# AXIS P1485-LE Kit License Plate Verifier

## LPR bullet camera kit for free-flow traffic

Built for free-flow traffic, this robust, all-in-one LPR kit offers a 2 MP bullet camera with AXIS License Plate Verifier preinstalled. It's purpose-tuned for highly reliable license plate capture and can recognize vehicle details under optimal conditions, including type, color, make, and model. It delivers the image clarity and frame rate needed for accurate and reliable license plate recognition 24/7. Easy to deploy and smoothly integrates with AXIS Camera Station Pro and other third-party VMSs. What's more, there's a wide variety of mounting, housings, and cabinets available for any environment or infrastructure requirement.

- > AXIS License Plate Verifier preinstalled
- > Purpose-tuned for license plate recognition
- > Recognizes vehicle type, color, make, and model
- > Robust design withstands tough weather
- > Easily integrate with Axis and third-party VMSs







FIPS 140-3 Inside #5139

# AXIS License Plate Verifier

## Application

**Compute platform**
Edge

**Licenses**
AXIS License Plate Verifier license included.

**Configuration**
Web configuration included

**Settings**
Define area of interest in scene.
Allow-, block- and custom list logic. Each list can contain 10,000 plates with a total of 30,000.
Missing plate detection.
Barrier mode: Open to all, open to allowlisted, open to all but blocklisted.
Minimum width: 130 pixels for one-row license plates; 70 pixels for two-row license plates.
FIFO event log entries including thumbnail image of license plate. Up to 1000 entries on camera storage. Up to 100 000 entries on AXIS Surveillance Cards.
Configurable retention time of stored events

**Object attributes**
Vehicle data: license plate recognition, license plate type (GCC), make, model, color, country, region.
Supports 120 makes and 5,000 models with more models added over time.

**Object classes**
Vehicle type: bike, car, SUV, van, pick-up, truck, bus

## System integration

**Application Programming Interface**
Open API for software integration.

**Event streaming**
Integrates with camera event management system to enable event streaming to management software and camera actions such as I/O control, notification, and edge storage.

**Supported devices**
Direct integration with Axis network door controllers and relay modules.

## General

**Supported countries**
For a complete list of supported countries, go to the product page at *axis.com*

**Languages**
English

# AXIS P1485-LE Kit License Plate Verifier

## Camera

**Image sensor**
1/2.8" progressive scan RGB CMOS
Pixel size 2.9 µm

**Lens**
Varifocal, 10.8-28.2 mm, F1.7-1.76
Horizontal field of view 29.4°-11°
Vertical field of view 16.5°-6.3°
Minimum focus distance: 2.5 m (8.2 ft)
P-iris lens, IR corrected

**Day and night**
Automatic IR-cut filter
Hybrid IR filter

**Minimum illumination**
0 lux with IR illumination on
**Color:** 0.06 lux, at 50 IRE F1.7
**B/W:** 0.01 lux, at 50 IRE F1.7

**Shutter speed**
**With Forensic WDR:** 1/37000 s to 2 s
**No WDR:** 1/71500 s to 2 s

## License Plate Capture

**Detection range**
7–20 m (23–66 ft)

**IR illumination**
OptimizedIR with power-efficient, long-life 850 nm IR LED's with adjustable angle of illumination and intensity. Range of reach 45 m (150 ft) or more depending on the scene

**Vehicle speed**
Up to 105 km/h (65 mph) with edge analytics

**Coverage**
Single lane with edge analytics

**Installation**
Mounting height: 2 m to 8 m (7 ft to 26 ft)
Camera detects tilt and roll angle automatically
Built-in licence plate capture assistant optimizes video settings based on mounting height, distance to vehicle, and expected vehicle speed

## System on chip (SoC)

**Model**
ARTPEC-9

**Memory**
2 GB RAM, 8 GB Flash

**Compute capabilities**
Deep learning processing unit (DLPU)

## 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 640x360
**16:10:** 1280x800 to 320x200
**4:3:** 1440x1080 to 160x120

