ADAPTIVE **RECOGNITION**

Lynet Speed
Installation Guide

This guide contains an overview of the hardware and required components, suggested scenarios and step-by-step guide for installation, and safety and maintenance instructions.

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INSTALLATION GUIDE

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Table of Contents

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Introduction

The primary purpose of this documentation is to provide a comprehensive and detailed overview of the Lynet Speed camera. The core functionality of the system is to detect, record, and identify vehicles' speed with high precision. Its field of application is very broad, as it can be used in both stationary and mobile scenarios, including high-speed pursuits. This document clearly defines the technical requirement.

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What's in the box – Included and optional components

The Lynet Speed camera is packaged to include all essential components required for standard operation. The standard kit is designed to ensure that users can quickly deploy the system without needing special accessories or tools—at least for the most common configurations.

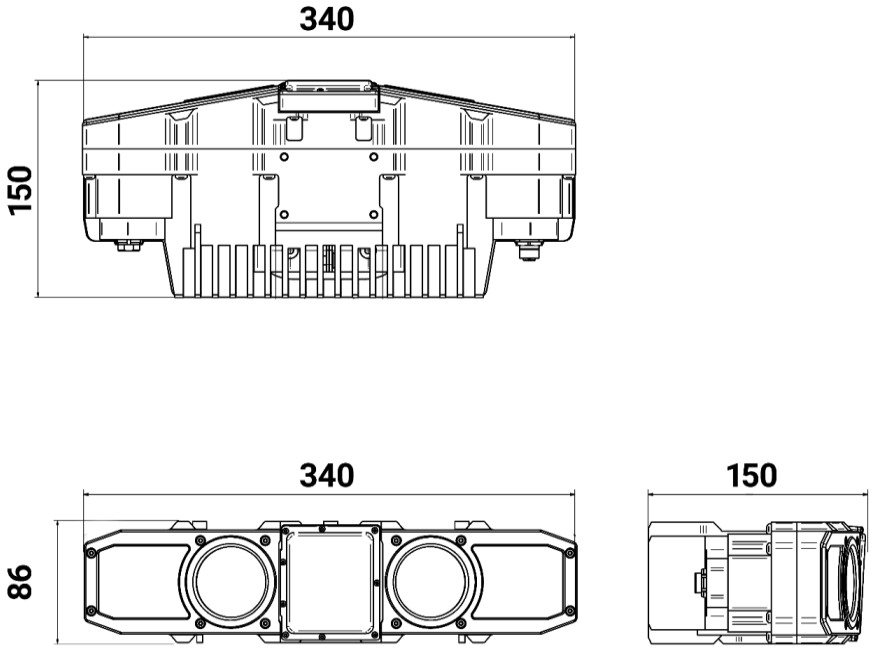
Component	Description
Lynet Speed camera	Dual-optic camera unit with integrated radar
Mounting adapter	Designed for Thule WingBar rack system
Onboard Communication Hub	Provides power, data, and control connections
Camera cable	Connection between camera and hub
Power cable	For powering the system

Included in the package are the dual-optic camera unit with radar module, a combined power and data cable, and a universal mounting bracket. These components are pre-calibrated and packaged together in a durable, impact-resistant transport case. The case is specifically designed for ease of transportation, on-site deployment, and safe storage of the equipment.

The power and data cable allows the system to operate via a single connection, providing power supply and communication interface in one. This "one-cable solution" minimizes installation complexity, reduces potential points of failure, and improves reliability. It also simplifies troubleshooting and allows for cleaner, faster setups.
One such component is the ventilated shield, designed for use in hot climates where passive airflow is required to prevent overheating or lens fogging. This shield maintains protection while allowing thermal exchange, extending the system's uptime and ensuring image quality remains stable.

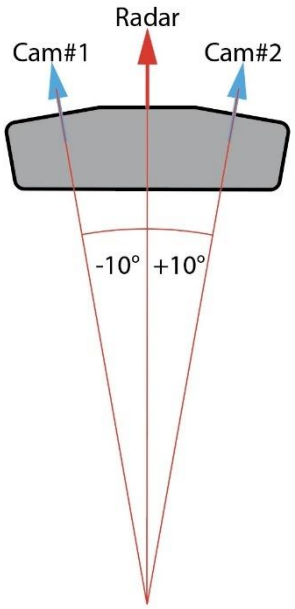
Optional components are available to expand the system's functionality or adapt it to specific environmental or operational conditions.

Additional optional mounts include screw-based roof rack brackets. For more permanent or vibration-prone environments, the screw-on roof rack mount is recommended. This offers better stability and minimizes the risk of displacement due to wind, movement, or shock.



