AXIS M3086-V Dome Camera

Fixed 4 MP mini dome with deep learning

This cost-efficient mini dome offers a wide-angle view of 130° and 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. Additionally, the variant AXIS M3086-V Mic with a built-in microphone, it's out-of-the-box ready for AXIS Audio Analytics.

> **Great image quality in 4 MP**
> **Lightfinder and WDR**
> **Analytics with deep learning**
> **Variant with built-in microphone**
> **Axis edge vault safeguards the device**

ONVIF® | ΘMST

AXIS M3086-V Dome Camera

Camera

Variants
AXIS M3086-V
AXIS M3086-V Mic

Image sensor
1/2.7" progressive scan RGB CMOS

Lens
2.4 mm, F2.1
Horizontal field of view: 130°
Vertical field of view: 93°
Fixed iris, IR corrected

Day and night
Automatic IR-cut filter

Minimum illumination
With Lightfinder:
Color: 0.19 lux at 50 IRE F2.1
B/W: 0.03 lux at 50 IRE F2.1

Shutter speed
1/38500 s to 1/5 s

Camera adjustment
Pan ±175°, tilt ±80°, rotation ±175°
Can be directed in any direction and see the wall/ceiling

System on chip (SoC)

Model
CV25

Memory
1024 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
16:9: 2688x1512 (4 MP) to 640x360
4:3: 2304x1728 (4 MP) to 320x240

Frame rate
25/30 fps with power line frequency 50/60 Hz in H.264
and H.265[1]

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

WDR
WDR: Up to 120 dB depending on scene

Multi-view streaming
Up to 2 individually cropped out view areas in full
frame rate

Image settings
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

Image processing
Axis Zipstream, WDR, Lightfinder

Pan/Tilt/Zoom
Digital PTZ

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1. *Reduced frame rate in Motion JPEG*

Audio

Audio features
Automatic gain control
10-band graphic equalizer for audio input
Audio privacy control[2]
Voice enhancer through portcast technology
Speaker pairing

Audio streaming
Two-way (full duplex)
Audio analytics even when audio streaming is off[2]

Audio input
Input through portcast technology
Built-in microphone (disabled by default): MEMS microphone[2]

Audio output
Output through speaker pairing or portcast technology

Audio encoding
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
Configurable bitrate

Microphone

SNR
71 dB(A) (94 dB SPL @ 1 m A-weighted with -10 dB)[2]

Max SPL
130 dB (10% THD)[2]

Frequency range
20 Hz to 20 kHz[2]

Network

Network protocols
IPv4, IPv6 USGv6, ICMPv4/ICMPv6, HTTP, HTTPS[3], HTTP/2, TLS[3], QoS Layer 3 DiffServ, FTP, SFTP, CIFS/SMB, SMTP, mDNS (Bonjour), UPnP®, 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

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

Edge-to-edge
Speaker pairing

Event conditions
Application
Audio: audio detection
Device status: above/below/within operating temperature, IP address blocked, IP address removed, new IP address, network lost, system ready, live stream active
Edge storage: recording ongoing, storage disruption, storage health issues detected
I/O: manual trigger, virtual input, digital input via accessories using portcast technology
MQTT: subscribe
Scheduled and recurring: schedule
Video: average bitrate degradation, tampering

Event actions
Day-night mode
LEDs: flash status LED, flash status LED while the rule is active
MQTT: publish
Notification: HTTP, HTTPS, TCP and email
Overlay text
Recordings
SNMP traps
Upload of images or video clips: FTP, SFTP, HTTP, HTTPS, network share and email
WDR mode
External output activation via accessories using portcast technology

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2. *Only valid for variant with built-in microphone*
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).*

Built-in installation aids
Pixel counter, level grid

Analytics

Applications
Included
AXIS Object Analytics, AXIS Scene Metadata,
AXIS Audio Analytics[4], AXIS Live Privacy Shield[5],
AXIS Video Motion Detection, active tampering alarm,
audio detection
Supported
AXIS People Counter
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)
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 Audio Analytics
Only valid for variant with built-in microphone
Features: adaptive audio detection, audio classification
Audio classes: scream, shout, glass break, speech
Event metadata: audio detections, classifications

