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

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[a]
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

Audio

Audio features	Automatic gain control 10-band graphic equalizer for audio input Audio privacy control[b] Voice enhancer through portcast technology Speaker pairing
Audio streaming	Two-way (full duplex) Audio analytics even when audio streaming is off[c]
Audio input	Input through portcast technology Built-in microphone (disabled by default): MEMS microphone[d]
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)[e]
Max SPL	130 dB (10% THD)[f]
Frequency range	20 Hz to 20 kHz[g]

Network

Network protocols	IPv4, IPv6 USGv6, ICMPv4/ICMPv6, HTTP, HTTPS[h], HTTP/2, TLS[i], 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
Built-in installation aids	Pixel counter, level grid

Analytics

Applications	**Included** AXIS Object Analytics, AXIS Scene Metadata, AXIS Audio Analytics[j], AXIS Live Privacy Shield[k], 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 **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)[l], IEEE 802.1AR, HTTPS/HSTS[m], TLS v1.2/v1.3[n], 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*

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

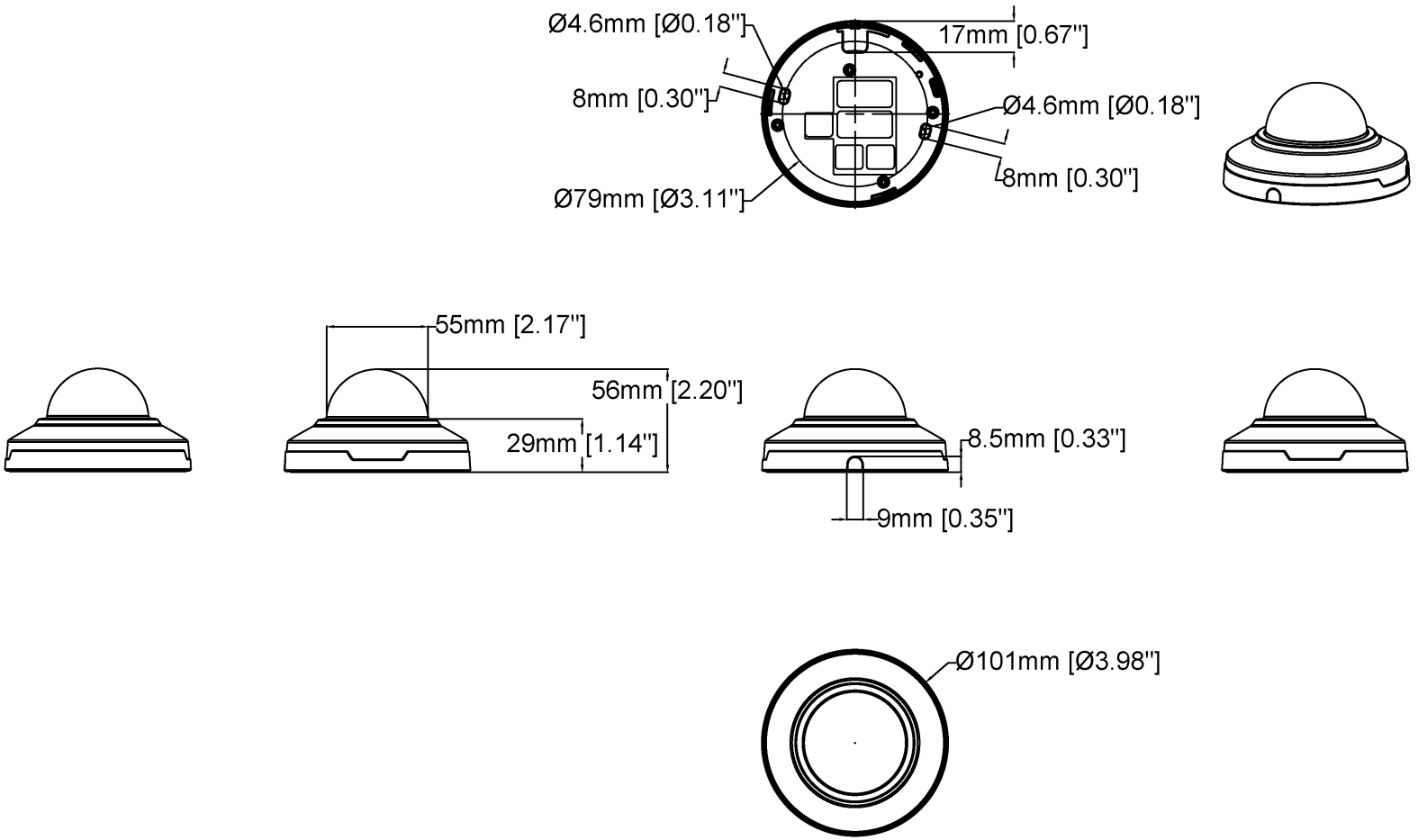
Substance control	PVC free, BFR/CFR free in accordance with JEDEC/ECA Standard JS709 RoHS in accordance with EU RoHS Directive 2011/65/EU/ and EN 63000:2018 REACH in accordance with (EC) No 1907/2006. For SCIP UUID, see *echa.europa.eu*
Materials	Renewable carbon-based plastic content: 57% (recycled) 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*

a. *Reduced frame rate in Motion JPEG*
b. *Only valid for variant with built-in microphone*
c. *Only valid for variant with built-in microphone*
d. *Only valid for variant with built-in microphone*
e. *Only valid for variant with built-in microphone*
f. *Only valid for variant with built-in microphone*
g. *Only valid for variant with built-in microphone*
h. *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).*
i. *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).*
j. *Only valid for variant with built-in microphone*
k. *Available for download*
l. *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).*
m. *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).*
n. *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).*