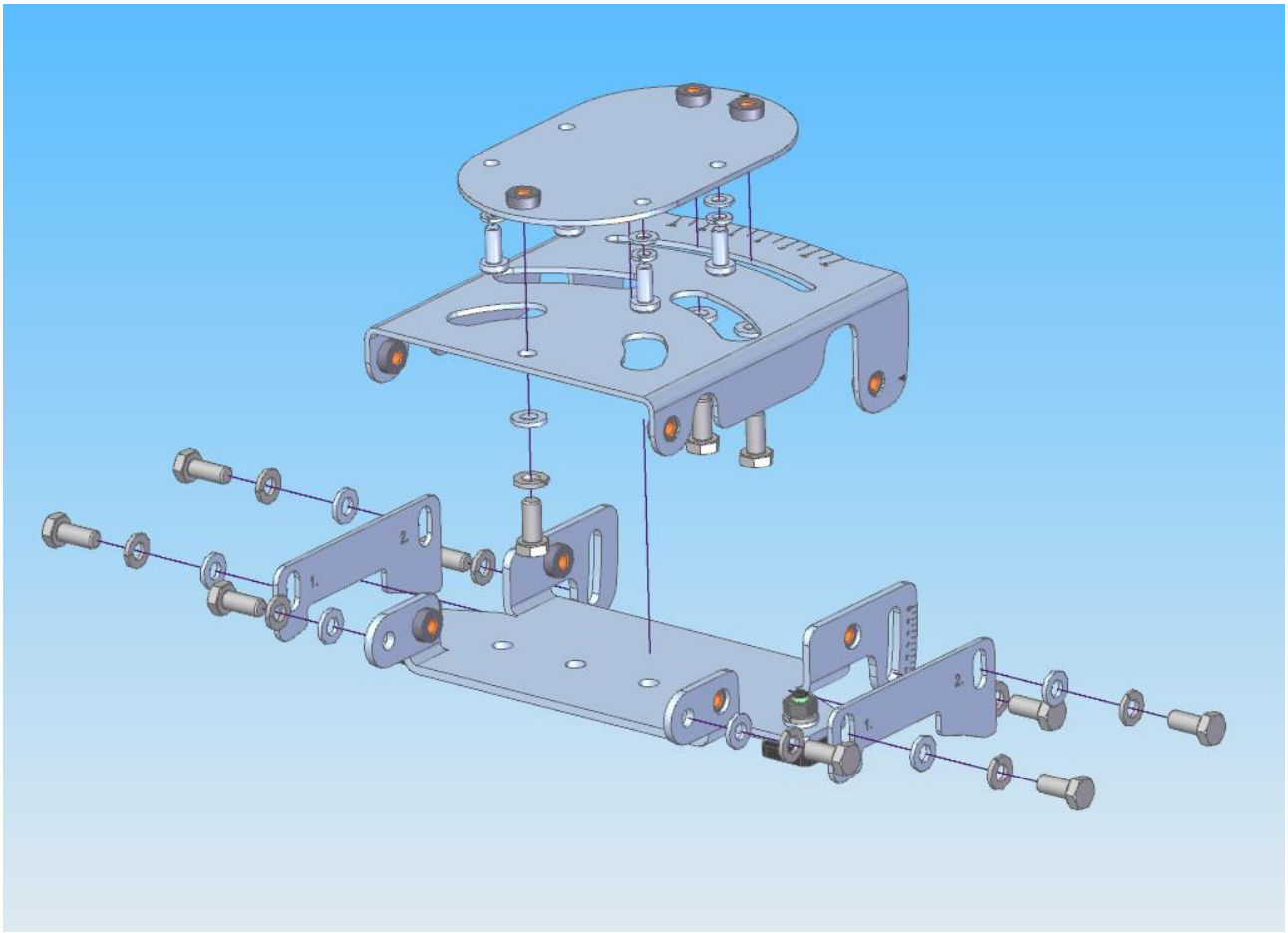
Main components of the system

The Lynet Speed is comprised of three main components that work together to deliver highly accurate and reliable traffic monitoring. The first and most essential element is the dual-optic camera unit, which provides a wide-angle view and variable focus capabilities, allowing for detailed monitoring of road segments under various conditions. The default optical configuration uses a 10° tilt, which enables the system to simultaneously cover multiple lanes—typically up to four—making it highly effective for use in multi-lane roadways and complex intersections.



The second core component is the radar module, which greatly enhances the system's detection performance. This radar unit is capable of identifying and tracking vehicles up to 100 meters. It supports speed up to 300 km/h, which is especially beneficial in high-speed road environments. The radar has a wide field of view: ±65° horizontally and ±7.5° vertically. These dimensions ensure that the system can detect traffic across several lanes and in various approach angles.

The third essential category consists of mounting options and accessories. These include specially designed mounting brackets that ensure safe and stable installation on vehicles, tripods, or fixed infrastructure such as poles or gantries. Proper installation is critical for the stability and accuracy of the system. Vibrations, loose fittings, or imprecise alignments can significantly impact image quality and radar measurement precision.



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Roof console

The roof console mounting system has been developed to provide a **stable, safe, and versatile solution** for installing the Lynet Speed camera on a wide variety of vehicle rooftops. Proper installation of the camera is critical not only for accurate speed detection and image capture but also for ensuring the long-term durability of the equipment under continuous use and varying environmental conditions.

The system consists of several integrated components that work together to achieve both **mechanical stability** and **operational safety**:

- **Roof console** – the main structural unit that attaches the camera to the roof rail.
- **Tightening sequence** – bolts must be fastened in the prescribed order to guarantee a secure and stable fit.
- **Safety cable** – a secondary safeguard, connected with a carabiner, preventing accidental detachment.

Together, these components provide a robust mounting solution, combining **mechanical stability and operational safety** for both mobile and stationary deployments.