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
Audio data: audio level

Approvals

Product markings
CE, FCC, ICES, RCM, VCCI, BIS

Supply chain
TAA compliant

EMC
EN 55032 Class A, EN 55035, 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

Safety
IEC/EN/UL 62368-1, 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 IP42, IEC/EN 62262 IK08

Network
NIST SP500-267

Cybersecurity
ETSI EN 303 645, BSI IT Security Label

Cybersecurity

Edge security
Software: Signed OS, brute force delay protection,
digest authentication, password protection
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)

Network security
IEEE 802.1X (EAP-TLS)[6], IEEE 802.1AR, HTTPS/HSTS[6], TLS
v1.2/v1.3[6], Network Time Security (NTS), X.509
Certificate PKI, IP address filtering

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

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4. *Only valid for variant with built-in microphone*
5. *Available for download*
6. *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).*

General

Casing
IP42 water- and dust-resistant (to comply with IP42, follow Installation Guide), IK08 impact-resistant, polycarbonate/ABS casing
Encapsulated electronics
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*.

Power
Power over Ethernet (PoE) IEEE 802.3af/802.3at Type 1 Class 2
Typical 3.6 W, max 4.2 W

Connectors
Network: Shielded RJ45 10BASE-T/100BASE-TX PoE
Audio: Audio and I/O connectivity via portcast technology

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: 0 °C to 45 °C (32 °F to 113 °F)
Humidity: 10–85% 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.

Weight
150 g (0.33 lb)

Box content
Camera, installation guide

Optional accessories
AXIS TM3812 Tamper Cover
AXIS T61 Audio and I/O Interface Series
Black casing
Smoked dome
AXIS Surveillance microSDXC™ Card
For more accessories, go to *axis.com/products/axis-m3086-v#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-m3086-v#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 *echa.europa.eu*

