

# AXIS Q1951-E Thermal Camera

## Optimal image contrast for video analytics

AXIS Q1951-E delivers a high-quality thermal video stream for reliable detection 24/7. Ideal for perimeter security, it includes AXIS Motion Guard, AXIS Fence Guard, and AXIS Loitering Guard for proactive surveillance. With a powerful analytics platform, it's easy to add third-party analytics. Built-in cybersecurity features prevent unauthorized access and safeguard your system. For instance, Axis Edge Vault protects your Axis device ID and simplifies authorization of Axis products on your network. AXIS Q1951-E also includes a Trusted Platform Module (TPM) that is FIPS 140-2 level 2 certified. Furthermore, this halogen-free, compact camera is robust and suitable even for harsh conditions.

- > **Reliable detection 24/7**
- > **Built-in cybersecurity features**
- > **Compact, robust, halogen-free design**
- > **Support for AI-based analytics**
- > **Electronic image stabilization (EIS)**



# AXIS Q1951-E Thermal Camera

## Variants

AXIS Q1951-E 7 mm/13 mm/19 mm/35 mm

## Camera

### Image sensor

Uncooled microbolometer 384x288 pixels, pixel size: 17  $\mu\text{m}$ .

Spectral range: 8-14  $\mu\text{m}$

### Lens

Athermalized

**7 mm**

Horizontal field of view: 55°, F1.18

Near focus distance: 1.3 m (4.3 ft)

**13 mm**

Horizontal field of view: 28°, F1.0

Near focus distance: 4 m (13 ft)

**19 mm**

Horizontal field of view: 19.4°, F1.23

Near focus distance: 8.5 m (28 ft)

**35 mm**

Horizontal field of view: 10.5°, F1.14

Near focus distance: 33 m (108 ft)

### Sensitivity

NETD 40 mK @25C, F1.0

## 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

### Resolution

Sensor is 384x288. Image can be scaled up to 768x576.

### Frame rate

Up to 8.3 fps and 30 fps

## Video streaming

Multiple, individually configurable 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

Video streaming indicator

## Image settings

Contrast, brightness, sharpness, exposure zones,

compression, rotation: auto, 0°, 90°, 180°, 270°

including Corridor Format, mirroring, dynamic text and

image overlay, polygon privacy mask, electronic image

stabilization

## Audio

### Audio streaming

Audio in, simplex, two-way audio via edge-to-edge technology

### 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 bit rate

### Audio input/output

External microphone input or line input, digital audio input, network speaker pairing

## Network

### Network protocols

IPv4, IPv6 USGv6, ICMPv4/ICMPv6, HTTP, HTTPS<sup>1</sup>, HTTP/2, TLS<sup>1</sup>, QoS Layer 3 DiffServ, FTP, SFTP, CIFS/SMB, SMTP, Bonjour, UPnP®, SNMP v1/v2c/v3 (MIB-II), DNS/DNSv6, DDNS, NTP, NTS, RTSP, RTP, SRTP/RTSPS, TCP, UDP, IGMPv1/v2/v3, RTCP, DHCPv4/v6, 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](https://axis.com/developer-community).

One-click cloud connection

ONVIF® Profile G, ONVIF® Profile M, ONVIF® Profile S, and ONVIF® Profile T, specification at [onvif.org](https://onvif.org)

1. This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. ([openssl.org](https://openssl.org)), and cryptographic software written by Eric Young ([eay@cryptsoft.com](mailto:eay@cryptsoft.com)).

## 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](https://axis.com/vms).

## Onscreen controls

Heater, electronic image stabilization

## Event conditions

Analytics, operating temperature, supervised external input, edge storage events, digital audio, virtual inputs through API

## Event actions

Record video: SD card and network share  
Upload of images or video clips: FTP, SFTP, HTTP, HTTPS, network share and email  
Pre- and post-alarm video or image buffering for recording or upload  
Notification: email, HTTP, HTTPS, TCP and SNMP trap  
Overlay text, play audio clip, I/O, MQTT

