

AXIS D2110-VE Security Radar

Reliable area protection with 180° coverage 24/7

AXIS D2110-VE Security Radar is a smart network-based security device that uses advanced radar technology to deliver wide 180° coverage. Thanks to built-in analytics developed using machine learning and deep learning, it can accurately detect, classify and track people and vehicles with a low false alarm rate. Featuring PoE-out it's easy to connect and power an additional device, such as a camera for visual verification or a network horn speaker for deterrence. Furthermore, smart coexistence functionality allows the use of multiple radars close to each other. For instance, it's possible to mount two radars back-to-back for complete 360° coverage.

- > **Extensive 180° area coverage**
- > **Built-in analytics**
- > **Low false alarm rate 24/7**
- > **Smart coexistence functionality**
- > **PoE-out to power additional devices**



AXIS D2110-VE Security Radar

Radar

Profiles

Area monitoring
Road monitoring

Sensor

Phased array FMCW (Frequency Modulated Continuous Wave)

Object data

Range, direction, velocity, object type

Frequency

24.05–24.25 GHz

RF transmit power

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

Recommended mounting height

3.5 m (11 ft)⁽¹⁾

Detection range

Area Monitoring Profile: 3–60 m (10–200 ft) when detecting a person
3–85 m (10–280 ft) when detecting a vehicle
Road Monitoring Profile: 30–60 m (98–197 ft) at 105 km/h (65 mph)
Check the user manual for the recommended positioning

Radial speed

Area Monitoring Profile: up to 55 km/h (34 mph)
Road Monitoring Profile: up to 105 km/h (65 mph)

Field of detection

Horizontal: 180°

Speed accuracy

+/- 2 km/h (1.25 mph)

Distance accuracy

0.7 m (2.3 ft)

Angle accuracy

1°

Spatial differentiation

3 m (9 ft)⁽²⁾

Data refresh rate

10 Hz

Coverage

5600 m² (61000 sq ft) for persons
11300 m² (122000 sq ft) for vehicles

Coexistence zone

Frequency band: 24 GHz
Radius: 350 m (1148 ft)
Recommend number of radars: up to 6

Object classification

Humans, vehicles, unknown

Radar controls

Multiple detection zones, line crossing detection with one or two lines, exclude zones with filters for short-lived objects, object speed, and object type.
Radar transmission on/off, coexistence, grid opacity, zone opacity, color scheme, trail lifetime, detection sensitivity, swaying object filter, small object filter^{BETA}, stationary rotating object filter^{BETA}, reference map calibration with options to scale, pan, and zoom map

System on chip (SoC)

Model

ARTPEC-7

Memory

1024 MB RAM, 512 MB Flash

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

1. Mounting at another height affects the detection range. For more information, go to axis.com
2. Minimum distance between moving objects.

Resolution

1920x1080 HDTV 1080p to 640x360

Frame rate

Up to 10 fps in all resolutions

Video streaming

Multiple, individually configurable streams in H.264, H.265 and Motion JPEG

Controllable frame rate and bandwidth

VBR/ABR/MBR H.264/H.265

Image settings

Compression, rotation: 0°, 90°, 180°, 270° including corridor format, dynamic text and image overlay

Audio

Streaming

Audio output via edge-to-edge technology

Input/output

Speaker pairing

Network

Network protocols

IPv4/v6, ICMPv4/ICMPv6, HTTP, HTTP/2, HTTPS⁽³⁾, TLS⁽³⁾, 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, 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; specifications at axis.com

One-click cloud connection

ONVIF® Profile G, ONVIF® Profile S, ONVIF® Profile T, and ONVIF® Profile M specification at onvif.org

Video management systems

Compatible with AXIS Camera Station Pro, and video management software from Axis' partners available at axis.com/vms.