Materials
Renewable carbon-based plastic content: 57% (recycled)
Screened for conflict minerals in accordance with OECD guidelines
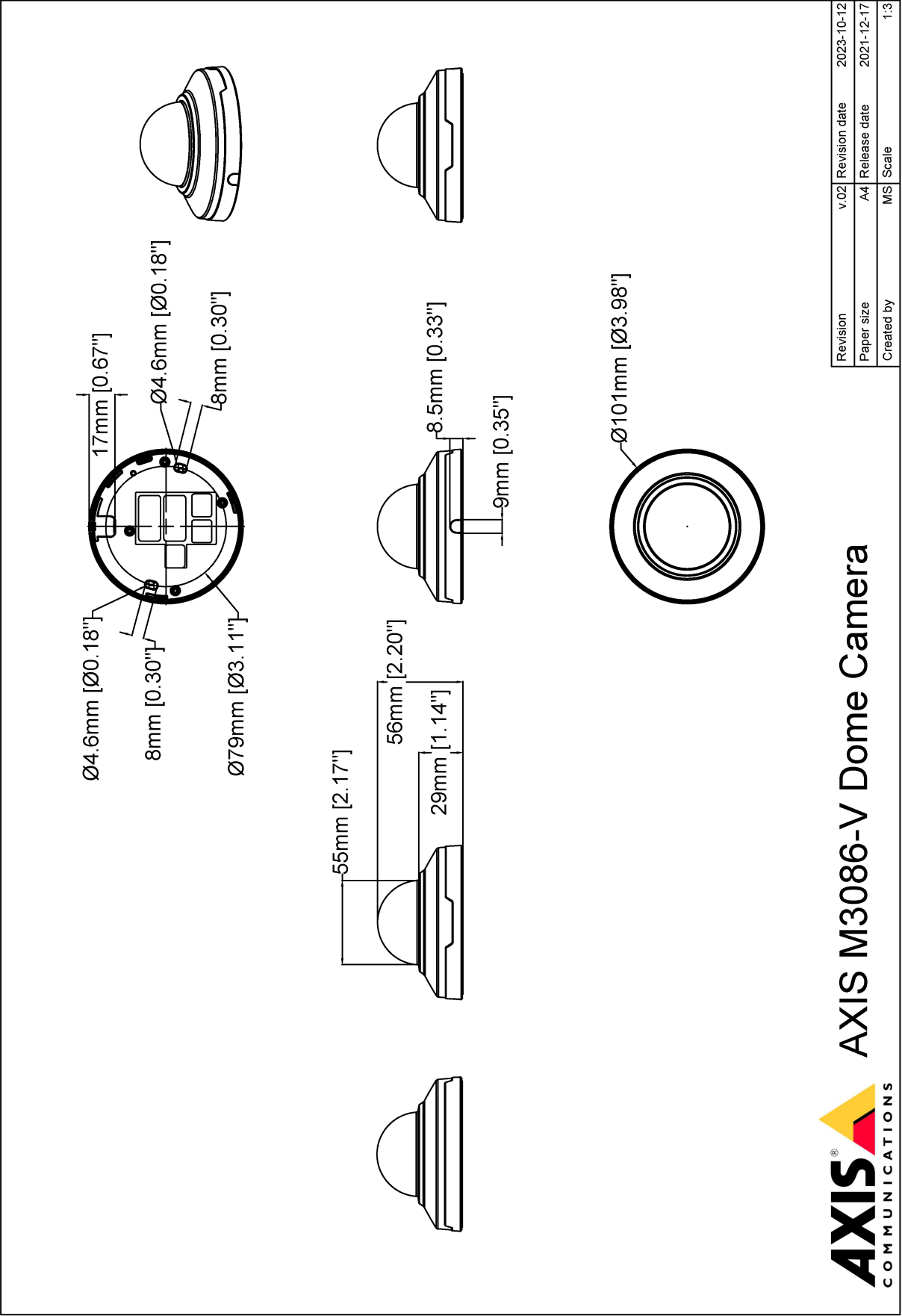To read more about sustainability at Axis, go to *axis.com/about-axis/sustainability*