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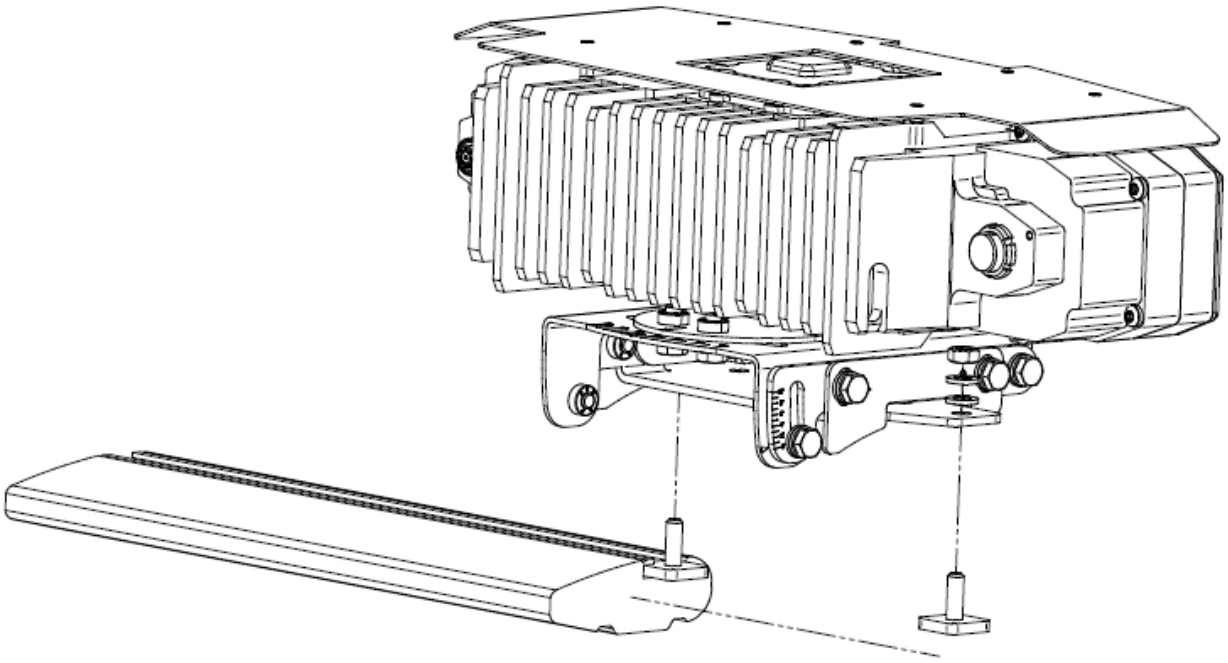
Roof console mounting

The roof console provides the primary structural connection between the Lynet Speed camera and the vehicle's roof rail. Correct assembly is critical to ensure that the system remains secure and resistant to vibration during operation.

Installation steps:

- Insert the **two slotted bolts** into the roof rail channels.
- Place a **flat washer** on each bolt to distribute the load evenly.
- Add a **spring washer** to maintain tension and prevent loosening.
- Secure the assembly with the **nut**, tightening it firmly by hand.
- Confirm that the console sits firmly and does not shift under pressure.

Following this sequence guarantees a **stable and vibration-resistant installation**.



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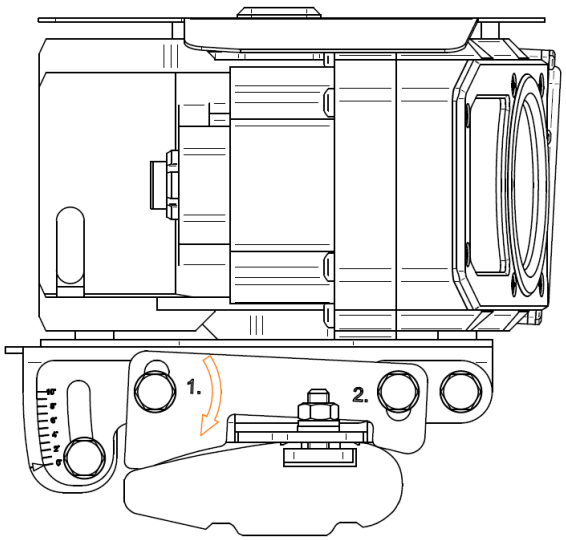
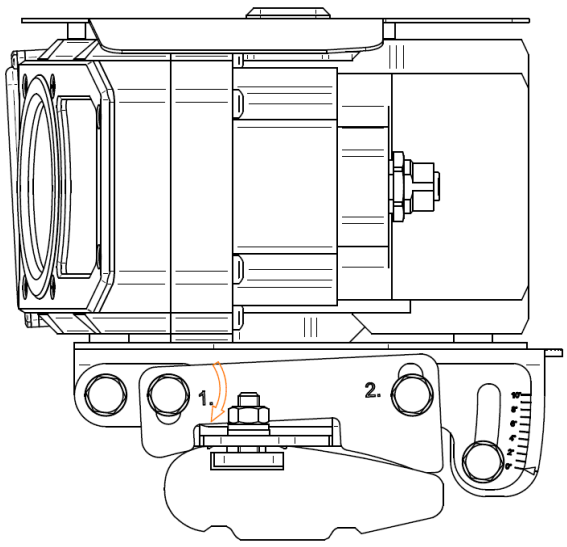
Tightening

To achieve a stable and precise fit, the bolts on the roof console must always be tightened in a specific order.

