



AXIS I8116-E Network Video Intercom

Small and flexible with deep learning

This compact and powerful network video intercom operates as a communication device and security camera, providing 5MP video, two-way communication, and remote entry control. Open standards such as ONVIF and Session Initiation Protocol (SIP) combined with its small size enables unique opportunities for system design and integration. WDR and efficient noise cancellation ensure performance in demanding situations, such as strong backlight or surrounding noise. It's also possible to wire an OSDP reader to the IO connector for trouble-free access control using Axis Access Control solutions. Furthermore, it comes with AXIS Object Analytics preinstalled, and built-in cybersecurity features help prevent unauthorized access.

- > [Mullion form factor](#)
- > [High quality 5 MP video with audio](#)
- > [SIP support](#)
- > [Support for analytics based on deep learning](#)
- > [Built-in cybersecurity features](#)



SIP

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Camera		<p>Tested with various PBX software such as Cisco, Avaya and Asterisk</p> <p>AXIS Parallel Call Forking, AXIS Sequential Call Forking</p> <p>Supported SIP features: secondary SIP server, IPv6, SRTP, SIPS, SIP TLS, DTMF (RFC2976 and RFC2833), NAT (ICE, STUN, TURN), contact list, parallel call forking, sequential call forking</p> <p>Supported codecs: PCMU, PCMA, Opus, L16/16000, L16/8000, speex/8000, speex/16000, G.726-32, G.722</p>
Image sensor	1/2.7" progressive scan RGB CMOS Pixel size 2 µm	
Lens	1.95 mm, F2.2 Horizontal field of view: 162° Vertical field of view: 118° M12 mount, fixed iris, fixed focus	
Minimum illumination	Color: 0.15 lux at 50 IRE, F2.2 0 lux with LED lit	
Shutter speed	1/38500 s to 1/5 s	
System on chip (SoC)		
Model	CV25	
Memory	2048 MB RAM, 1024 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: 1920x1080 to 1280x720 4:3: 2592x1944 to 640x480	
Frame rate	Up to 30/25 fps (60/50 Hz) with H.264 and H.265 ^a in all resolutions	
Video streaming	Multiple, individually configurable video 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	
Image settings	Saturation, contrast, brightness, sharpness, white balance, exposure mode, exposure zones, compression, dynamic text and image overlay, polygon privacy mask	
Image processing	Axis Zipstream, WDR, Lightfinder	
Audio		
Audio features	Echo cancellation, noise reduction, beamforming	
Audio streaming	Two-way (full duplex)	
Audio input	2x built-in microphones (can be disabled)	
Audio output	Built-in speaker 85 dB at 1 kHz (at 0.5 m / 20 in) 79 dB at 1 kHz (at 1 m / 39 in)	
Audio encoding	LPCM 16kHz, AAC-LC 8/16 kHz, G.711 PCM 8 kHz, G.726 ADPCM 8 kHz, Opus 8/16 kHz Configurable bit rate	
Lock control		
Lock integration	Integration with AXIS A9801 Security Relay: 350 mA at 12 V DC Integration with Axis network door controllers: maximum current/voltage: 0.7 A at 30 V	
Network		
Network protocols	IPv4, IPv6 USGv6, ICMPv4/ICMPv6, HTTP, HTTPS ^b , HTTP/2, TLS ^b , QoS Layer 3 DiffServ, FTP, SFTP, CIFS/SMB, SMTP, mDNS (Bonjour), UPnP ^c , SNMP v1/v2c/v3 (MIB-II), DNS/DNSv6, DDNS, NTP, NTS, RTSP, RTP, SRTP, 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), IEEE 802.1X (EAP-TLS), IEEE 802.1AR	
System integration		
Application Programming Interface	Open API for software integration, including VAPIX [®] 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	
VoIP	Support for Session Initiation Protocol (SIP) for integration with Voice over IP (VoIP) systems, peer to peer or integrated with SIP/PBX. Tested with various SIP software such as Cisco and Grandstream	
Video management systems	Compatible with AXIS Companion, AXIS Camera Station, video management software from Axis' Application Development Partners available at axis.com/vms	
Onscreen controls	Privacy masks Media clip Custom controls	
Event conditions	Application Audio: audio detection, audio clip playing Call: state, state change Device status: above operating temperature, above or below operating temperature, below operating temperature, within operating temperature, IP address removed, new IP address, network lost, system ready, live stream active, casing open, shock detected, RFID tag detected Edge storage: recording ongoing, storage disruption, storage health issues detected I/O: digital input, manual trigger, relay or digital output, virtual input MQTT: subscribe Scheduled and recurring: schedule Video: average bitrate degradation, tampering	
Event actions	Audio clips: play, stop Calls: answer call, end call, make call I/O: toggle I/O once, toggle I/O while the rule is active MQTT: publish Notification: HTTP, HTTPS, TCP and email Overlay text Pre- and post-alarm video or image buffering for recording or upload Recordings: SD card and network share Security: erase configuration SNMP traps: send, send while the rule is active Status LED: flash, flash while the rule is active Upload of images or video clips: FTP, SFTP, HTTP, HTTPS, network share and email WDR mode	
Built-in installation aids	Pixel counter, level grid	
Analytics		
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 Up to 10 scenarios Metadata visualized with color-coded bounding boxes Polygon include/exclude areas Perspective configuration ONVIF Motion Alarm event	
Metadata	Object data: Classes: humans, faces, vehicles (types: cars, buses, trucks, bikes), license plates Attributes: Vehicle color, upper/lower clothing color, confidence, position Event data: Producer reference, scenarios, trigger conditions	
Applications	Included AXIS Object Analytics, AXIS Video Motion Detection, active tampering alarm, audio detection Support for AXIS Camera Application Platform enabling installation of third-party applications, see axis.com/acap	
Approvals		
Product markings	CSA, UL/cUL, UKCA, CE, KC, ANATEL	
Supply chain	TAA compliant	
EMC	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-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

