with EU RoHS Directive 2011/65/EU and EN 63000:2018</p> <p>REACH in accordance with (EC) No 1907/2006. For SCIP UUID, see <a href="https://echa.europa.eu">echa.europa.eu</a></p>                             |
| <b>Materials</b>                    | <p>Renewable carbon-based plastic content: 57% (recycled)</p> <p>Screened for conflict minerals in accordance with OECD guidelines</p> <p>To read more about sustainability at Axis, go to <a href="https://axis.com/about-axis/sustainability">axis.com/about-axis/sustainability</a></p>                    |
| <b>Environmental responsibility</b> | <p><a href="https://axis.com/environmental-responsibility">axis.com/environmental-responsibility</a></p> <p>Axis Communications is a signatory of the UN Global Compact, read more at <a href="https://unglobalcompact.org">unglobalcompact.org</a></p>   |

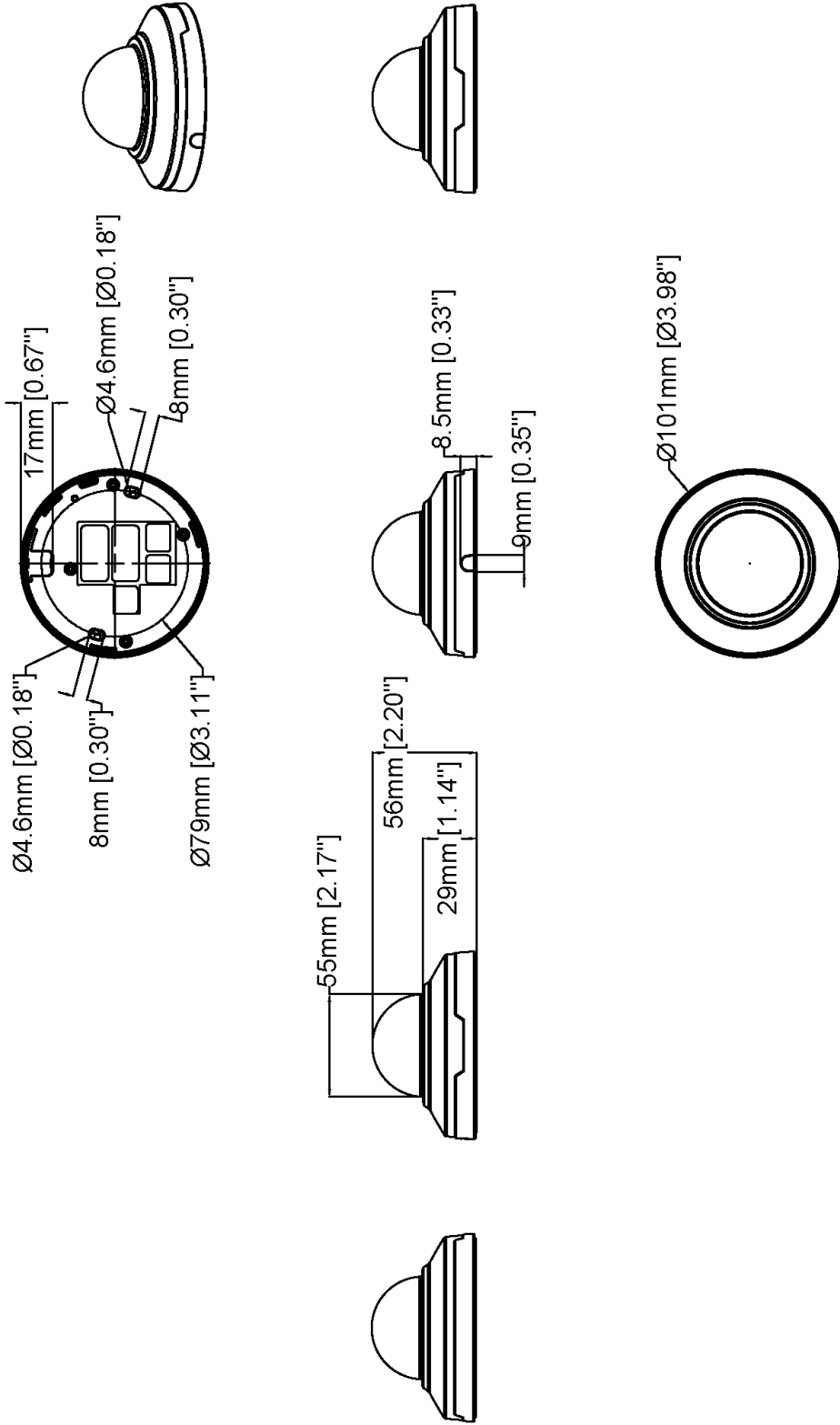
- a. *Reduced frame rate in Motion JPEG*
- b. *This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. ([openssl.org](https://openssl.org)), and cryptographic software written by Eric Young ([eyay@cryptsoft.com](mailto:eyay@cryptsoft.com)).*
- c. *Available for download*

## Detect, Observe, Recognize, Identify (DORI)

|           | DORI definition     | Distance          |
|-----------|---------------------|-------------------|
| Detect    | 25 px/m (8 px/ft)   | 45.6 m (149.6 ft) |
| Observe   | 63 px/m (19 px/ft)  | 18.1 m (59.4 ft)  |
| Recognize | 125 px/m (38 px/ft) | 9.1 m (29.8 ft)   |
| Identify  | 250 px/m (76 px/ft) | 4.6 m (15.1 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.

# Dimension drawing



**AXIS M3085-V Dome Camera**

www.axis.com

|            |      |               |            |
|------------|------|---------------|------------|
| Revision   | v.01 | Revision date | 2021-12-17 |
| Paper size | A4   | Release date  | 2021-12-17 |
| Created by | MF   | Scale         | 1:3        |

© 2019 Axis Communications

## 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.

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](https://axis.com/solutions/edge-vault).

### 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](https://axis.com/glossary)