Edge-to-edge

Speaker pairing

PTZ camera pairing

Analytics

Radar motion detection (detect, track, and classify objects), Radar autotracking

Support for AXIS Camera Application Platform enabling installation of third-party applications, see axis.com/acap

Event conditions

Application

Device status: above/below/within operating temperature, casing open, fan failure, IP address blocked, IP address removed, live stream active, network lost, new IP address, system ready, radar data failure; interference, no data, tampering

Edge storage: recording ongoing, storage disruption, storage health issues detected

I/O: digital input, manual trigger, virtual input

MQTT: stateless

Radar motion detection

Scheduled and recurring: schedule

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

Radar: radar autotracking, radar detection

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

Data streaming

Event data

Analytics data with object GPS⁽⁴⁾ position and velocity

Built-in installation aids

Reference map calibration, sensor for tilt angle, GPS position⁽⁵⁾

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).

4. Enter the radar's GPS position manually to get object GPS position in the data stream.

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

Approvals

EMC

EN 55032 Class A, EN 55024, EN 61000-6-1,
EN 61000-6-2, EN 61000-6-4, EAC

Australia/New Zealand: RCM AS/NZS CISPR 32 Class A

Canada: ICES-3(A)/NMB-3(A)

Japan: VCCI Class A

Korea: KC KN32 Class A

USA: FCC Part 15 Subpart B Class A

Safety

IEC/EN/UL 62368-1, IEC/EN/UL 60950-22

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, IEC/EN 62262 IK08, NEMA 250
Type 4X

Network

NIST SP500-267

Cybersecurity

ETSI EN 303 645, BSI IT Security Label, FIPS 140,
EN 18031-1

Wireless

EN 300440, EN 301489-1, EN 301489-51, EN 62311,
FCC Part 15 Subpart C

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

Network security

IEEE 802.1X (EAP-TLS, PEAP-MSCHAPv2)⁽⁶⁾,
IEEE 802.1AE (MACsec PSK/EAP-TLS), 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

General

Casing

IP66-, NEMA 4X- and IK08-rated

Aluminum and plastic casing

Color: White NCS S 1002-B

Sustainability

PVC free

Power

Power over Ethernet (PoE) IEEE 802.3at, Type 2 Class 4,
typical 11 W, max 15 W

For PoE output: Power over Ethernet (PoE)

IEEE 802.3bt, Type 3 Class 5, or Axis 60 W midspans,
max 38 W. The radar provides Power over Ethernet
(PoE) IEEE 802.3at Type 2 Class 4 (30 W) to a second
device.

8–28 V DC, typical 10 W, max 15 W

Connectors

DC input

RJ45 1000BASE-T PoE

RJ45 1000BASE-T PoE output to power an external PoE
device

Relay: 2-pin terminal block

I/O: 6-pin 2.5 mm terminal block for four configurable
inputs/outputs

Relays

1x 1 form A, 1 NO, max 5A, 24 V DC

Expected lifetime 25,000 operations

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

–40 °C to 60 °C (–40 °F to 140 °F)

Humidity 10–100% RH (condensing)

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 (eyay@cryptsoft.com).

Storage conditions

-40 °C to 65 °C (-40 °F to 149 °F)

Dimensions

285 x 206 x 152 mm (11.2 x 8.1 x 6.0 in)

Weight

2.4 kg (5.3 lb)

Included accessories

Installation guide, connector kit, pipe adapters, cable gland, cable gaskets, Windows® decoder 1-user license

Optional accessories

AXIS T91R61 Wall Mount

AXIS T91B47 Pole Mount

AXIS T94R01B Corner Bracket

AXIS T8415 Wireless Installation Tool

For more accessories, see [axis.com](https://www.axis.com)

Applications

Radar motion detection (detect, track, and classify objects)

AXIS Speed Monitor

AXIS Radar Integration for Microbus

Support for AXIS Camera Application Platform enabling installation of third-party applications, see [axis.com/acap](https://www.axis.com/acap)

Supporting software

AXIS Radar Autotracking for PTZ (Slew to Cue)

For supported cameras, see [axis.com/products/axis-radar-autotracking](https://www.axis.com/products/axis-radar-autotracking)

Languages

English, German, French, Spanish, Italian, Russian, Simplified Chinese, Japanese, Korean, Portuguese, Traditional Chinese, Dutch, Czech, Swedish, Finnish, Turkish, Thai, Vietnamese

Warranty

5-year warranty, see [axis.com/warranty](https://www.axis.com/warranty)