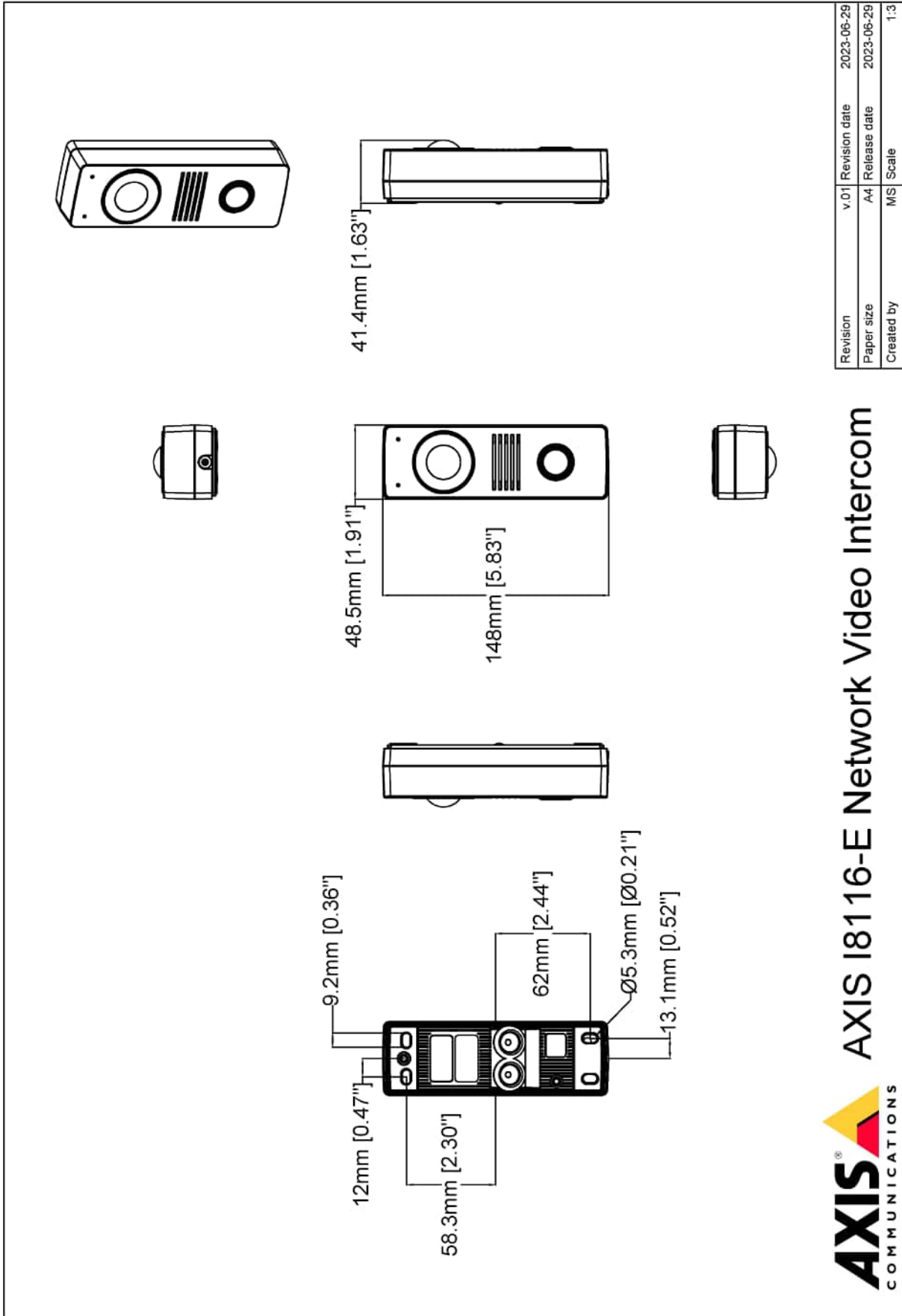
Safety	IEC/EN/UL 60950-22, IEC/EN/UL 62368-1, NOM-001
Environment	IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-6, IEC 60068-2-14, IEC 60068-2-27, IEC 60068-2-78, IEC/EN 60529 IP65, IEC/EN 62262 IK08, NEMA 250 Type 4X
Cybersecurity	
Edge security	Software: Signed firmware, brute force delay protection, digest authentication and OAuth 2.0 RFC6749 OpenID Authorization Code Flow for centralized ADFS account management, password protection, AES-XTS-Plain64 256bit SD card encryption 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, PEAP-MSCHAPv2) ^b , IEEE 802.1AR, HTTPS/HSTS ^b , TLS v1.2/v1.3 ^b , 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	IP65-, NEMA 4X- and IK08-rated with IK07-rated speaker Powder coated, chromate aluminum and zinc casing, polycarbonate (PC) dome Color: white NCS S 1002-B or black NCS S 9000-N
Mounting	Wall mount or recessed with AXIS T18204 Recessed Mount Recommended height: 0.9–1.5 m (3.0–4.9 ft)
Power	Power over Ethernet (PoE) IEEE 802.3af/802.3at Type 1 Class 3 Typical 4 W, max 10.8 W Power out: 1x12 V DC, max out: 350 mA at 12 V DC Relay: see Lock control
Connectors	Network: RJ45 10BASE-T/100BASE-TX/1000BASE-T PoE I/O: Terminal block for two configurable inputs / digital outputs ^c Serial communication: RS485, half duplex/2-wire ^c
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	-30 °C to 60 °C (-22 °F to 140 °F) Start-up temperature: -25 °C (-13 °F) Humidity 10–100% RH (condensing)
Storage conditions	-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	400 g (14.1 lb)
Box content	Intercom, installation guide, terminal block connector, connector guard, cable gaskets, owner authentication key
Optional accessories	AXIS T18204 Recessed Mount, AXIS A9801 Security Relay AXIS T8415 Wireless Installation Tool AXIS Surveillance Cards For more accessories, go to axis.com/products/axis-i8116-e#accessories
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-i8116-e#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	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