- **Step 1 (Bolt 1):** Start by tightening the first bolt. As you do so, the console naturally **"tilts" or pivots** onto the roof rail. This movement ensures that the console aligns correctly with the surface of the rail and sits flush without gaps. Tightening this bolt first is essential for proper positioning.
- **Step 2 (Bolt 2):** Once the console is already pressed into place by the first bolt, you can tighten the second one. At this stage, the console will not shift or lift, because the first bolt holds it securely. The second bolt's role is to **lock the position** and provide even clamping force across the mounting surface.

The **tightening order** is **engraved** on the mounting plate, so installers can clearly see the sequence on-site.





Important!

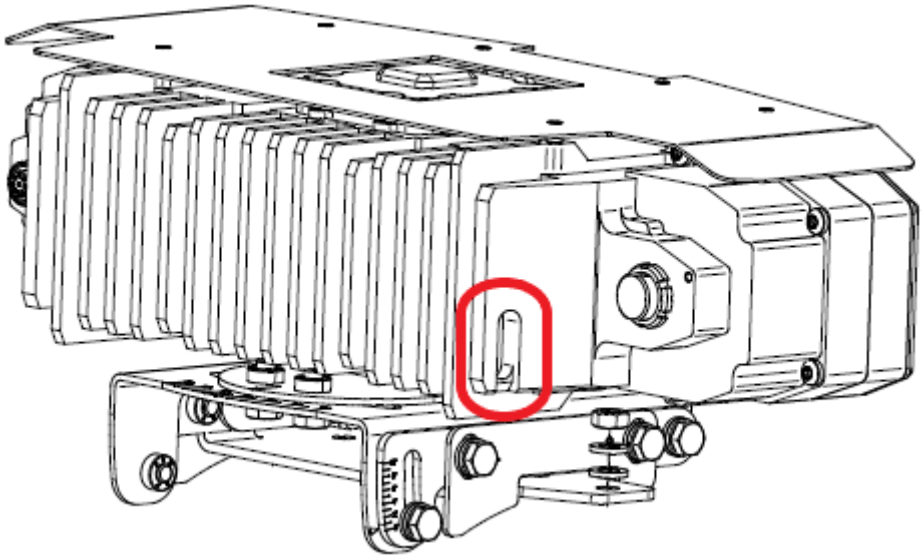
This tightening sequence must be performed **on both sides of the console**. Always start with Bolt 1 on each side, then continue with Bolt 2. This ensures equal pressure distribution and prevents loosening during operation.

By following this order, the console is clamped evenly and securely. This method prevents misalignment, reduces stress on the rail, and ensures that the mount will stay tight under vibration.

Safety cable attachment

The roof console includes a **dedicated hole** where the **safety carabiner** can be clipped. This point was intentionally designed to allow for a quick and simple connection, ensuring that the camera is always secured with a secondary line of protection.

- The **carabiner** snaps directly into the hole without the need for extra tools.
- A **clamp-type fastening** may also be used in certain cases, which will be shown with supporting photos in the documentation.
- Once attached, the safety cable acts as a **backup security link**: even if the primary bolts or the console itself were to loosen, the cable would prevent the camera from falling or detaching from the vehicle.



This step is essential for **operational safety**, especially in mobile installations, where vibration, wind, or sudden movement could otherwise compromise the mounting.

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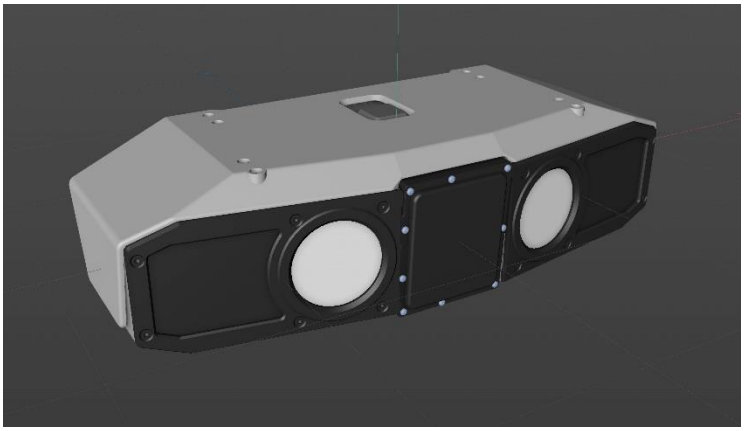
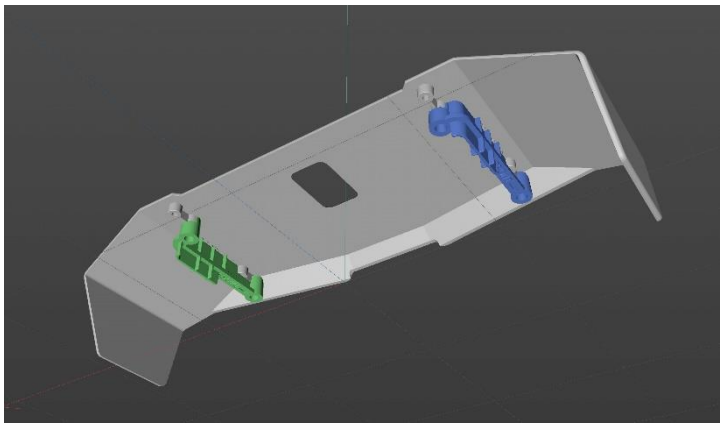
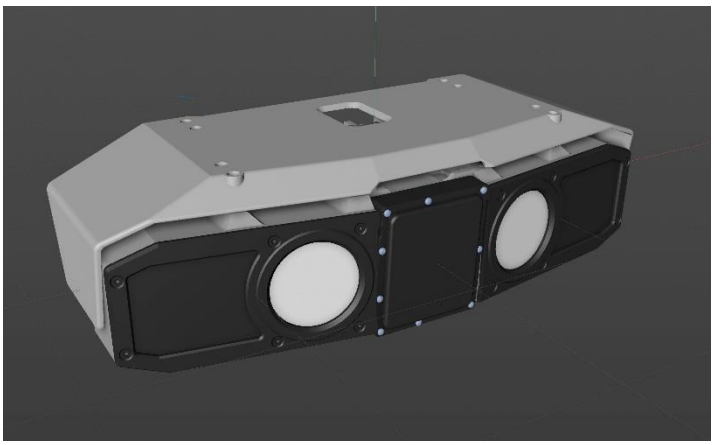
Protective shield