**Frame rate**
**With Forensic WDR:** Up to 25/30 fps (50/60 Hz) in all resolutions
**No WDR:** Up to 50/60 fps (50/60 Hz) in all resolutions

**Video streaming**
Up to 20 unique and configurable video streams[1]
Axis Zipstream technology in H.264, H.265, and AV1
Controllable frame rate and bandwidth
VBR/ABR/MBR H.264/H.265/AV1
Low latency mode
Video streaming indicator

**Signal-to-noise ratio**
>55 dB

1. *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.*

### WDR
Forensic WDR: Up to 120 dB depending on scene

### Multi-view streaming
Up to 7 individually cropped out view areas

### Noise reduction
Spatial filter (2D noise reduction)
Temporal filter (3D noise reduction)

### Image settings
Saturation, contrast, brightness, sharpness, white balance, day/night threshold, exposure mode, exposure zones, defogging, compression, orientation: auto, 0°, 90°, 180°, 270° including corridor format, mirroring of images, dynamic text and image overlay, polygon privacy masks, barrel distortion correction
Scene profiles: forensic, vivid, traffic overview
Electronic image stabilization

### Image processing
Axis Zipstream, Forensic WDR, Lightfinder 2.0, OptimizedIR

### Pan/Tilt/Zoom
Digital PTZ, digital zoom

## Audio

### Features
Automatic gain control (AGC)
Speaker pairing, microphone pairing

### Streaming
Configurable duplex:
One-way (simplex, half duplex)
Two-way (half duplex, full duplex)

### Input
10-band graphic equalizer
Input for external unbalanced microphone, optional 5 V microphone power
Digital input, optional 12 V ring power
Unbalanced line input

### Output
Output through network speaker pairing

### Encoding
24bit LPCM, AAC-LC 8/16/32/44.1/48 kHz, G.711 PCM 8 kHz, G.726 ADPCM 8 kHz, Opus 8/16/48 kHz
Configurable bit rate

## Network

### Network protocols
IPv4, IPv6 USGv6, ICMPv4/ICMPv6, HTTP, HTTPS[2], HTTP/2, TLS[2], 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, 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®, metadata 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, specification at *onvif.org*
Support for Voice over IP (VoIP) through the Session Initiation Protocol (SIP), using peer-to-peer (P2P) or Private Branch Exchange (PBX).

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

### Onscreen controls
Autofocus
Day/night shift
Defogging
Video streaming indicator
Wide dynamic range
IR illumination
Privacy masks
Media clip
Electronic image stabilization

### Edge-to-edge
Microphone pairing
Speaker pairing
Siren and light pairing

2. *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).*

### Event conditions
Application
Device status: above operating temperature, above or below operating temperature, below operating temperature, within operating temperature, IP address removed, new IP address, network lost, system ready, ring power overcurrent protection, live stream active
Digital audio input status
Edge storage: recording ongoing, storage disruption, storage health issues detected
I/O: digital input, manual trigger, virtual input
MQTT: subscribe
Scheduled and recurring: schedule
Video: average bitrate degradation, day-night mode, tampering

### Event actions
Audio clips: play, stop
Day-night mode
I/O: toggle I/O once, toggle I/O while the rule is active
Illumination: use lights, use lights while the rule is active
MQTT: publish
Notification: HTTP, HTTPS, TCP and email
Overlay text
Recordings: SD card and network share
SNMP traps: send, send while the rule is active
Upload of images or video clips: FTP, SFTP, HTTP, HTTPS, network share and email
WDR mode

### Built-in installation aids
Pixel counter, remote zoom and focus, straighten image, auto rotation

## Analytics

### Applications
**Included**
AXIS License Plate Verifier, AXIS Image Health Analytics, AXIS Video Motion Detection
**Supported**
AXIS Speed Monitor [3]
Support for AXIS Camera Application Platform enabling installation of third-party applications, see *axis.com/acap*

