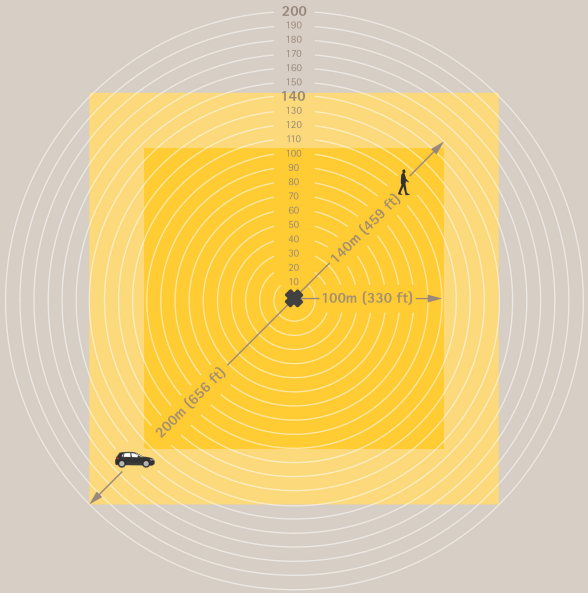
AXIS D2124-VE Radar

Reliable area protection with 360° coverage 24/7

This radar delivers 360° detection and AI-powered classification across a massive area in all weather and light conditions. Despite this comprehensive coverage, it offers a low power consumption per m²/ft² for greater energy efficiency. It's designed to be mounted on sturdy poles, mobile surveillance trailers, or rooftops. Plus, radar image stabilization ensures more accurate detections in windy environments. It's easy to add AXIS D2124-VE to existing AXIS Q6225-LE PTZ Camera installations and power it using an Axis high PoE 120 W midspan, enabling visual and radar double-knock verification using AXIS Radar Autotracking for PTZ. Plus, with PoE out, there's no additional cable drop needed.

- Human recognition zone of 40,000 m² (430,000 ft²)
- Box-shaped surveillance zones for efficient coverage
- Low average power consumption per m²/ft²
- Works with AXIS Q6225-LE PTZ Camera
- Optional double-knock feature



FIPS 140-3 Inside #5139

AXIS D2124-VE Radar

Radar

Profiles
Area monitoring

Sensor
FMCW (Frequency Modulated Continuous Wave)

Object data
Object type (classes: humans, vehicles, unknown), range, direction, velocity

Frequency
24.05-24.25 GHz

RF transmit power
<100 mW (EIRP)
License-free. Unharmful radio-waves.

Recommended mounting height
4–10 m (13–33 ft)[1]

Recognition zone
Area monitoring profile: up to 140 m (450 ft) when detecting a person.[2] For an illustration, see the front page.

Detection range
Area monitoring profile: up to 200 m (650 ft) when detecting a vehicle.[2] For an illustration, see the front page.

Radial speed
Area monitoring profile: up to 80 km/h (50 mph)

Field of detection
Horizontal: 360°

Speed accuracy
+/- 2 km/h (1.25 mph)

Distance accuracy
Area monitoring profile: 0.9 m (3 ft)

Angle accuracy
<0.5°

Spatial differentiation
3 m (Minimum distance between moving objects.)

Data refresh rate
6.67 Hz

Coverage
Area monitoring profile: 40,000 m^2 (430,000 ft^2) for persons
79,000 m^2 (850,000 ft^2) for vehicles

Coexistence zone
Frequency band: 24 GHz
Radius: 500 m (1,640 ft)
Recommended number of radars: up to 12

Radar controls
Multiple detection zones, line crossing detection with one or two lines, exclusion zones with filters for short-lived objects, object speed, object type, configurable trigger duration
Radar transmission on/off, radar image stabilization, grid opacity, zone opacity, color scheme, trail lifetime, detection sensitivity, swaying object filter, unknown object filter, reference map calibration with options to scale, pan, and zoom map

System on chip (SoC)

Model
ARTPEC-9

Memory
4 GB RAM, 8 GB 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
AV1
Motion JPEG

1. *The mounting height affects the detection range. See the user manual at axis.com for more information.*
2. *Measured at 5 m mounting height. See the user manual at axis.com for more information.*

Resolution
16:9: 1920x1080 to 320x200
4:3: 1280x960 to 160x120

Frame rate
Up to 10 fps (50/60 Hz) in all resolutions

Video streaming
Up to 20 unique and configurable video streams[3]
Axis Zipstream technology in H.264, H.265 and AV1
Controllable frame rate and bandwidth
VBR/ABR/MBR H.264/H.265/AV1
Low latency mode
Video streaming indicator

Network

Network protocols
IPv4, IPv6 USGv6, ICMPv4/ICMPv6, HTTP, HTTPS[4], HTTP/2, TLS[4], QoS Layer 3 DiffServ, FTP, SFTP, CIFS/SMB, SMTP, mDNS (Bonjour), UPnP®, SNMP v1/v2c/v3 (MIB-II), DNS/DNSv6, DDNS, NTP, NTS, PTP, 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® 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 Pro, and video management software from Axis' partners available at *axis.com/vms*.