The package also includes a protective shield, which is available in both standard and ventilated versions. These provide physical protection for the camera and radar units, especially in outdoor or extreme weather conditions. The ventilated shield version is particularly useful in hot environments, where passive airflow is necessary to prevent thermal overload or fogging of the optics.



Two spacers, each with a thickness of 10 mm, have been specifically designed to snap onto the shield during assembly. These spacers are installed between the camera and the protective shield.





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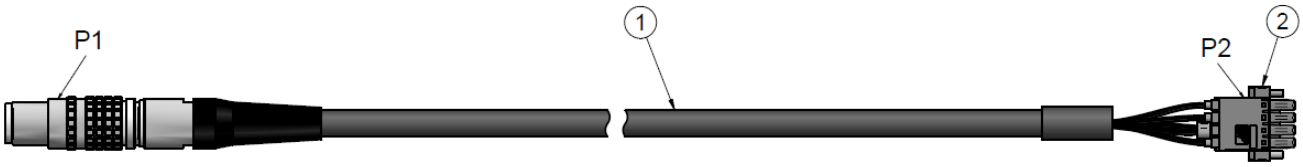
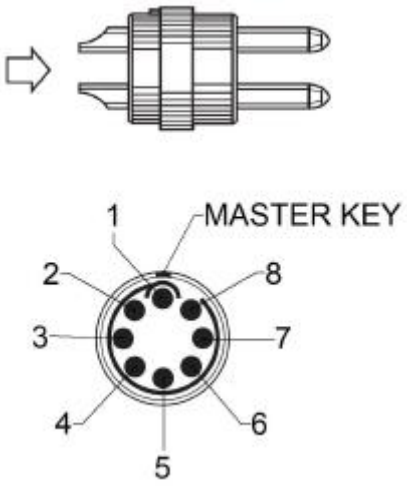
Cable layouts

Cable management is also a critical consideration of the Lynet Speed camera. The base unit operates through a single combined cable that delivers both power and data transmission. This simplifies installation, reduces potential failure points, and enhances overall system reliability. It also helps the field deployments, as fewer connection points mean faster setup and reduced troubleshooting time.

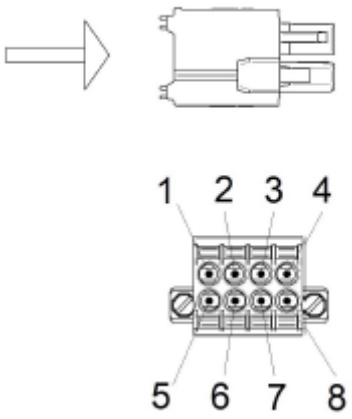


Connector types

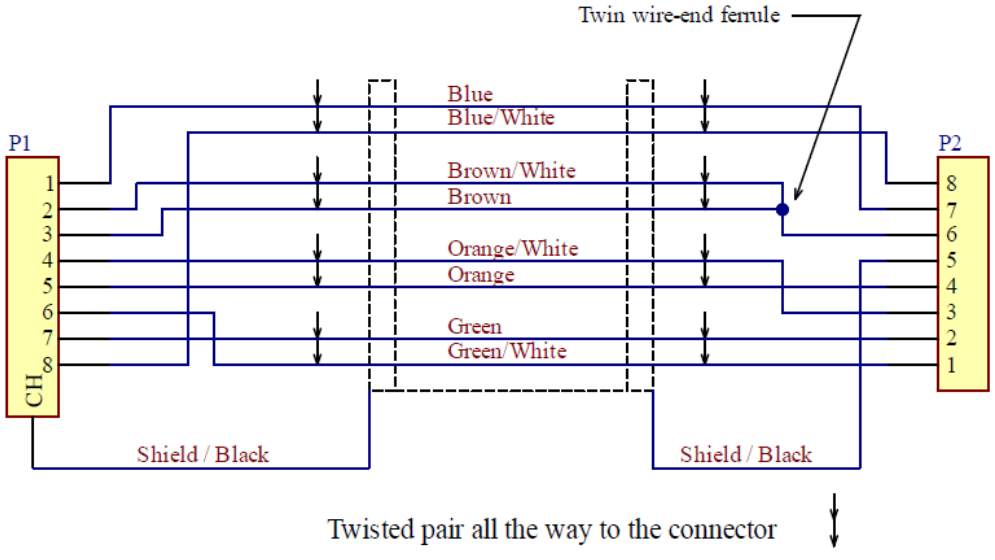
- **P1 (Lemo 8-pin circular connector):**
  A high-quality connector featuring a push-pull locking mechanism and 8 electrical contacts. Ideal for compact environments with a need for high vibration resistance and quick connect/disconnect functionality. Pin numbering is clockwise when viewed from the mating side (master key at the top).