- Reduced frame rate in Motion JPEG
- 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).
- One connector for I/O or RS485 usage

Dimension drawing



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Created by	MS	Scale	1:3

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Key features and technologies

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 offers features to protect the device's identity, safeguard its integrity from factory and protect sensitive information from unauthorized access.

Establishing the root of trust starts at the device's boot process. In Axis devices, the hardware-based mechanism **secure boot** verifies the operating system (AXIS OS) that the device is booting from. AXIS OS, in turn, is cryptographically signed (**signed firmware**) during the build process. Secure boot and signed firmware tie into each other and ensure that the firmware has not been tampered with during the lifecycle of the device and that the device only boots from authorized firmware. This creates an unbroken chain of cryptographically validated software for the chain of trust that all secure operations depend on.

From a security aspect, 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 is provided through a Common Criteria and/or FIPS 140 certified hardware-based cryptographic computing module. Depending on security requirements, an Axis

device can have either one or multiple such modules, like a TPM 2.0 (Trusted Platform Module) or a secure element, and/or a system-on-chip (SoC) embedded Trusted Execution Environment (TEE).

Signed video ensures that video evidence can be verified as untampered without proving the chain of custody of the video file. Each camera uses its unique video signing key, which is securely stored in the secure keystore, to add a signature into the video stream. This allows video to be traced back to the Axis camera from where it originated, so it's possible to verify that the footage has not been tampered with after it left the camera.

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