AXIS Q1931-E/Q1931-E PT Mount Thermal Cameras
Superior detection and wide range coverage

> Thermal imaging for IP surveillance

> Bullet-style

> Multiple lens options

> Intelligent video applications included

> Power over Ethernet

> PT Mount model

AXIS Q1931-E and AXIS Q1931-E PT Mount Thermal Network Cameras are perfect for use in securing an area or perimeter. The cameras' thermal imaging enables the detection of people, objects and incidents in complete darkness, sunshine and difficult conditions such as smoke, haze, dust and light fog.

A resolution of 384x288 and a range of lenses make it possible to optimize detection performance to meet high security application requirements. Thanks to new image processing algorithms, AXIS Q1931-E and AXIS Q1931-E PT Mount cameras offer improved image contrast while keeping noise levels low without adding blur and ghost effects.

Since thermal cameras are less sensitive to problems with lighting conditions and shadows, they can achieve higher accuracy and fewer false alarms than conventional cameras in most applications.

AXIS Q1931-E PT Mount offers the possibility of mounting the camera on a pan/tilt motor to increase installation flexibility.

These bullet-style cameras are outdoor-ready with IP66 rating and they are designed to withstand harsh weather conditions. AXIS Q1931-E and AXIS Q1931-E PT Mount operate in temperatures from -40 ºC to 60 ºC (-40 ºF to 140 ºF) using Power over Ethernet (IEEE 802.3af), making the installation easy and cost-effective.


AXIS Q1931-E PT Mount
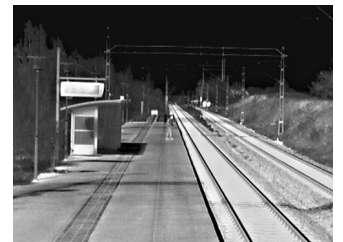
Range Chart

Wide range coverage for AXIS Q1931-E & AXIS Q1931-E PT Mount

	Focal length	Viewing angle	Human: 1.8 x 0.5 m Critical dimension: 0.75 m		Vehicle: 1.4 x 4.0 m Critical dimension: 2.3 m	
	mm	Horizontal	meters	yards	meters	yards
Detection (1.5 pixels on target) An observer can see an object	7	55°	210	230	630	689
	13	28°	380	415	1160	1268
	35	10.7°	1030	1126	3100	3390
	60	6.2°	1800	1968	5400	5905
Recognition (6 pixels on target) An observer can distinguish an object	7	55°	50	55	160	175
	13	28°	90	98	300	328
	35	10.7°	260	284	800	875
	60	6.2°	440	480	1350	1476
Identification (12 pixels on target) An observer can distinguish a specific object	7	55°	25	27	80	87
	13	28°	50	54	150	165
	35	10.7°	130	142	400	437
	60	6.2°	220	240	680	744

The ranges are calculated according to Johnson's criteria and vary in different weather conditions.

Environmental considerations

Johnson's criteria assume ideal conditions. The weather conditions at site will affect the thermal energy emitted from the object and decrease the effective detection range. The detection range in the tables above is based on a temperature difference of 2 °C between the targeted object and the background. However, weather conditions such as rain, snow and fog will attenuate the radiated energy from the object since the heat radiation from the object is scattered when it hits particles in the air. To avoid performance and reliability problems, the camera should always be tested in its intended environment.
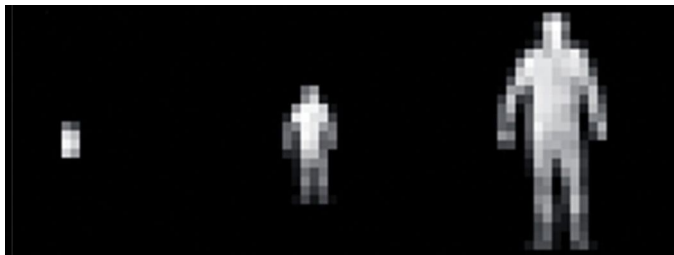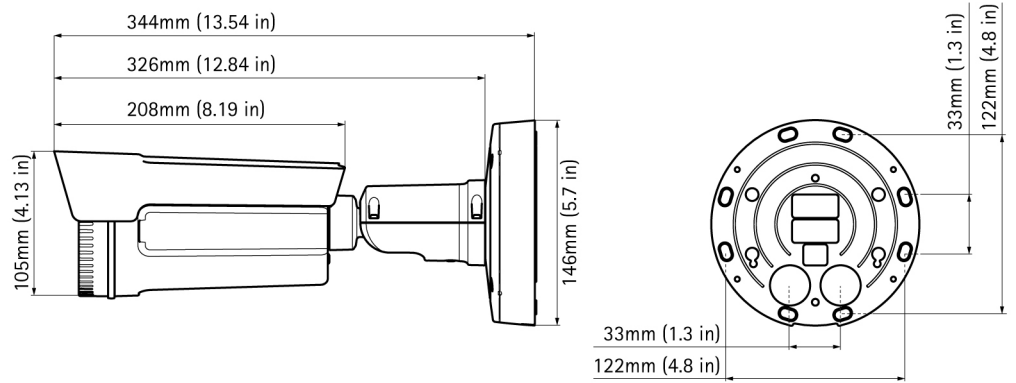
The difference in number of pixels between detection, recognition and identification illustrated with a human target.

