

AXIS M4317-PLR Panoramic Camera

6 MP fisheye camera for buses

Optimized for surveillance onboard buses, this discreet, panoramic camera is designed to withstand shock and vibrations. It delivers a complete 180° or 360° overview for total situational awareness. Thanks to built-in IR illumination with individually controllable LEDs, it ensures clear, reflection-free footage and excellent image quality even in low light or complete darkness. Delivered factory-focused, it includes digital roll functionality to remotely adjust the rotation of the camera overview. Furthermore, this high-performance camera includes built-in cybersecurity features to help prevent unauthorized access and safeguard your system. Plus, it supports advanced analytics based on deep learning on the edge.

- > **Complies with industry bus regulations**
- > **Sharpdome technology**
- > **Complete 180° and 360° overview**
- > **Built-in IR with individual IR LEDs**
- > **Built-in cybersecurity features**



AXIS M4317-PLR Panoramic Camera

Camera		
Image sensor	1/1.8" progressive scan RGB CMOS	
Lens	Focal length: 1.1 mm, F2.2 Horizontal field of view: 182° Vertical field of view: 182° Fixed iris, IR corrected, fixed focus	One-click cloud connection ONVIF® Profile G, ONVIF® Profile M, ONVIF® Profile S, and ONVIF® Profile T, specification 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.
Day and night	Automatic IR-cut filter	Video management systems Compatible with AXIS Companion, AXIS Camera Station, video management software from Axis' Application Development Partners available at axis.com/vms
Minimum illumination	Color: 0.16 lux at 50 IRE, F2.2 B/W: 0.03 lux at 50 IRE, F2.2 0 lux with IR illumination on	Onscreen controls Privacy masks IR illumination Media clip
Shutter speed	1/33500 s to 0.2 s	Event conditions Device status: above operating temperature, above or below operating temperature, below operating temperature, casing open, IP address removed, live stream active, network lost, new IP address, system ready, within operating temperature Edge storage: recording ongoing, storage disruption, storage health issues detected I/O: digital input is active, digital output is active, manual trigger, virtual input is active MQTT: stateless Scheduled and recurring: schedule Video: average bitrate degradation, day-night mode, tampering
Camera angle adjustment	Digital roll: ± 180°	Event actions Day-night mode: use while the rule is active I/O: toggle once, toggle while the rule is active Illumination: use lights, use lights while the rule is active Images: FTP, HTTP, HTTPS, SFTP, email and network share MQTT: publish 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 SNMP trap messages: send, send while the rule is active Status LED: flash, flash while the rule is active Video clips: FTP, HTTP, HTTPS, SFTP, email and network share WDR mode: set, set while the rule is active
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	Overview: 2160x2160 to 160x160 Panorama: 2560x1440 to 192x72 Double Panorama: 2560x1920 to 384x288 Quad view: 2560x1920 to 384x288 View area 1-4: 1920x1440 to 256x144 Corner right and left: 2368x1184 to 192x72 Double corner: 2016x2016 to 384x288 Corridor: 2560x1920 to 256x144	
Frame rate	Up to 25/30 fps (60/50 Hz) in all resolutions 360° overview up to 2160x2160 without WDR: 50/60 fps @ (50/60 Hz) 360° overview and dewarped views up to max resolution with WDR: up to 25/20 fps @ (50/60 Hz)	Built-in installation aids Pixel counter, level grid, digital roll
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 Video streaming indicator	Analytics
WDR	Forensic WDR: Up to 120 dB depending on scene	AXIS Object Analytics Object classes: humans, vehicles (types: cars, buses, trucks, bikes) Trigger conditions: line crossing, object in area Up to 10 scenarios Metadata visualized with trajectories and color-coded bounding boxes Polygon include/exclude areas ONVIF Motion Alarm event
Noise reduction	Spatial filter (2D noise reduction) Temporal filter (3D noise reduction)	Metadata Object data: Classes: humans, faces, vehicles (types: cars, buses, trucks, bikes) Confidence, position Event data: Producer reference, scenarios, trigger conditions
Image settings	Saturation, contrast, brightness, sharpness, local contrast, tone mapping, white balance, day/night threshold, exposure mode, exposure zones, compression, mirroring, dynamic text and image overlay, polygon privacy mask	Applications Included AXIS Object Analytics, AXIS Video Motion Detection, active tampering alarm Supported AXIS People Counter Support for AXIS Camera Application Platform enabling installation of third-party applications, see axis.com/acap
Image processing	Axis Zipstream, Forensic WDR, Lightfinder, OptimizedIR	
Pan/Tilt/Zoom	Digital PTZ of view areas, digital PT of panorama, corner, corridor and quad views, preset positions, guard tours	
Audio		
Audio features	Network speaker pairing	
Audio input/output	Two-way audio connectivity via portcast technology	
Network		
Network protocols	IPv4, IPv6 USGv6, ICMPv4/ICMPv6, HTTP, HTTPS ^a , HTTP/2, TLS ^a , 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, DHCPv4/v6, SSH, LLDP, CDP, MQTT v3.1.1, Syslog, 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 . ACAP includes Native SDK and Computer Vision SDK.	
		Approvals
Product markings	CSA, UL/cUL, BIS, UKCA, CE, KC	
Supply chain	TAA compliant	
EMC	ECE R10 rev.06, EN 55035, EN 55032 Class A, EN 50121-4, EN 61000-6-1, EN 61000-6-2, EN 61547 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	IEC/EN/UL 62368-1 ed. 3, CAN/CSA C22.2 No. 62368-1 ed. 3, IEC/EN 62471 risk group exempt, UN ECE R118	
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 TR 60721-4-5 Class 5M3	