Onscreen controls
Media clip

Edge-to-edge
Microphone pairing
Speaker pairing
Camera pairing
Siren and light pairing

Event conditions
Application
Device status: above/below/within operating temperature, IP address blocked/removed, live stream active, network lost, new IP address, system ready
Edge storage: recording ongoing, storage disruption, storage health issues detected
I/O: manual trigger, virtual input is active
MQTT: MQTT client connected
Scheduled and recurring: schedule

Event actions
Illumination: use lights, use lights while the rule is active
LEDs: flash status LED, flash status LED while the rule is active
MQTT: send MQTT publish message
Notification: HTTP, HTTPS, TCP and email
Overlay text
Radar: dynamic LED strip, radar autotracking, radar detection
Security: erase configuration
SNMP trap messages: send, send while the rule is active
Images or video clips: FTP, SFTP, HTTP, HTTPS, network share and email

Data streaming
Radar metadata with relative position, GPS position[5], velocity, direction, and object type

Built-in installation aids
Reference map calibration, sensor for tilt angle, GPS position

Analytics

Applications
Supported
AXIS Radar Autotracking for PTZ (Slew to Cue)
For supported cameras, see *axis.com/products/axis-radar-autotracking*
Support for AXIS Camera Application Platform enabling installation of third-party applications, see *axis.com/acap*

Approvals

Product markings
CE, CRA, CRC, ENACOM, FCC, ICASA, MIC Telecom, MOC, MTC, RATEL, RCM, RSM, SUBTEL, UL, URSE, VCCI, WPC

3. *We recommend a maximum of 3 unique video streams per camera or channel, for optimized user experience, network bandwidth, and storage utilization. A unique video stream can be served to many video clients in the network using multicast or unicast transport method via built-in stream reuse functionality.*
4. *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).*
5. *Enter the radar's GPS position manually to get the objects' GPS position in the data stream.*

Supply chain
TAA compliant

EMC
EN 55035, EN 55032 Class B, EN 50121-4,
EN 61000-6-1, EN 61000-6-2
USA: FCC Part 15 Subpart B Class B
Railway: IEC 62236-4

Safety
CAN/CSA C22.2 No. 62368-1 ed. 4,
IEC/EN/UL 62368-1 ed. 4, EN 62311,
RCM AS/NZS 62368.1:2022

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 IP66/IP67, IEC/EN 62262 IK09/IK10,
ISO 21207 (Method B), ISO 4892-2, ISO 12944-6 C5,
NEMA 250 Type 4X, NEMA TS 2 (2.2.7-2.2.9)

Wireless
EN 300440, EN 301489-1, EN 301489-3,
FCC Part 15 Subpart C, RSS-210

Network
NIST SP500-267

Cybersecurity
EN 18031-1, 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 Client Credential Flow/OpenID Authorization Code Flow for centralized ADFS account management, password protection, Axis Cryptographic Module (FIPS 140-2 level 1)
Hardware: Axis Edge Vault cybersecurity platform
Secure keystore: secure element (CC EAL 6+, FIPS 140-3 Level 3), 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)[6],
IEEE 802.1AE (MACsec PSK/EAP-TLS), IEEE 802.1AR,
HTTPS/HSTS[6], TLS v1.2/v1.3[6], 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*

Power

Power over Ethernet input
To power only the radar: IEEE 802.3at PoE+ Type 2 Class 4
To power a second device through PoE out: Axis High PoE 120 W

Power over Ethernet output
IEEE 802.3bt, Type 4 Class 8, max 71 W

Power consumption
Max 27 W, typical 14.8 W

Features
Power meter

General

Casing
IP66/67-, NEMA 4X- and IK10-rated
Aluminum and plastic casing
Color: gray NCS S 5502-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*.