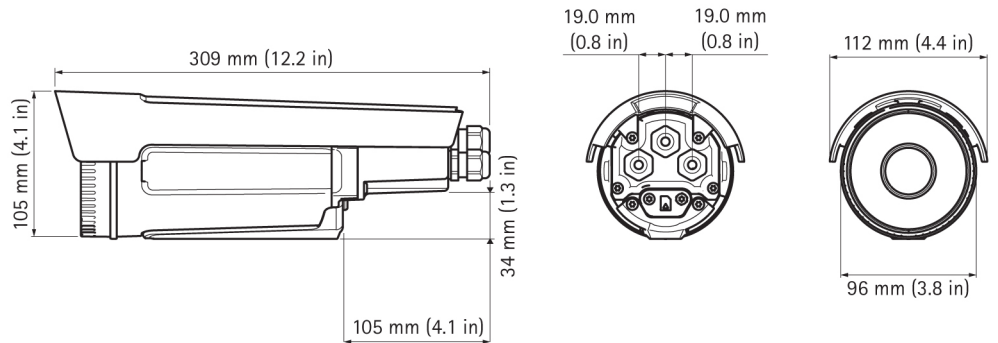## Use of intelligent applications

The sensor in a thermal camera reacts to differences in thermal energy. Thus, the sensor is less sensitive to changing light conditions, darkness and other challenging conditions. This makes thermal cameras a perfect platform to combine with intelligent video applications to build more efficient 24/7 surveillance systems. Through our Application Development Partner Program Axis can offer the widest range of third party applications available.

Integrated with intelligent video applications such as video motion detection or tripwire, the camera can automatically trigger an alert to the operator. To maximize performance of the application and safeguard reliable operation 6 pixels across the object is recommended and the surrounding environment always needs to be considered.
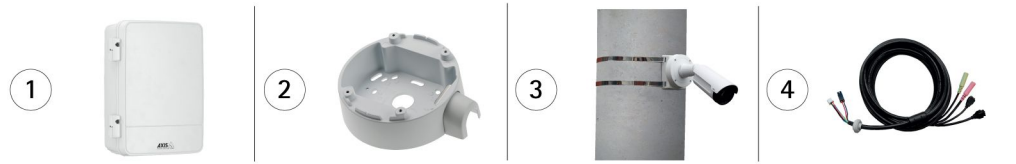
Dimensions AXIS Q1931-E

344mm (13.54 in)
326mm (12.84 in)
208mm (8.19 in)
105mm (4.13 in)
146mm (5.7 in)
33mm (1.3 in)
122mm (4.8 in)
33mm (1.3 in)
122mm (4.8 in)

