AXIS F9114-R Mk II Main Unit

AI-based, 4-channel unit for high-vibration environments

This 4-channel main unit offers up to 4K at 12/15 fps and you can use up to four different sensor units simultaneously. A deep learning processing unit lets you run advanced features and powerful analytics at the edge. For instance, AXIS Object Analytics can detect, classify, track, and count humans and types of vehicles. And AXIS Sensor Metrics Dashboard can gather information from connected sensors and devices. With a rugged design and FAKRA connectors, it can withstand shock and vibrations. Furthermore, Axis Edge Vault, a hardware-based cybersecurity platform, safeguards the device and offers FIPS 140-2 Level 2 certified key storage and operations.

> **4-channel main unit with up to 4K at 12/15 fps**

> **Flexible, rugged design and FAKRA connectors**

> **Support for powerful analytics**

> **Ignition control with controlled shutdown**

> **Built-in cybersecurity with Axis Edge Vault**

AXIS F9114-R Mk II Main Unit

System on chip (SoC)

Model	ARTPEC-8
Memory	4096 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	Up to 3840x2160 8Mp[a] Up to 2592x1944 5Mp[b] Up to 1920x1080 HDTV 2Mp[c]
Frame rate	Up to 60/50 fps (60/50 Hz) in all resolutions[d]
Video streaming	Multiple, individually configurable streams in H.264, H.265 and Motion JPG Axis Zipstream technology in H.264 and H.265 Controllable frame rate and bandwidth VBR/ABR/MBR H.264/H.265 Low latency mode Video streaming indicator
Signal-to-noise ratio	>55 dB
Image settings	Contrast, brightness, sharpness, white balance, tone mapping, exposure mode, exposure zones, compression, rotation: 0°, 90°, 180°, 270° including corridor format, mirroring, dynamic text and image overlay, privacy masks, polygon privacy mask

Audio

Audio streaming	Configurable duplex: One-way (simplex)
Audio input	2x Input for external unbalanced microphone Digital input, optional 12 V ring power Unbalanced line input
Audio encoding	24bit LPCM, AAC-LC 8/16/32/48 kHz, G.711 PCM 8 kHz, G.726 ADPCM 8 kHz, Opus 8/16/48 kHz Configurable bitrate

Network

Network protocols	IPv4, IPv6 USGv6, ICMPv4/ICMPv6, HTTP, HTTPS[e], HTTP/2, TLS[f], 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, ICMP, DHCPv4/v6, ARP, SSH, LLDP, CDP, MQTT v3.1.1, Secure syslog (RFC 3164/5424, UDP/TCP/TLS), Link-Local address (ZeroConf)

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. 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
Event conditions	Application Audio: audio detection Device status: above/below/within operating temperature, IP address blocked, IP address removed, live stream active, network lost, new IP address, system ready, ring power overcurrent protection, shock detected Digital audio: digital signal contains Axis metadata, digital signal has invalid sample rate, digital signal missing, digital signal okay Edge storage: recording ongoing, storage disruption, storage health issues detected I/O: digital input, manual trigger, virtual input MQTT: MQTT Client connected, stateless Scheduled and recurring: pulse, schedule Video: average bitrate degradation, tampering, video source connected

Event actions

Event actions	I/O: toggle I/O once, toggle I/O while the rule is active LEDs: flash status LED, flash status LED while the rule is active MQTT: publish Notification: HTTP, HTTPS, TCP and email Overlay text Recordings: SD card and network share Security: erase configuration SNMP traps: send, send while the rule is active Images or video clips: FTP, SFTP, HTTP, HTTPS, network share and email WDR mode

Analytics

Applications	**Included** AXIS Object Analytics, AXIS Scene Metadata, AXIS Audio Analytics, AXIS Video Motion Detection, AXIS Sensor Metrics Dashboard: Modbus over serial: Protocol: Modbus RTU, Port mode: RS485 2-wire Modbus over IP: Protocol: Modbus TCP, Port mode: Ethernet on switch **Supported** AXIS Perimeter Defender, AXIS People Counter **Applications supported on 4 channels:** AXIS Object Analytics 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, other) **Scenarios:** line crossing, object in area, time in area, crossline counting, occupancy in area, tailgating detection, PPE monitoring[BETA], motion in area, motion line crossing Up to 10 scenarios **Other features:** triggered objects visualized with trajectories, color-coded bounding boxes and tables Polygon include/exclude areas Perspective configuration ONVIF Motion Alarm event
AXIS Audio Analytics	**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