### AXIS Image Health Analytics
**Detection settings:**
Tampering: blocked image, redirected image
Image degradation: blurred image, underexposed image
**Other features:** sensitivity, validation period

## Approvals

### Product markings
CE, FCC, ICES, KC, RCM, VCCI, WEEE

### Supply chain
TAA compliant

### EMC
CISPR 35, CISPR 32 Class A, EN 55035,
EN 55032 Class A, EN 50121-4, EN 61000-3-2,
EN 61000-3-3, EN 61000-6-1, EN 61000-6-2
**Australia/New Zealand:** RCM AS/NZS CISPR 32 Class A
**Canada:** ICES-3(A)/NMB-3(A)
**Japan:** VCCI Class A
**Korea:** KS C 9835, KS C 9832 Class A
**USA:** FCC Part 15 Subpart B Class A
**Railway:** IEC 62236-4

### Safety
CAN/CSA C22.2 No. 62368-1 ed. 3,
IEC/EN/UL 62368-1 ed. 3, IEC/EN 62471 risk group exempt, IS 13252

### Environment
IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-6,
IEC 60068-2-14, IEC 60068-2-27,
IEC/EN 60529 IP66/IP67, IEC/EN 62262, IEC 60950-22,
ISTA 3A, IK10, NEMA TS 2 (2.2.7-2.2.9)

### Network
IPv6 USGv6, 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, 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)

*3. It also requires AXIS D2110-VE Security Radar with AXIS OS 10.12 or later.*

### Network security
IEEE 802.1X (EAP-TLS, PEAP-MSCHAPv2)[4],
IEEE 802.1AE (MACsec PSK/EAP-TLS), IEEE 802.1AR,
HTTPS/HSTS[4], TLS v1.2/v1.3[4], 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/IP67-, NEMA 4X-, and IK10-rated casing
Polycarbonate blend and aluminium
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 802.3af/802.3at Type 1 Class 3, max 12.95 W, typical (heater off, IR off) 4.63 W
Features: dynamic power mode, low power mode, power meter

### Connectors
Network: Shielded RJ45 10BASE-T/100BASE-TX/1000BASE-T
Audio: 3.5 mm mic/line in
I/O: Terminal block for 1 supervised alarm input and 1 output (12 V DC output, max. load 25 mA)
Power: DC input

### 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)
Maximum temperature according to NEMA TS2 (2.2.7): 74 °C (165 °F)
Start-up temperature: -40 °C
Humidity 10–100% RH (condensing)
Wind load (sustained): 60 m/s (134 mph)

### Storage conditions
-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): 0.024 $m^2$ (0.26 $ft^2$)

### Weight
With weather shield: 1.38 kg (3 lb)

### Box content
Camera, weathershield, installation guide, terminal block connector, connector guard, cable gaskets, owner authentication key

### System tools
AXIS Site Designer, AXIS Device Manager, product selector, accessory selector, lens calculator
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-p1485-le-kit#part-numbers*

## Optional accessories

### Installation
AXIS T8415 Wireless Installation Tool

### Mounting
AXIS T91B47 Pole Mount, AXIS T94F01P Conduit Back Box, AXIS TM4101 Pendant Kit

### Storage
AXIS Surveillance Cards

4. *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).*

## 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 EN 63000:2018
REACH in accordance with (EC) No 1907/2006. For SCIP UUID, see *axis.com/partner.*