Dimensions AXIS Q1931-E PT Mount

309 mm (12.2 in)
105 mm (4.1 in)
34 mm (1.3 in)
105 mm (4.1 in)
19.0 mm (0.8 in)
19.0 mm (0.8 in)
112 mm (4.4 in)
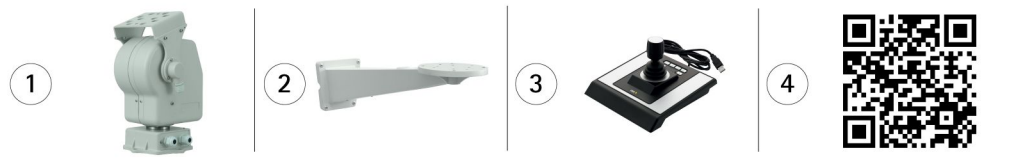96 mm (3.8 in)

Optional accessories

AXIS Q1931-E
1. *AXIS T98A17-VE*
2. *AXIS T94G01P*
3. *AXIS T91A47*
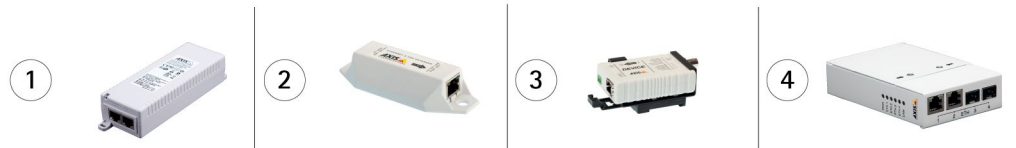4. *AXIS Multicable A I/O Audio 5m*

AXIS Q1931-E PT Mount
1. *AXIS YP3040 Pan-Tilt Motor*
2. *AXIS YP3040 Wall Bracket*
3. *AXIS T8310 Control Board*
4. *Scan for a complete list of accessories www.axis.com/products/q19_series/*

AXIS Q1931-E & Q1931-E PT Mount
1. *Axis PoE Midspans*
2. *AXIS T8129*
3. *AXIS T8640*
4. *AXIS T8604*

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Technical Specifications - AXIS Q1931-E/Q1931-E PT Mount

Models	AXIS Q1931–E AXIS Q1931–E PT Mount Lens models 7 mm, 13 mm, 35 mm and 60 mm

Camera

Image sensor	Uncooled Micro bolometer 384x288, pixel pitch: 17μm
Lens	7 mm: 55° view[a], F1.2 13 mm: 28° view[a], F1.0 35 mm: 10.7° view[a], F1.2 60 mm: 6.2° view[a], F1.25
Sensitivity	NETD < 70 mK
Pan/Tilt/Zoom	AXIS Q1931–E PT Mount: Preset positions, Guard tour, Driver selection, Control queue

Video

Video compression	H.264 (MPEG-4 Part 10/AVC), H.264 Main and Baseline Profile Motion JPEG
Resolutions	Sensor is 384x288. Image can be scaled up to 768x576
Frame rate	Up to 30 fps within EU, Norway, Switzerland, Canada, USA, Japan, Australia, New Zealand Up to 8.3 fps in other countries[b]
Video streaming	At least three H.264 and Motion JPEG streams using the same palette, simultaneous and individually configured in max. resolution at 30 fps Controllable frame rate and bandwidth VBR/CBR H.264
Image settings	Compression, Brightness, Exposure control, Rotation, Mirroring of images, Text and image overlay, Privacy mask AXIS Q1931–E: Axis' Corridor Format

Audio

Audio streaming	AXIS Q1931–E: Two-way, full duplex
Audio compression	AXIS Q1931–E: AAC LC 8/16 kHz, G.711 PCM 8 kHz, G.726 ADPCM 8 kHz Configurable bit rate
Audio input/output	AXIS Q1931–E: External microphone or line input, line output

Network

Security	Password protection, IP address filtering, HTTPS[c] encryption, IEEE 802.1X[c] network access control, Digest authentication, User access log
Supported protocols	IPv4/v6, HTTP, HTTPS[c], SSL/TLS[c], QoS Layer 3 DiffServ, FTP, CIFS/SMB, SMTP, Bonjour, UPnP™, SNMPv1/v2c/v3 (MIB-II), DNS, DynDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, RTCP, ICMP, DHCP, ARP, SOCKS, SSH