Approvals

Product markings	FCC, UL/cUL, BIS, CE, KC, VCCI
EMC	CISPR 32 Class A, CISPR 35, EN 55035, EN 55032 Class A, EN 50130-4, EN 50121-4, EN 61000-6-1, EN 61000-6-2 **Australia/New Zealand:** RCM AS/NZS CISPR 32 Class A **Canada:** ICES(A)/NMB(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	CAN/CSA C22.2 No. 62368-1 ed. 3, IEC/EN/UL 62368-1 ed. 3, RCM AS/NZS 62368.1:2022, UN ECE R118, IS 13252
Environment	IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-14, IEC 60068-2-27, IEC 60068-2-64, IEC/EN 60529 IP3X, IEC 60721-3-5 Class 5M3, IEC/EN 61373 Category 1 Class B, NEMA TS 2 (2.2.7-2.2.9)
Network	IPv6 USGv6, NIST SP500-267
Cybersecurity	ETSI EN 303 645, BSI IT Security Label, FIPS 140

Cybersecurity

Edge security	**Software:** Signed OS, brute force delay protection, digest authentication and OAuth 2.0 RFC6749 OpenID Authorization Code Flow for centralized ADFS account management, password protection **Hardware:** Axis Edge Vault cybersecurity platform Secure keystore: TPM 2.0 (CC EAL4+, FIPS 140-2 Level 2), secure element (CC EAL 6+), system-on-chip security (TEE) Axis device ID, signed video, secure boot, encrypted filesystem (AES-XTS-Plain64 256bit)
Network security	IEEE 802.1X (EAP-TLS, PEAP-MSCHAPv2)[g], IEEE 802.1AE (MACsec PSK/EAP-TLS), IEEE 802.1AR,

	HTTPS/HSTS[h], TLS v1.2/v1.3[i], 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	IP3X-rated Aluminum casing Color: black NCS S 9000-N
Power	Power over Ethernet (PoE) IEEE 802.3af/802.3at Type 2 Class 4 10–48 VDC, typical 12.7 W, max 25.5 W
Connectors	Network: RJ45 10BASE-T/100BASE-TX/1000BASE-T PoE FAKRA: 4x for sensor units I/O: 6-pin terminal block for 4x configurable I/Os (12 V DC output), max load 50 mA Audio: 2x 3.5 mm mic/line in Serial communication: 2-pin terminal block RS485 Power: 3-pin terminal block for 10–48 V DC input USB: 1x A type port
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: -40° C to 60 °C (-40 °F to 140 °F) Maximum temperature according to NEMA TS 2 (2.2.7): 74 °C (165 °F) Humidity: 10–95% 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	680 g (1.5 lb)
Required hardware	AXIS TU6007-E Cable, AXIS TU6004-E Cable, AXIS TU6005 Plenum Cable, AXIS F21 Sensor Unit, AXIS F41 Sensor Unit, AXIS F7225-RE Pinhole Sensor
Box content	Main unit, installation guide
Optional accessories	TU6001 Connector 3-pin, Connector A 2-pin, TU6009 Connector 6-PIN, TF9902 Surface Mount

	AXIS Surveillance Cards For more accessories, go to *axis.com/products/axis-f9114-r-mk-ii-main-unit#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-f9114-r-mk-ii-main-unit#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 2015/863, and standard EN IEC 63000:2018 REACH in accordance with (EC) No 1907/2006. For SCIP UUID, see *echa.europa.eu*
Materials	Renewable carbon-based plastic content: 18% (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. *Resolution varies depending on the sensor unit used.*
b. *Resolution varies depending on the sensor unit used.*
c. *Resolution varies depending on the sensor unit used.*
d. *For main units and sensor units capture mode specifications, see capture mode table.*
e. *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).*
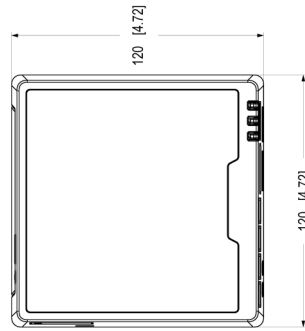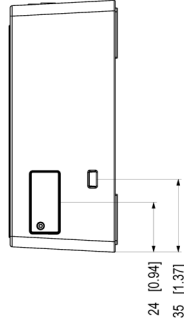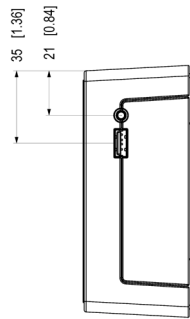f. *This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (openssl.org), and cryptographic software written by Eric Young (eay@cryptsoft.com).*
g. *This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (openssl.org), and cryptographic software written by Eric Young (eay@cryptsoft.com).*
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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).*
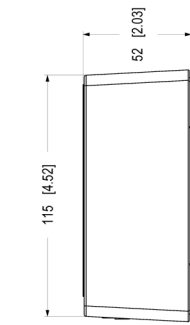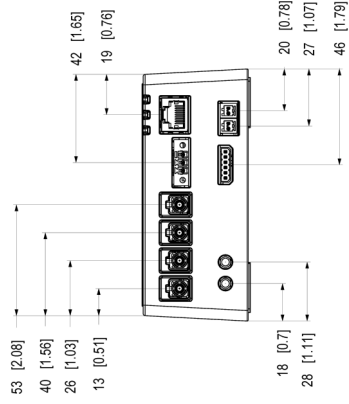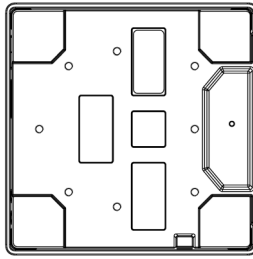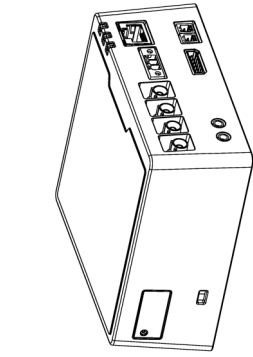
Capture mode