- **P2 (Phoenix contact 8-pin terminal block):**
  A pluggable terminal-style connector that allows for direct screw-terminal wiring. Pins are arranged linearly (2 rows of 4), with clear labelling (1–8) for secure field wiring.

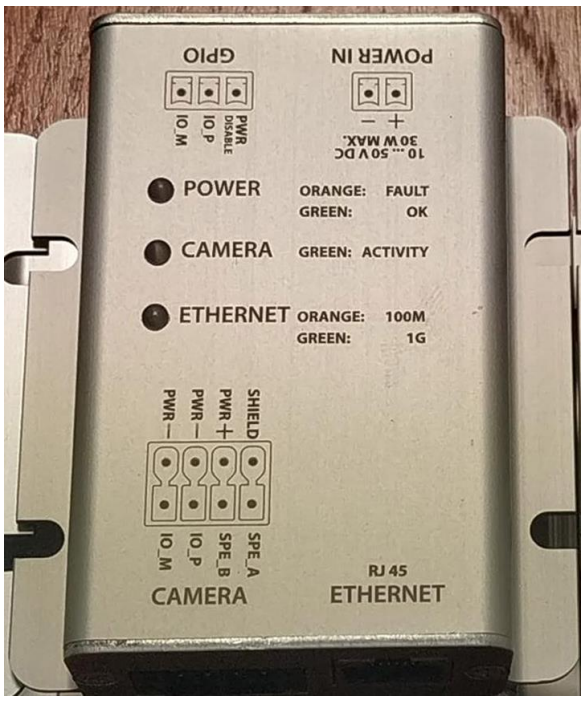


Lemo Pin (P1)	Signal Wire Color	Phoenix Pin (P2)
1	Blue	1
2	Blue/White	2
3	Brown/White	3
4	Brown	4
5	Orange/White	5
6	Orange	6
7	Green	7
8	Green/White	8
CH (Shield)	Shield/Black	Shield/Black



Power source

The onboard communication hub is a compact, industrial-grade interface module designed to manage power supply, data communication, and GPIO control for the Lynet Speed camera system. It centralizes critical functions, simplifying installation and diagnostics in both mobile and stationary



applications.

Power distribution

- Input Voltage Range: 10–50 V DC (connected via POWER IN terminal block)
- Max Power: 30W
- Distributes regulated power to the camera via Phoenix terminal (PWR+, PWR–)
- **POWER LED** indicators:
  - **Green:** Power OK
  - **Orange:** Fault detected

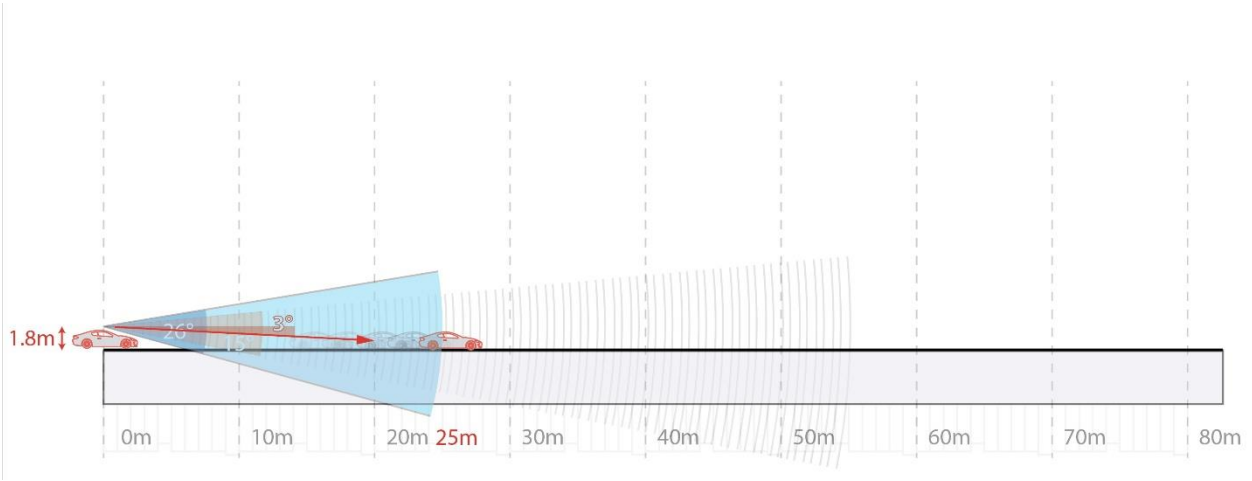
The unit includes a Phoenix-style 8-pin terminal block for connecting to the camera. Terminal mapping includes:

- **PWR+, PWR–:** Power output to the camera
- **SPE A / SPE B:** Single Pair Ethernet (data transmission)
- **SHIELD:** Signal shielding
- **IO_P / IO_M**: Configurable GPIO lines

Camera positioning

There are two primary categories for installing the camera units: vehicle-mounted and fixed-position configurations. The selection of the appropriate setup depends on the operational context and the specific objectives of the monitoring activity.