Connectors
Network: Shielded RJ45 10BASE-T/100BASE-TX/1000BASE-T PoE
Network: Shielded RJ45 1000BASE-T PoE output to power an external PoE device

Dynamic LED
Dynamic LED strip with RGB (red, green, blue) LEDs and predefined light patterns
Daylight visibility up to 60 m (197 ft)[7]

6. *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).*
7. *In direct sunlight. The range increases in conditions with less light.*

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)
Humidity: 10–100% 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.
Effective Projected Area (EPA): 0.06 m^2 (0.65 ft^2)

Weight
7800 g (17.2 lb)

Box content
Radar, installation guide, filter box, TORX® T20 and T30 bits, PoE connector cable, RJ45 push-pull connector kit, lid for standalone installation, lid for installation with PTZ camera, owner authentication key

System tools
AXIS Site Designer, AXIS Device Manager, AXIS Installer, product selector, accessory selector
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*

Software support
New feature development until 2030 (AXIS OS 12, 13 and 14)
Support until 2035-12-31 (AXIS OS LTS 2030–2035)
Read more about the AXIS OS lifecycle at *help.axis.com/axis-os*

Part numbers
Available at *axis.com/products/axis-d2124-ve-radar#part-numbers*

Optional accessories

Installation
AXIS T8415 Wireless Installation Tool

Storage
AXIS Surveillance Cards

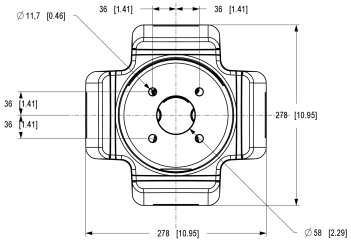
For more accessories, go to *axis.com/products/axis-d2124-ve-radar#compatible-products*

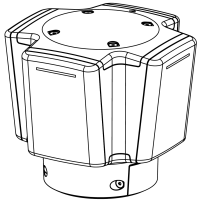
Sustainability

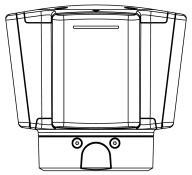
Substance control
PVC free, BFR/CFR free in accordance with JEDEC/ECA Standard JS709
RoHS in accordance with EU RoHS Directive 2011/65/EU and 2015/863, and standard EN IEC 63000:2018
REACH in accordance with (EC) No 1907/2006. For SCIP UUID, see *echa.europa.eu*

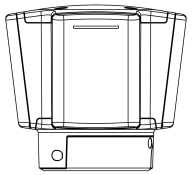
Materials
Renewable carbon-based plastic content: 67% (bio-based)
Screened for conflict minerals in accordance with OECD guidelines
To read more about sustainability at Axis, go to *axis.com/about-axis/sustainability*

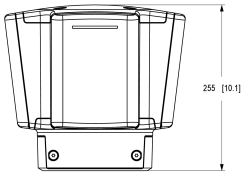
Environmental responsibility
axis.com/environmental-responsibility
Axis Communications is a signatory of the UN Global Compact, read more at *unglobalcompact.org*

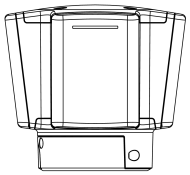


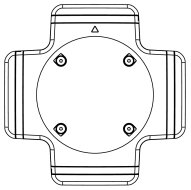












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AXIS D2124-VE Radar

Dimensions in mm [inch]

Date	Version	Scale
2026-Aug-04	M1.4	3:10
Drawing Number	Size	Sheet
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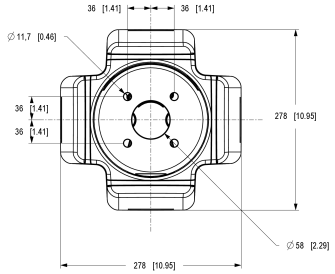

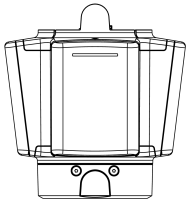

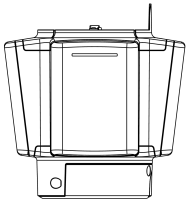

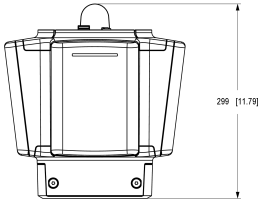

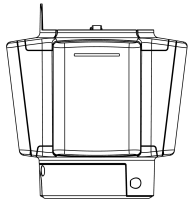

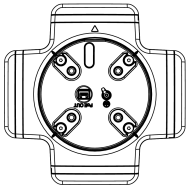

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AXIS D2124-VE Radar

Dimensions in mm [inch]

Date	Version	Scale
2026 Aug-04	M1.4	3:10
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3618534	A1	2(2)

Highlighted capabilities

Box-shaped detection and recognition zones

Our innovative box-shaped surveillance zones enable efficient and optimal coverage planning, simplifying system design. These zones ensure precise and reliable detection and classification of objects within a defined area, enhancing surveillance capabilities.

By using unique box-shaped zones, the radar can accurately track and monitor objects in a predicted area, providing comprehensive situational awareness and the possibility for gap-free coverage. This approach optimizes coverage, ensuring effective and reliable surveillance.

Dynamic LED strip

Dynamic LED strip is a feature in selected Axis radars. With RGB (red, green, blue) LEDs and predefined light patterns, it can be used to deter, warn or notify.

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*.

For more information, see *axis.com/glossary*

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