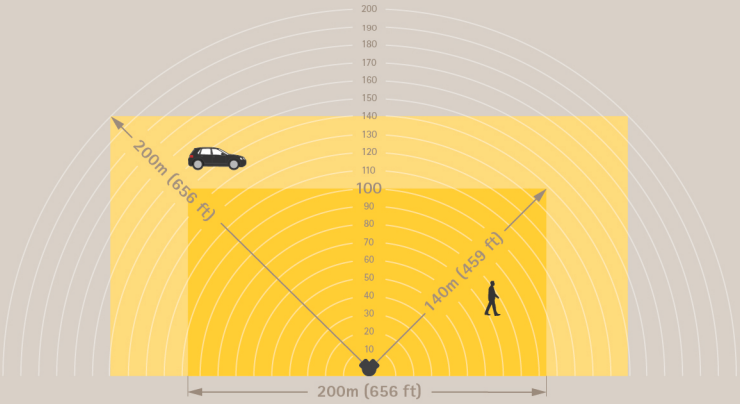
AXIS D2122-VE Radar

Multi-layered solution with innovative 180° coverage, 24/7

Built on ARTPEC-9, this innovative radar delivers a 180° horizontal field of detection and offers accurate AI-powered classification across large areas, 24/7. It works standalone or integrated with selected ARTPEC-9 PTZ cameras to enable next-level radar-video fusion between the two devices. This multi-layered approach ensures maximum efficiency with more enriched data and better decision-making tools. AXIS D2122-VE uses the same mounting interface as Axis PTZ cameras for easy installation. It offers low power consumption, and with support for PoE out, there's no additional cable drop needed. What's more, it can trigger automated actions on other devices, such as activating a strobe siren.

- > **Human recognition zone of 20,000 m² (215,000 sq ft)**
- > **Box-shaped recognition zones for efficient coverage**
- > **Deep integration with selected PTZ cameras**
- > **Possibility for radar-video fusion technology**
- > **Designed for easy connectivity**





FIPS 140-3 Inside #5139

AXIS D2122-VE Radar

Variants
AXIS D2122-VE Radar Black
AXIS D2122-VE Radar White

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: classification of objects at up to 140 m (450 ft) for humans, and up to 200 m (650 ft) for vehicles.[2] For an illustration, see the front page.

Detection range
Area monitoring profile: up to 200 m (650 ft) for humans[3] and vehicles.[2] For an illustration, see the front page.

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

Field of detection
Horizontal: 180°

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[4]

Data refresh rate
6.67 Hz

Coverage
Area monitoring profile: 20000 m^2 (215000 sq ft) for persons
39000 m^2 (421000 sq ft) for vehicles

Coexistence zone
Frequency band: 24 GHz
Radius: 500 m (1640 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
2 GB RAM, 8 GB Flash

Compute capabilities
Deep learning processing unit (DLPU)

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.*
3. *Behind a feature flag*
4. *Minimum distance between moving objects.*

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

Resolution
16:9: 1920x1080 to 320x200
4:3: 1440x1080 to 160x120

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

Video streaming
Up to 20 unique and configurable video streams[5]
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

Network

Network protocols
IPv4, IPv6 USGv6, ICMPv4/ICMPv6, HTTP, HTTPS[6], HTTP/2, TLS[6], 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
Play 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[7], velocity, direction, and object type

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

5. *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.*
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. *Enter the radar's GPS position manually to get the objects' GPS position in the data stream.*

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

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. 3, IEC/EN 62368-1 ed. 3, EN 62311

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)[8], IEEE 802.1AE (MACsec PSK/EAP-TLS), IEEE 802.1AR, HTTPS/HSTS[8], TLS v1.2/v1.3[8], Network Time Security (NTS), X.509 Certificate PKI, host-based firewall, WPA/WPA2-Enterprise (EAP-TLS, EAP-PEAP/MSCHAPv2)

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
IP66/IP67, NEMA 4X- and IK10-rated
Aluminum and plastic casing
Color: white NCS S 1002-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.*

Power
Power over Ethernet (PoE) IEEE 802.3bt Type 2 Class 4
Typical 9 W, max 15 W
For PoE output IEEE 802.3bt, Type 3 Class 6, it is required to power the radar with IEEE 802.3bt, Type 4 Class 8, max 66 W.
For PoE output IEEE 802.3bt, Type 2 Class 4, it is required to power the radar with IEEE 802.3bt, Type 3 Class 6, max 40.5 W.

