

## AXIS Q87-E Dual PTZ Network Camera Series

Thermal detection, HDTV and PTZ surveillance all in one.



- > HDTV image quality
- > Thermal imaging
- > H.264 video streams
- > IP66-rated
- > Continuous rotation, endless 360° pan

AXIS Q87-E Dual PTZ Network Camera Series is ideal for mission-critical surveillance scenarios that demand 24-hour monitoring of restricted areas. The cameras offer pan/tilt flexibility and simultaneous video streams from a visual camera and a thermal camera, and allow detection, recognition and identification from one single unit.

The IP66-rated, outdoor-ready AXIS Q87-E Network Camera Series comprises of AXIS Q8721-E and AXIS Q8722-E. AXIS Q8721-E – which provides a visual camera with 10x optical zoom and autofocus, and a thermal camera with 384x288 resolution—is mounted on a motor that allows the entire unit to tilt and pan. AXIS Q8722-E provides the same features but with a thermal camera that offers VGA 640x480 resolution. The models are connected to the network using one Ethernet cable.

AXIS Q87-E models can pan 360° endlessly and tilt between -45° to +20° with a preset accuracy of 0.02°. The operating temperature ranges between -30 °C to 45 °C (-22 °F to 113 °F).

The thermal camera can achieve higher detection accuracy than a visual camera since a thermal camera detects an object or a person hidden in a shadow or in a dark area. It can also function in complete darkness and adverse weather conditions. However, the visual camera allows for recognition possibilities and at night, it can benefit from optional PT IR Illuminator kit A for better identification. The combined visual/thermal camera units provide a powerful surveillance solution.



## Wide range coverage for AXIS Q1921

	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
<b>Detection</b> An observer can see an object 1.5 pixels on target	35	16°	700	766	2200	2405
	60	9°	1200	1312	3700	4046
<b>Recognition</b> An observer can distinguish an object 6 pixels on target	35	16°	175	191	550	601
	60	9°	300	328	920	1006
<b>Identification</b> An observer can distinguish a specific object 12 pixels on target	35	16°	90	98	270	295
	60	9°	150	164	460	503

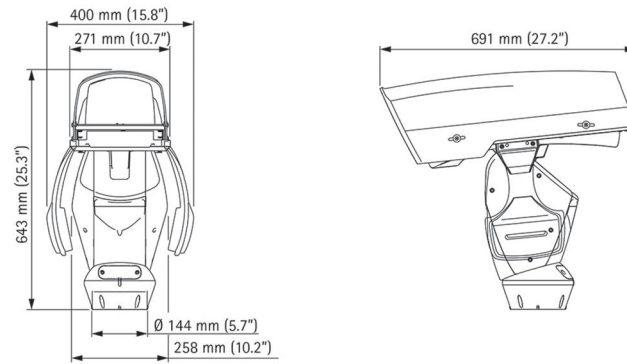
The ranges are calculated according to Johnson's criteria and vary in different weather conditions.

## Wide range coverage for AXIS Q1922

	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
<b>Detection</b> An observer can see an object 1.5 pixels on target	35	18°	1050	1148	3200	3500
	60	10°	1800	1970	5500	6015
<b>Recognition</b> An observer can distinguish an object 6 pixels on target	35	18°	260	284	800	875
	60	10°	440	481	1350	1476
<b>Identification</b> An observer can distinguish a specific object 12 pixels on target	35	18°	130	142	400	437
	60	10°	220	240	680	744

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

## Dimensions



## Optional accessories

1. PT IR Illuminator kit A (include IR-LED 2° and 50° angle)
2. Raynox Conversion Lens 2.2x zoom (for AXIS Q1755, visual camera)
3. AXIS T8414 Installation Display
4. AXIS T95A64 Corner Bracket (AXIS Wall Bracket K is required)
5. AXIS T95A67 Pole Bracket (AXIS Wall Bracket K is required)