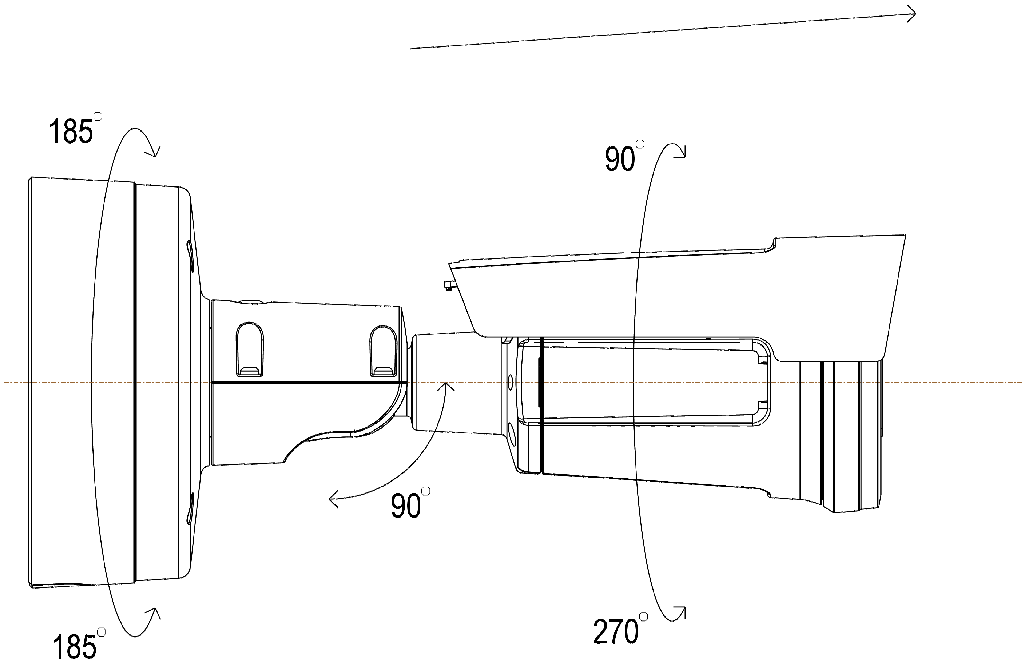
### Materials

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*

Weather Shield sliding direction: 15.5mm [6.10]




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AXIS P1485-LE Kit License Plate Verifier

Dimensions in mm [inch]

| Date | Version | Scale |
|---|---|---|
| 2026-01-04 | VI: 1 | 1:1 |
| Drawing number | Size | Sheet |
| 3372456 | A2 | 2(2) |

## 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*.

## AXIS License Plate Verifier

AXIS License Plate Verifier offers real-time, AI-powered license plate recognition for a wide range of traffic applications, including vehicle access, vehicle search, and parking solutions. With an intuitive user interface, it supports event log entries with license plate thumbnail images, simplifying administration and follow-up. Moreover, our edge-based license plate recognition approach means the camera manages the processing and storage, eliminating the need for expensive servers and reducing bandwidth requirements. Finally, it's easy to set up, especially when investing in our ready-to-use, purpose-tuned kits.

## Forensic WDR

Axis cameras with wide dynamic range (WDR) technology make the difference between seeing important forensic details clearly and seeing nothing but a blur in challenging light conditions. The difference between the darkest and the brightest spots can spell trouble for image usability and clarity. Forensic WDR effectively reduces visible noise and artifacts to deliver video tuned for maximal forensic usability.

## Lightfinder

The Axis Lightfinder technology delivers high-resolution, full-color video with a minimum of motion blur even in near darkness. Because it strips away noise, Lightfinder makes dark areas in a scene visible and captures details in very low light. Cameras with Lightfinder discern color in low light better than the human eye. In surveillance, color may be the critical factor to identify a person, an object, or a vehicle.

## OptimizedIR

Axis OptimizedIR provides a unique and powerful combination of camera intelligence and sophisticated LED technology, resulting in our most advanced camera-integrated IR solutions for complete darkness. In our pan-tilt-zoom (PTZ) cameras with OptimizedIR, the IR beam automatically adapts and becomes wider or narrower as the camera zooms in and out to make sure that the entire field of view is always evenly illuminated.

## Zipstream

The Axis Zipstream technology preserves all the important forensic in the video stream while lowering bandwidth and storage requirements by an average of 50%. Zipstream also includes three intelligent algorithms, which ensure that relevant forensic information is identified, recorded, and sent in full resolution and frame rate.

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