

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

AXIS I8116-E Network Video Intercom

Camera

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⁽¹⁾ 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

Up to 110 dB depending on scene

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

Features

Echo cancellation, noise reduction, beamforming

Streaming

Two-way (full duplex)

Input

2x built-in microphones (can be disabled)

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)

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
Integration with OSDP reader
Integrated entry list with up to 50 credentials

1. Reduced frame rate in Motion JPEG

Network

Network protocols

IPv4, IPv6 USGv6, ICMPv4/ICMPv6, HTTP, HTTPS⁽²⁾, HTTP/2, TLS⁽²⁾, QoS Layer 3 DiffServ, FTP, SFTP, CIFS/SMB, SMTP, mDNS (Bonjour), UPnP®, SNMP v1/v2c/v3 (MIB-II), DNS/DNSv6, DDNS, NTP, PTP, 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

Supported SIP features: secondary SIP server, IPv6, SRTP, SIPS, SIP TLS, DTMF (RFC 733 and RFC 833), NAT (ICE, STUN, TURN)

RFC 3261: INVITE, CANCEL, BYE, REGISTER, OPTIONS, INFO

Supported codecs: PCMU, PCMA, Opus, L16/16000, L16/8000, speex/8000, speex/16000, G.726-32, G.722

Video management systems

Compatible with AXIS Camera Station Edge, AXIS Camera Station Pro, and video management software from Axis' 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

Functional monitoring

Auto Speaker Test (verification via built-in microphone)

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

2. 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).

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, AXIS Barcode Reader, 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

ETSI EN 303 645, BSI IT Security Label

Cybersecurity

Edge security

Software: Signed OS, brute force delay protection, digest authentication and OAuth 2.0 RFC6749 Client Credential Flow/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)⁽³⁾, IEEE 802.1AE (MACsec PSK/EAP-TLS), IEEE 802.1AR, HTTPS/HSTS⁽³⁾, TLS v1.2/v1.3⁽³⁾, Network Time Security (NTS), X.509 Certificate PKI, host-based firewall

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

IP65-, NEMA 4X- and IK08-rated (IK10-rated when mounted with AXIS TI8605 Protection Cover). Speaker is IK07-rated.

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 TI8204 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

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 (ey@cryptsoft.com).

Connectors

Network: RJ45 10BASE-T/100BASE-TX PoE
I/O: Terminal block for two configurable inputs / digital outputs⁽⁴⁾
Serial communication: RS485, half duplex/2-wire⁽⁴⁾

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 TI8204 Recessed Mount, AXIS A9801 Security Relay, AXIS TI8605 Protection Cover, AXIS TI8606 Wedge Mount
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.

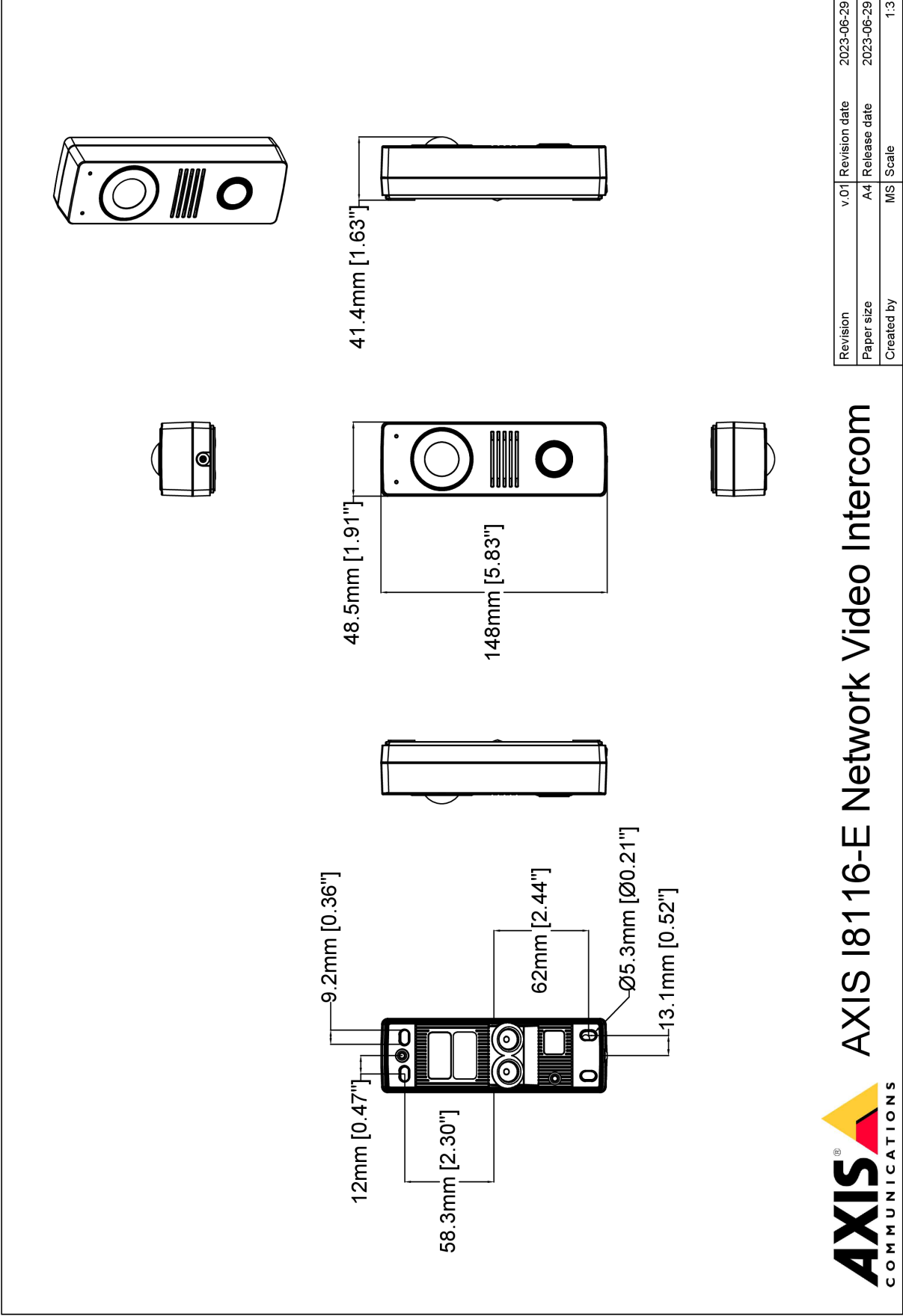
Materials

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

4. One connector for I/O or RS485 usage



Revision	v.01	Revision date	2023-06-29
Paper size	A4	Release date	2023-06-29
Created by	MS	Scale	1:3

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.

information is identified, recorded, and sent in full resolution and frame rate.

For more information, see axis.com/glossary

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