## Technical Specifications – AXIS Q87-E Dual PTZ Network Camera Series

**Models** AXIS Q8721-E 35 mm and AXIS Q8721-E 60 mm: including AXIS Q1755 (visual camera) and AXIS Q1921 (thermal camera)  
 AXIS Q8722-E 35 mm and AXIS Q8722-E 60 mm: including AXIS Q1755 (visual camera) and AXIS Q1921 (thermal camera)

### Camera

<b>Image sensor</b>	Visual camera: 1/3" progressive scan CMOS 2 megapixel Thermal camera: Uncooled micro bolometer 384x288 pixels (AXIS Q8721-E) and 640x480 pixels (AXIS Q8722-E)
<b>Lens</b>	Visual camera: f=5.1–51 mm, F1.8–2.1, Autofocus, Automatic day/night Horizontal angle of view: 48.1°–5.1° M37x0.75 mounting thread for optional lens adaptor
<b>Detection range</b>	See tables above
<b>Minimum illumination</b>	Visual camera: Color: 2 lux at 30 IRE, F1.8 B/W: 0.2 lux at 30 IRE, F1.8
<b>Sensitivity</b>	Thermal camera: NETD < 100 mK
<b>Shutter time</b>	Visual camera: 1/10000 s to 1/2 s
<b>Pan/Tilt/Zoom</b>	Pan: 360° endless, 0.1°–20°/s Tilt: 45° to -20°, 0.1°–20°/s Visual camera: 10x optical and 12x digital, total 120x Protocol: Pelco D Preset accuracy: 0.02°

### Video

<b>Video compression</b>	H.264 (MPEG-4 Part 10/AVC) Motion JPEG
<b>Resolutions</b>	AXIS Q8721-E: Visual camera with HDTV 1080i 1920x1080, HDTV 720p 1280x720; and Thermal camera with 384x288 sensor, image can be scaled up to 768x576 and to standard VGA resolution AXIS Q8722-E: Visual camera with HDTV 1080i 1920x1080, HDTV 720p 1280x720; and Thermal camera with 640x480 sensor, image can be scaled up to 800x600 (D1) resolution
<b>Frame rate</b>	Visual camera: 30/25 fps in all resolutions and video compression Thermal camera: Up to 30 fps within EU, Norway, Switzerland, Canada, USA, Japan, Australia, New Zealand Up to 8.3 fps in other countries <sup>a</sup>
<b>Video streaming</b>	Visual camera: Multiple, individually configurable streams in H.264 and Motion JPEG Thermal camera: At least 1 stream in H.264 and Motion JPEG: Simultaneous, individually configured streams in max. resolution at 30 fps Controllable frame rate and bandwidth, VBR/CBR H.264
<b>Image settings</b>	Visual camera: Compression, Brightness, Sharpness, White balance, Exposure control, Backlight compensation, Text and image overlay, Mirroring of images, Privacy mask, Rotation Thermal camera: Compression, Brightness, Exposure control, Text and image overlay, Mirroring of images, Privacy mask, Rotation, Multiple palettes

<b>Network</b>	
<b>Security</b>	Password protection, IP address filtering, HTTPS <sup>b</sup> encryption, IEEE 802.1X <sup>b</sup> network access control, Digest authentication, User access log
<b>Supported protocols</b>	IPv4/v6, HTTP, HTTPS <sup>b</sup> , QoS Layer 3 DiffServ, FTP, CIFS/SMB, SMTP, Bonjour, UPnP <sup>™</sup> , SNMPv1/v2c/v3 (MIB-II), DNS, DynDNS, NTP, RTSP, RTP, TCP, IGMP, RTCP, ICMP, DHCP, ARP, SOCKS
<b>System integration</b>	
<b>Application Programming Interface</b>	Open API for software integration, including VAPIX <sup>®</sup> and AXIS Camera Application Platform; specifications at www.axis.com Interface specifications available at www.axis.com
<b>Intelligent video</b>	Video motion detection, Active tampering alarm AXIS Camera Application Platform enabling installation of additional applications <b>Visual camera:</b> Gatekeeper
<b>Event triggers</b>	Intelligent video, External output
<b>Event actions</b>	File upload: FTP, HTTP, network share and email Notification: email, HTTP and TCP Video recording to edge storage Pre- and post-alarm video buffering External output activation
<b>Data streaming</b>	Event data
<b>General</b>	
<b>Casing</b>	Aluminum casing, sunshield ABS PMMA, IP66-rated Color: RAL 9002
<b>Memory</b>	<b>Visual camera:</b> 256 MB RAM, 128 MB Flash <b>Thermal camera:</b> 128 MB RAM, 128 MB Flash
<b>Power</b>	24 V AC 50/60 Hz, 200 W provided by power supply (sold separately) 230/120 V AC 50/60 Hz with built-in day/night sensor
<b>Edge storage</b>	SD/SDHC/SDXC slot supporting memory cards up to 64 GB (card not included) Support for recording to network share (network-attached storage or file server)