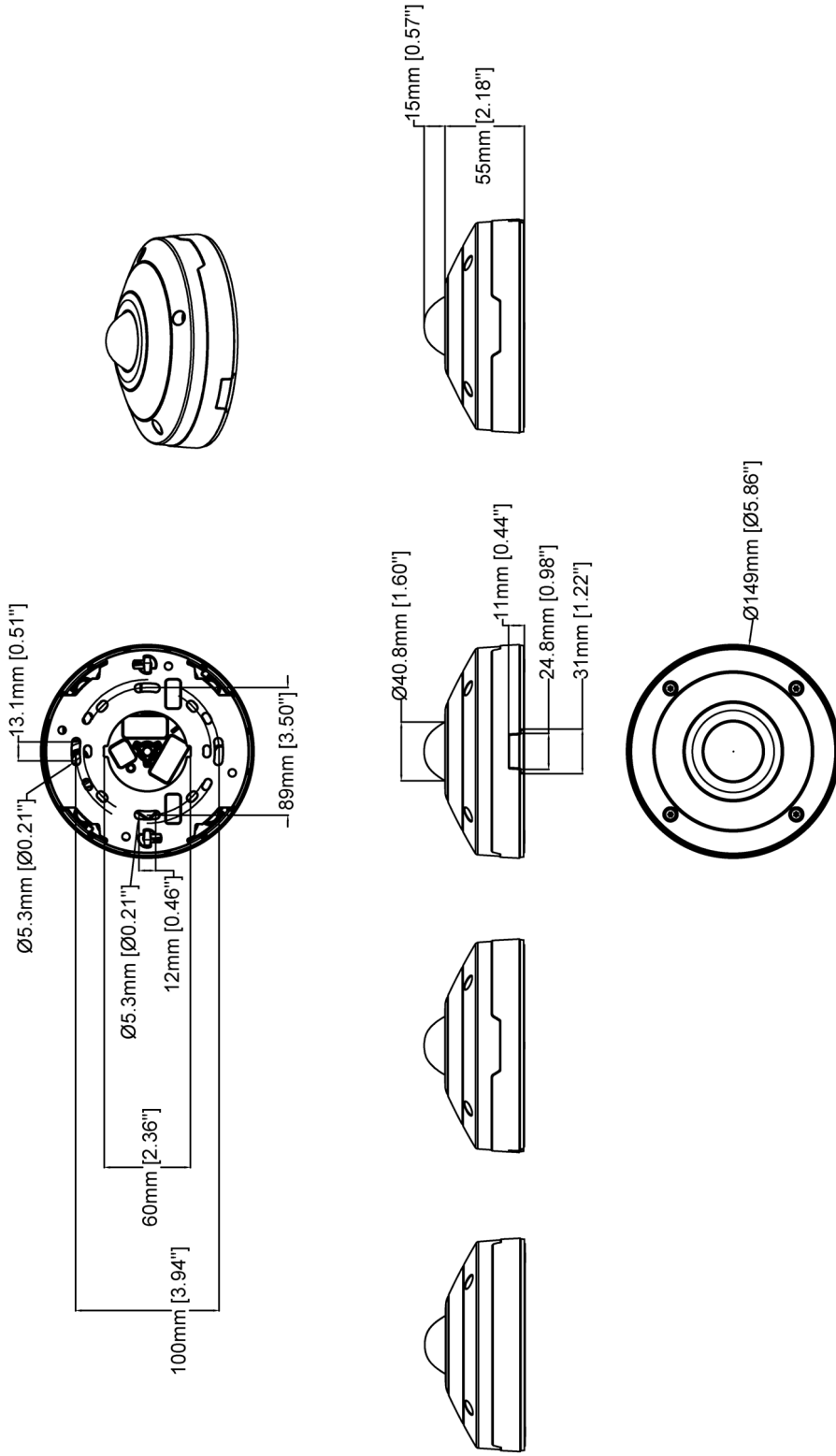
(Vibration, Shock), IEC/EN 62262 IK10, IEC/EN 60529 IP66, ISO 4892-2, NEMA 250 Type 4X, NEMA TS 2 (2.2.7-2.2.9), EN 50155, IEC/EN 61373 Category 1 Class B, ISO 21207 (Method B)