The vehicle-mounted configuration is ideal for mobile measurements, such as highway patrols, traffic enforcement operations, or high-speed pursuit scenarios. In this setup, the camera is typically positioned with a 0° tilt angle, facing directly forward. The radar unit is angled downward at -3°, which is optimal for detecting nearby vehicles during motion. This setup ensures accurate readings even when the monitored vehicle is moving at high-speed relative to traffic.



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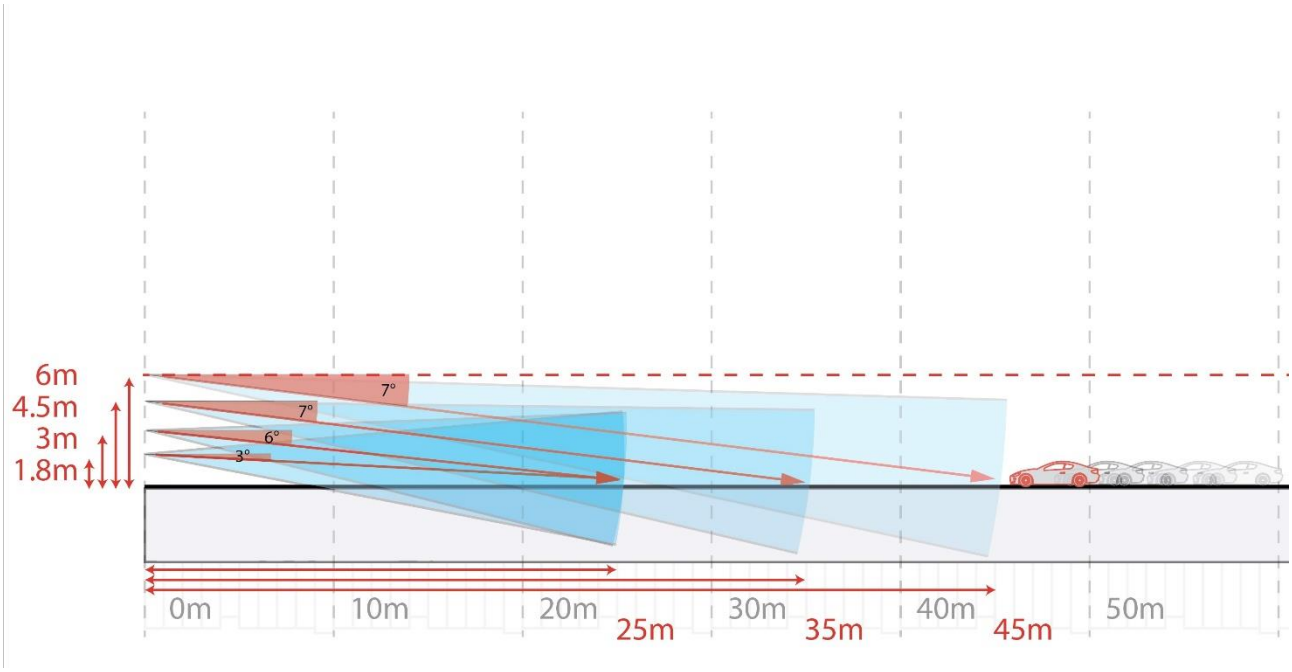
Fixed-position installations are typically mounted at elevated heights—often around 6 meters—and angled downward at 7°. This setup provides excellent visual coverage of the road while minimizing environmental interferences such as reflections from the road surface, parked vehicles, or roadside obstacles. Fixed installations are ideal for establishing permanent monitoring stations at intersections, highway exits, or toll areas.