<b>Operating conditions</b>	-30 °C to 45 °C (-22 °F to 113 °F) Humidity 10–100% RH (condensing)
<b>Approvals</b>	EN 55022 Class A, EN 61000-3-2, EN 61000-3-3, EN 55024, EN 61000-6-1, EN 61000-6-2, FCC Part 15 Subpart B Class A, ICES-003 Class A, C-tick AS/NZS CISPR 22 Class A, EN 60950-1, EN 60950-22, IEC/EN 60529 IP66 <b>Power supply</b> (sold separately): EN 55022 Class A, EN 61000-3-2, EN 61000-3-3, EN 55024, EN 61000-6-1, EN 61000-6-2, FCC Part 15 Subpart B Class A, ICES-003 Class A, C-tick AS/NZS CISPR 22 Class A, EN 60950-1, EN 60950-22, IEC/EN 60529 IP66
<b>Weight</b>	28.5 kg (63 lb) (IR LED excluded)
<b>Included accessories</b>	Installation Guide, Installation and Management Software CD, Windows decoder 1-user license
<b>Video management software</b>	AXIS Camera Station and video management software from Axis' Application Development Partners (not included). For more information, see <a href="http://www.axis.com/products/video/software">www.axis.com/products/video/software</a>
<b>Required hardware</b>	AXIS Q87-E Power Supply 230 V AC or AXIS Q87-E Power Supply 120 V AC AXIS Wall Bracket K or AXIS Column Bracket K
<b>Warranty</b>	Axis 3-year warranty and AXIS Extended Warranty option, see <a href="http://www.axis.com/warranty">www.axis.com/warranty</a>

- a. *Frame rate above 9 fps may be subject to export control regulations*  
b. *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 ([ey@cryptsoft.com](mailto:ey@cryptsoft.com)).*

More information is available at [www.axis.com](http://www.axis.com)

## Technical specifications – PT IR Illuminator kit A (sold separately)

<b>Models</b>	IR-LED 10° angle IR-LED 50° angle	<b>Angle</b>	10° to 50°	<b>Weight</b>	1.4 kg (3.1 lb)
<b>Supported cameras</b>	AXIS Q8721-E AXIS Q8722-E	<b>Distance</b>	IR-LED 10°: 100 m (328 ft) IR-LED 50°: 50 m (164 ft)	<b>Included accessories</b>	U-bracket, In-built adjustable photocell
<b>Casing</b>	IP66-rated	<b>Operating conditions</b>	-50 °C to 50 °C (-58 °F to 122 °F)	<b>Dimensions</b>	180 x 135 x 67 mm (7" x 5.2" x 2.6")
<b>Power in</b>	12–24 V AC/DC, 35 W Cable length 70 cm (2.3 ft)	<b>Approvals</b>	EN 55022 Class A, EN 55024, EN 61000-6-1, EN 61000-6-2, FCC Part 15 Subpart B Class A, ICES-003 Class A, C-tick AS/NZS CISPR 22 Class A, EN 60950-1, EN 60950-22, IEC/EN 60529 IP66, EN 62471 (risk group 1)	<b>Warranty</b>	Axis 1-year warranty, see <a href="http://www.axis.com/warranty">www.axis.com/warranty</a>
<b>Control technology</b>	Power level, Photocell sensitivity, Telemetry link for remote activation (if required)				