Detect, Observe, Recognize, Identify (DORI)

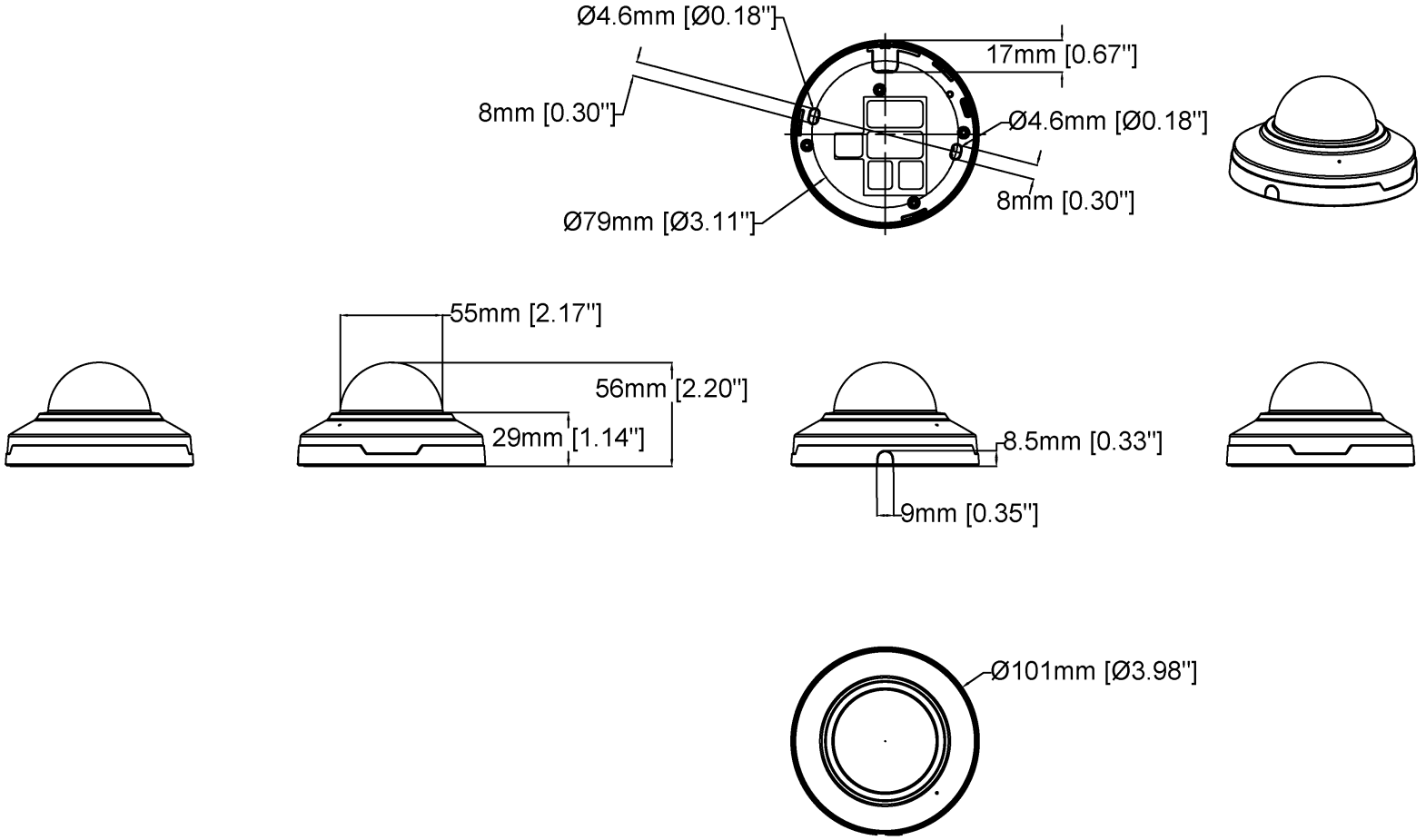
	DORI definition	Distance
Detect	25 px/m (8 px/ft)	48.4 m (158.8 ft)
Observe	63 px/m (19 px/ft)	19.2 m (63.0 ft)
Recognize	125 px/m (38 px/ft)	9.7 m (31.8 ft)
Identify	250 px/m (76 px/ft)	4.8 m (15.7 ft)

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.



AXIS M3086-V Dome Camera

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



AXIS M3086-V Mic Dome Camera

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

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 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*