System integration

Application Programming Interface	Open API for software integration, including VAPIX® and AXIS Camera Application Platform; specifications at www.axis.com AXIS Video Hosting System (AVHS) with One-Click Camera Connection ONVIF Profile S; specification at www.onvif.org
Intelligent video	Video motion detection, Cross line detection, AXIS Camera Application Platform enabling installation of additional applications AXIS Q1931–E: Audio detection
Event triggers	Intelligent video, Temperature, External input, Time scheduled, Shock detection, Edge storage events AXIS Q1931–E: Audio AXIS Q1931–E PT Mount: PTZ preset
Event actions	File upload: FTP, HTTP, network share and email Notification: email, HTTP and TCP
	External output activation Pre- and post-alarm video buffering Video recording to edge storage AXIS Q1931–E: Audio recording to edge storage AXIS Q1931–E PT Mount: PTZ preset, Guard tour
Data streaming	Event data

General

Casing	IP66-rated metal casing (Aluminium) with integrated dehumidifying membrane and a germanium window Color: White NCS S 1002-B
Memory	256 MB RAM, 128 MB Flash
Power	Power over Ethernet IEEE 802.3af/802.3at Type 1 Class 3, max. 10 W 8-28 V DC, max. 11 W or 20-24 V AC 50-60 Hz, max. 15 VA, power supply not included
Connectors	RJ45 10BASE-T/100BASE-TX PoE, terminal block for power AXIS Q1931–E: Eight circuit PCB header for two configurable inputs/outputs and audio AXIS Q1931–E PT Mount: RS485/RS422 for pan/tilt control
Edge storage	microSD/microSDHC/microSDXC slot supporting memory card up to 64 GB (card not included) Support for recording to dedicated network-attached storage (NAS)
Operating conditions	–40 °C to 60 °C (-40 °F to 140 °F) Humidity 10-100% RH (condensing)
Approvals	EN 50121-4, EN 55024, EN 61000-6-1, EN 61000-6-2, IEC/EN/UL 60950-1, IEC/EN/UL 60950-22, EN 50581, IEC 60529 IP66, NEMA 250 Type 4X, IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-6 Class 4M4, IEC 60068-2-27, IEC 60068-2-52, IEC 60721-3-4 Class 4K3 AXIS Q1931–E: EN 55022 Class B, FCC Part 15 Subpart B Class B, ICES-003 Class B, VCCI Class B, C-tick AS/NZS CISPR22 Class B, KCC KN22 Class B, KN24 AXIS Q1931–E PT Mount: EN 55022 Class A, FCC Part 15 Subpart B Class A, ICES-003 Class A, VCCI Class A, C-tick AS/NZS CISPR22 Class A, KCC KN22 Class A, KN24
Weight	AXIS Q1931–E 7 mm: 2000 g (4.4 lb) AXIS Q1931–E 13 mm: 2000 g (4.4 lb) AXIS Q1931–E 35 mm: 2100 g (4.6 lb) AXIS Q1931–E 60 mm: 2200 g (4.9 lb) AXIS Q1931–E PT Mount 7 mm: 1800 g (4.0 lb) AXIS Q1931–E PT Mount 13 mm: 1800 g (4.0 lb) AXIS Q1931–E PT Mount 35 mm: 1900 g (4.2 lb) AXIS Q1931–E PT Mount 60 mm: 2000 g (4.4 lb)
Included accessories	Installation Guide, Installation and Management Software CD, Windows decoder 1-user license, AXIS Cross Line Detection license, AXIS Video Motion Detection 2.1, Torx T20 screw driver AXIS Q1931–E: Wall and ceiling mount bracket, Pipe converter for US, RJ45 network cable 5 m (16 ft)
Video management software	AXIS Camera Companion (included), AXIS Camera Station and video management software from Axis' Application Development Partners (not included). For more information, see www.axis.com/products/video/software
Warranty	Axis 3-year warranty and AXIS Extended Warranty option, see www.axis.com/warranty

a. *Horizontal angle of view*
b. *Frame rate above 9 fps may be subject to export control regulations*
c. *This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (http://www.openssl.org/), and cryptographic software written by Eric Young (eay@cryptsoft.com).*

More information is available at www.axis.com

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