Capture mode includes resolution, frame rate, and shutter speed for the main unit in combination with different sensor units.

Sensor unit	Resolutions	Exposure	Frame rate (fps) (60/50Hz)	Shutter speed (seconds)
2 MP sensor units	1080p: 1920x1080	Without WDR	30/25	1/20000 to 1.5 s
		WDR	30/25	1/20000 to 1.5 s
	720p: 1280x720	Without WDR	60/50	1/32500 to 1/2 s
5 MP sensor units	5 MP: 2592x1944	Without WDR	20/20	1/18000 s to 1 s
		WDR	20/20	1/18000 s to 1 s
	Quad HD: 2560x1440	Without WDR	30/25	1/18000 s to 1 s
		WDR	30/25	1/18000 s to 1 s
8 MP sensor units(not yet released)	8 MP: 3840x2160	Without WDR	15/12.5	
		WDR	15/12.5	

No WDR support for 720p: 1280x720. To get WDR, use 1080p: 1920x1080 and scale down.

Dimension drawing

24 [0.94]
35 [1.37]

42 [1.65]
19 [0.76]

20 [0.78]
27 [1.07]
46 [1.79]

53 [2.08]
40 [1.56]
26 [1.03]
13 [0.51]

18 [0.7]
28 [1.11]

120 [4.72]
120 [4.72]

52 [2.03]
115 [4.52]

35 [1.36]
21 [0.84]

M3 (x8)

60 [2.36]
74 [2.91]
30 [1.18]
74 [2.91]
16 [0.63]
23 [0.9]

M3 (x8)

60 [2.36]
60 [2.36]
30 [1.18]
30 [1.18]
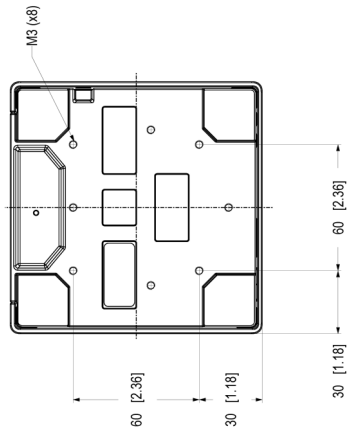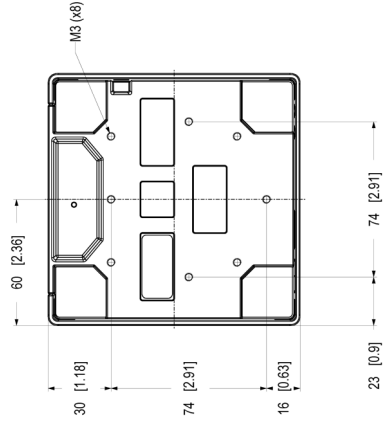
AXIS F9114-R Mk II Main Unit

Highlighted capabilities

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.*

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.

Rugged

Rugged is a term that for Axis modular and onboard products describes a device's endurance and stability in high vibration environments – over time. High vibration environments could be inside or close to machinery or inside vehicles. Rugged products from Axis are constructed to keep operating in these challenging conditions for the entire lifetime of the product.

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