8. *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).*

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)[9]

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): 0.08 m^2 (0.86 ft^2)

Weight
4200 g (9.3 lb)

Box content
Radar, installation guide, TORX® T20 screw driver, connector guard, cable gaskets, owner authentication key

System tools
AXIS Site Designer, AXIS Device Manager, 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*

Part numbers
Available at *axis.com/products/axis-d2122-ve-radar#part-numbers*

Optional accessories

Installation
AXIS T8415 Wireless Installation Tool

Mounting
AXIS T91 Mounting Accessories, AXIS TQ5001–E Wall-and-Pole Mount, AXIS TQ5301–E Corner Mount

Storage
AXIS Surveillance Cards

For more accessories, go to *axis.com/products/axis-d2122-ve-radar#compatible-products*

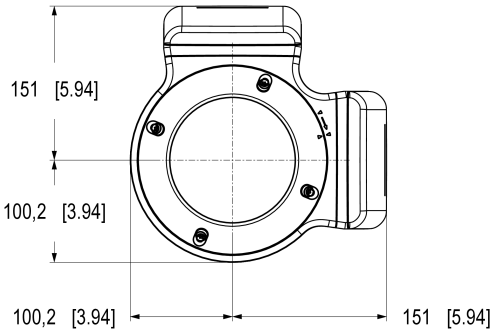
Sustainability

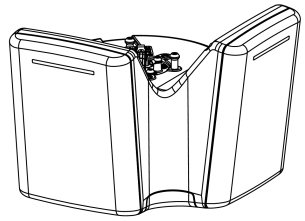
Substance control
PVC free, BFR/CFR free in accordance with JEDEC/ECA Standard JS709
RoHS in accordance with EU RoHS Directive 2011/65/EU and 2015/863, and standard EN IEC 63000:2018
REACH in accordance with (EC) No 1907/2006. For SCIP UUID, see *echa.europa.eu*

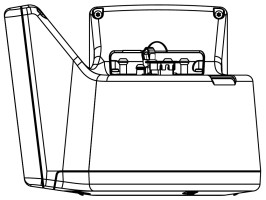
Materials
Renewable carbon-based plastic content: 69% (bio-based)
Screened for conflict minerals in accordance with OECD guidelines
To read more about sustainability at Axis, go to *axis.com/about-axis/sustainability*

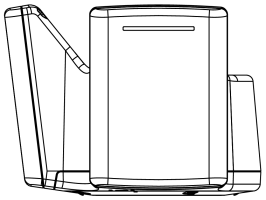
Environmental responsibility
axis.com/environmental-responsibility
Axis Communications is a signatory of the UN Global Compact, read more at *unglobalcompact.org*

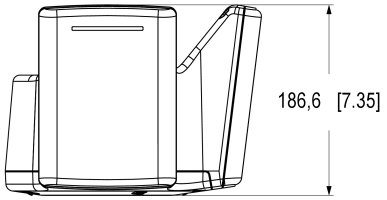
9. *In direct sunlight. The range increases in conditions with less light.*