Network	NIST SP500-267
Cybersecurity	
Edge security	Software: Signed firmware, brute force delay protection, digest authentication, password protection, AES-XTS-Plain64 256bit SD card encryption Hardware: Secure boot, Axis Edge Vault with Axis device ID, signed video, secure keystore (CC EAL4+ certified hardware protection of cryptographic operations and keys)
Network security	IEEE 802.1X (EAP-TLS) ^a , IEEE 802.1AR, HTTPS/HSTS ^a , TLS v1.2/v1.3 ^a , Network Time Security (NTS), X.509 Certificate PKI, IP address filtering
Documentation	<i>AXIS OS Hardening Guide</i> <i>Axis Vulnerability Management Policy</i> <i>Axis Security Development Model</i> 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 Color: white NCS S 1002-B Repaintable skin cover accessory
Mounting	Mounting bracket with junction box holes (double-gang, single-gang, and 4" octagon) ¼"-20 UNC tripod screw thread
Power	Power over Ethernet (PoE) IEEE 802.3af/802.3at Type 1 Class 3 Typical 5.7 W, max 12.95 W
Connectors	Network: Shielded RJ45 10BASE-T/100BASE-TX PoE I/O: Terminal block for 1 supervised alarm input and 1 output (12 VDC output, max. load 25 mA) Audio: Audio and I/O connectivity via portcast technology
IR illumination	OptimizedIR with power-efficient, long-life 850 nm IR LEDs Range of reach 20 m (65.6 ft) depending on the scene
Storage	Support for microSD/microSDHC/microSDXC card Recording to network-attached storage (NAS) For SD card and NAS recommendations see axis.com

Operating conditions	-40 °C to 50 °C (-40 °F to 122 °F) Start-up temperature: -30 °C 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: 70 mm (2.7 in) ø 149 mm (5.9 in) Effective Projected Area (EPA): 0.0076 m ² (0.025 ft ²)
Weight	860 g (1.9 lb)
Box content	Camera, installation guide, terminal block connector, connector guard, cable gaskets, cable hole lid, owner authentication key
Optional accessories	AXIS T8415 Wireless Installation Tool, AXIS T94T02D Pendant kit, AXIS TM3814 Skin Cover Black, AXIS TM3204 Recessed Mount, AXIS TM3206 Recessed Mount, AXIS Mounts and Cabinets, AXIS Surveillance Cards For more accessories, go to axis.com/products/axis-m4317-plr#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
Warranty	5-year warranty, see axis.com/warranty
Part numbers	Available at axis.com/products/axis-m4317-plr#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: 29.6% (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

a. This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (openssl.org), and cryptographic software written by Eric Young (eyay@cryptsoft.com).

Dimension drawing



AXIS M4317-PLR Panoramic Camera

Revision	v.01	Revision date	2023-02-17
Paper size	A4	Release date	2023-02-17
Created by	MS	Scale	1:4

www.axis.com

© 2023 Axis Communications

Key features and technologies

AXIS Object Analytics

AXIS Object Analytics adds value to your camera for free. It 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.

Built-in cybersecurity

Axis Edge Vault is a secure cryptographic compute module (secure module or secure element) in which the Axis device ID is securely and permanently installed and stored.

Signed firmware is implemented by the software vendor signing the firmware image with a private key, which is secret. When firmware has this signature attached to it, a device will validate the firmware before accepting and installing it. If the device detects that the firmware integrity is compromised, it will reject the firmware upgrade. Axis signed firmware is based on the industry-accepted RSA public-key encryption method.

Secure boot is a boot process that consists of an unbroken chain of cryptographically validated software, starting in immutable memory (boot ROM). Being based on signed firmware, secure boot ensures that a device can boot only with authorized firmware. Secure boot guarantees that the Axis device is completely clean from possible malware after resetting to factory default.

TPM is short for Trusted Platform Module. A TPM is a component that provides a set of cryptographic features suitable for protecting information from unauthorized access. The private key is stored in the TPM and never leaves the TPM. All cryptographic operations requiring the use of the private

key are sent to the TPM to be processed. This ensures that the secret part of the certificate remains safe even in the event of a security breach.

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.

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.

For more information, see [axis.com/glossary](https://www.axis.com/glossary)