## Data streaming

Event data

## Built-in installation aids

Pixel counter

## Analytics

### Applications

#### Included

AXIS Motion Guard, AXIS Fence Guard, AXIS Loitering Guard

AXIS Video Motion Detection, active tampering alarm, audio detection

#### Supported

AXIS Perimeter Defender with AI-based functionality  
Support for AXIS Camera Application Platform enabling installation of third-party applications, see [axis.com/acap](https://axis.com/acap)

## Approvals

### EMC

CISPR 24, CISPR 35, EN 50121-4, EN 55024, EN 55032 Class A, EN 55035, EN 61000-6-1, EN 61000-6-2, IEC 62236-4

**Australia/New Zealand:** RCM AS/NZS CISPR32 Class A

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

**Japan:** VCCI Class A

**Korea:** KC KN32 Class A, KC KN35

**USA:** FCC Part 15 Subpart B Class A

### Safety

IEC/EN/UL 60950-22, IEC/EN/UL 62368-1, IS 13252

### Environment

IEC 60068-2-1, IEC/EN 60068-2-14, IEC 60068-2-2, IEC 60068-2-27, IEC 60068-2-6, IEC/EN 60068-2-78, IEC/EN 60529 IP66/IP67, IEC/EN 62262 IK10<sup>2</sup>, ISO 21207 Method B, MIL-STD-810H (Method 501.7, 502.7, 505.7, 506.6, 507.6, 509.7, 510.7, 514.8, 516.8, 521.4), NEMA 250 Type 4X, NEMA TS 2 (2.2.7-2.2.9)

### Network

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, AES-XTS-Plain64 256bit SD card encryption

**Hardware:** Axis Edge Vault cybersecurity platform TPM 2.0 (CC EAL4+, FIPS 140-2 Level 2), secure element (CC EAL 6+), Axis device ID, secure keystore, signed video, secure boot

### Network security

IEEE 802.1X (EAP-TLS, PEAP-MSCHAPv2)<sup>3</sup>, IEEE 802.1AE (MACsec PSK/EAP-TLS), IEEE 802.1AR, HTTPS/HSTS<sup>3</sup>, TLS v1.2/v1.3<sup>3</sup>, Network Time Security (NTS), X.509 Certificate PKI, host-based firewall

2. Excluding front window

3. This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. ([openssl.org](https://openssl.org)), and cryptographic software written by Eric Young ([ey@cryptsoft.com](mailto:ey@cryptsoft.com)).

## 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](https://axis.com/support/cybersecurity/resources)

To read more about Axis cybersecurity support, go to [axis.com/cybersecurity](https://axis.com/cybersecurity)

## General

### Casing

IP66/IP67-, NEMA 4X-, and IK10-rated<sup>4</sup> casing  
Polycarbonate blend, aluminum and a germanium window

Color: white NCS S 1002-B

### Sustainability

PVC free, BFR/CFR free

### Power

Power over Ethernet (PoE) IEEE 802.3af/802.3at Type 1 Class 3

Typical 4.96 W, max 12.95 W

12–28 V DC, typical 4.92 W, max 12.95 W

### Connectors

Shielded RJ45 10BASE-T/100BASE-TX/1000BASE-T  
3.5 mm mic/line in

Terminal block for 1 supervised alarm input and 1 output (12 V DC output, max. load 25 mA)  
DC input, terminal block

### 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](https://axis.com)

### Operating conditions

–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 10–100% RH (condensing)

De-icing capability, compliant to MIL-STD-810H  
Method 521.4

### Storage conditions

–40 °C to 65 °C (–40 °F to 149 °F)

Humidity 5–95% RH (non-condensing)

## Dimensions

Ø132 x 272 mm (Ø5.2 x 10.7 in)

## Weight

1400 g (3.1 lb)

## Included accessories

Installation guide, Windows® decoder 1-user license, Resistorx® L-key, wall and ceiling mount bracket, terminal block connectors, connector guard

## Optional accessories

AXIS T94F01M J-Box/Gang Box Plate, AXIS T91A47 Pole Mount, AXIS T94P01B Corner Bracket, AXIS T94F01P Conduit Back Box, AXIS Weather Shield K, Axis PoE Midspans

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

## Export control

This product is subject to export control regulations, and you should always comply with all applicable national and international export or re-export control regulations.

4. Excluding front window