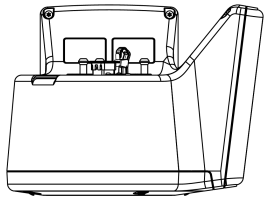


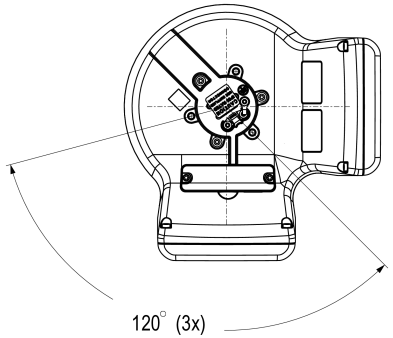












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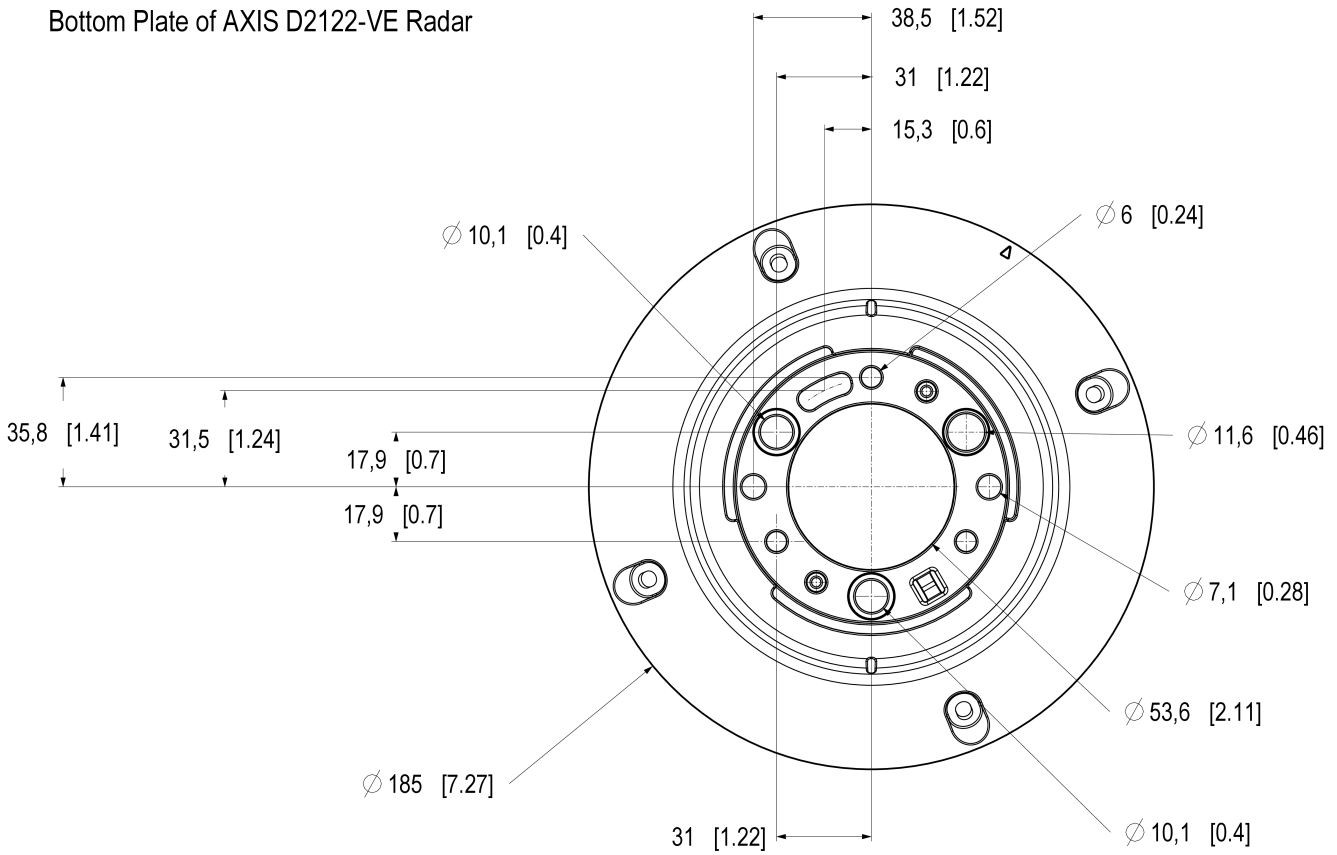
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AXIS D2122-VE Radar

Dimensions in mm [inch]

Date	Version	Scale
2025 May-13	M1.8	1:3
Drawing Number	Size	Sheet
3346027	A2	1(2)

Bottom Plate of AXIS D2122-VE Radar



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AXIS D2122-VE Radar

Dimensions in mm [inch]

Date	Version	Scale
2025 May-13	M1.8	1:1
Drawing Number	Size	Sheet
3346027	A2	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.

Radar-video fusion technology

Our advanced radar-video fusion technology integrates data from radar devices and video cameras to deliver superior surveillance and monitoring performance. Initially, the radar triggers a detection and classifies it using AI, ensuring reliable monitoring over extended ranges and in challenging environmental conditions 24/7, including darkness and adverse weather. Following this, a second layer of AI-powered video analytics validates the radar's trigger and classification, and starts tracking the object. After validation, the system decides, based on predefined scenarios, whether to send an alarm. This fusion of radar and video enhances overall accuracy, minimizes false alarms, and provides comprehensive situational awareness, ensuring reliable and effective monitoring by combining the strengths of both radar and video technologies.

Edge-to-edge

Edge-to-edge technology is a way to make IP devices communicate directly with each other. It offers smart pairing functionality between, for example, Axis cameras and Axis audio or radar products.

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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