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)
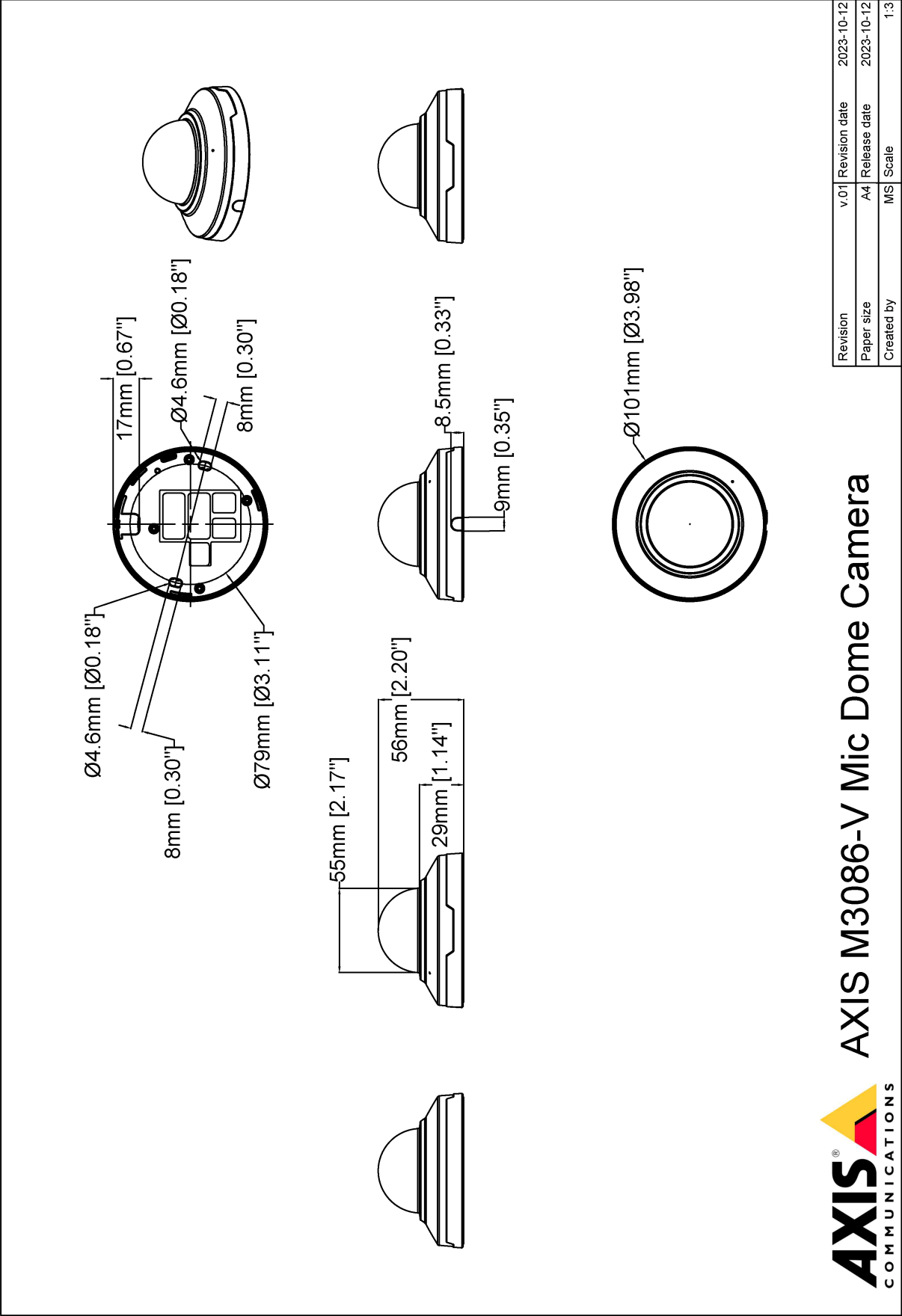
	DORI definition	Distance
Detect	25 px/m (8 px/ft)	48.4 m (158.8 ft)
Observe	63 px/m (19 px/ft)	19.2 m (63.0 ft)
Recognize	125 px/m (38 px/ft)	9.7 m (31.8 ft)
Identify	250 px/m (76 px/ft)	4.8 m (15.7 ft)

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 M3086-V Dome Camera

17mm [0.67"]
Ø4.6mm [Ø0.18"]
8mm [0.30"]
Ø4.6mm [Ø0.18"]
8mm [0.30"]
Ø79mm [Ø3.11"]
8.5mm [0.33"]
9mm [0.35"]
Ø101mm [Ø3.98"]
55mm [2.17"]
56mm [2.20"]
29mm [1.14"]

Revision	v.02	Revision date	2023-10-12
Paper size	A4	Release date	2021-12-17
Created by	MS	Scale	1:3

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17mm [0.67"]
Ø4.6mm [Ø0.18"]
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8mm [0.30"]
Ø79mm [Ø3.11"]

8.5mm [0.33"]
9mm [0.35"]

Ø101mm [Ø3.98"]

55mm [2.17"]
56mm [2.20"]
29mm [1.14"]

AXIS M3086-V Mic Dome Camera

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Revision	v.01	Revision date	2023-10-12
Paper size	A4	Release date	2023-10-12
Created by	MS	Scale	1:3

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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 Audio Analytics

AXIS Audio Analytics uses adaptive audio detection to generate alarms on sudden increases in sound volume. With AI-based classifiers, it can detect screaming and shouting. You can also get extra confirmation by combining AXIS Audio Analytics with video analytics. This smart application only transmits metadata, ensuring privacy is safeguarded. A core feature of AXIS OS, AXIS Audio Analytics comes preinstalled at no extra cost.

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.*

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*