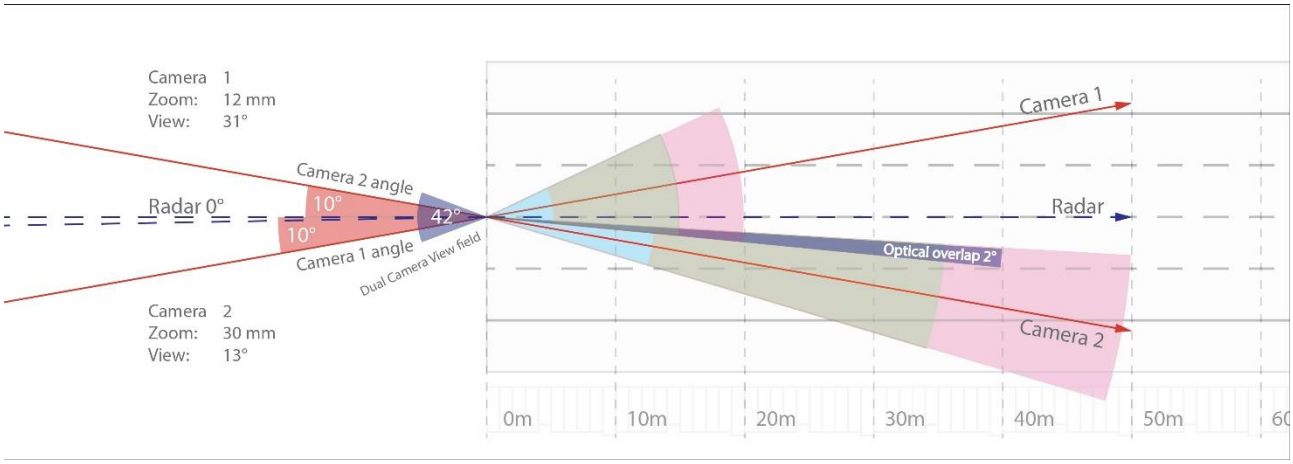
Radar tilt angle

The tilt angle of the radar module plays a critical role in ensuring the precision and reliability of the Lynet Speed camera. The radar is factory-configured with a -3° downward tilt, which is essential for accurately detecting nearby objects and vehicles. Without this tilt, a horizontally aligned radar would risk missing fast-approaching vehicles or losing them quickly from its detection range.
This downward angle ensures that the radar does not only detect distant objects but also maintains accurate tracking of close-range traffic.

The angle of tilt also influences the focal point of the radar's field of view. Rather than projecting into the distant horizon, the beam focuses on a mid-range area where vehicle interaction occurs most frequently. This is particularly valuable for fixed installations, where maintaining consistent and relevant coverage is essential.

In vehicle-mounted deployments, the tilt angle ensures that the radar prioritizes lane-level traffic monitoring instead of environmental elements such as distant hills or signs. This selective targeting helps reduce false positives and irrelevant detections, which is especially important during high-speed operation or in complex traffic environments.

The alignment between the radar and camera must be precisely maintained. A mismatch between their orientations can lead to poor target overlap and inconsistent data. Therefore, calibration during installation is crucial.



Installation steps

The proper installation and calibration of the Lynet Speed camera are critical to achieving accurate measurements and ensuring reliable system performance. The following steps detail the complete procedure for mounting, aligning, and configuring the system.

Step 1: Site preparation

- The choice of installation site determines the accuracy and reliability of the Lynet Speed system.
- There are two main installation types:
    - **Mobile (vehicle-mounted)** – ideal for highway patrol, traffic enforcement, or pursuit scenarios.
    - **Fixed installation** – at permanent monitoring points such as intersections, highway exits, or toll gates.
- Key aspects of site selection:
    - stable, vibration-free mounting surface,
    - unobstructed field of view towards the traffic lanes,
    - minimized environmental interference (e.g., strong reflections, dense vegetation, parked vehicles).

Step 2: Mounting

- Proper mounting is essential for stable and accurate operation of the Lynet Speed system.
- Always mount the camera onto a **solid and secure surface** that can withstand vibration, wind, and possible physical impact.
- The standard package includes a **universal mounting bracket** for quick setup. Optional mounts are also available:
    - **Tripod** – for temporary roadside deployment or covert operations.
    - **Roof-rack mount** – recommended for vehicles requiring long-term mobile operation.
    - **Pole or gantry mount** – designed for permanent, fixed installations.
- Screws must always be tightened **by hand**; the use of electric or pneumatic tools may damage the equipment and void the warranty.
- After mounting, verify that the camera is **level** with no lateral tilt. Even minor misalignment can cause measurement errors.
- For outdoor use, attach the **protective housing** (standard or ventilated version) to shield the device from weather, temperature fluctuations, and contamination.

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Step 3: Cabling and power supply

- The Lynet Speed operates through a **combined cable** that delivers both power and data transmission.
- The system uses:
  - **P1 (Lemo 8-pin circular connector)** on the camera,
  - **P2 (Phoenix Contact 8-pin terminal block)** on the power adapter.
- Ensure that the shielding (Shield) is correctly grounded to guarantee uninterrupted data transmission and electromagnetic protection.
- Power adapter specifications:
  - **Input voltage:** 10–50 V DC (via POWER IN terminal),
  - **Max. power: 30 W,**
  - **POWER LED indicators:**
    - **Green:** power OK,
    - **Orange:** fault detected.
- For outdoor fixed installations, always use **weather-proof, outdoor-rated cables.**
- Unused connectors must be protected with **sealing caps** to maintain watertightness.
- Improper cabling or loose connections may cause malfunction and void the warranty.

Step 4: Camera positioning

- Once the site has been selected, the camera must be precisely positioned for reliable speed measurement and license plate recognition.
- **Vehicle-mounted installation:**
  - The right lens (Sensor 2) must face straight ahead, with its optical axis parallel to the driving direction.
  - The radar unit is factory-configured with a **-3° downward tilt,** which is optimal for detecting nearby vehicles during motion.
- **Fixed installation:**
  - Recommended mounting height: **~6 meters.**
  - Camera optical axis should be set at an angle of **~7° downward.**
  - This ensures proper road coverage and reduces errors caused by reflections, obstacles, or environmental factors.
- The **alignment of radar and camera axes** is critical. Any mismatch may lead to inaccurate measurements.

Step 5: Measuring installation height and target point

- **For proper calibration, the installation height must first be measured.**
  - Measure the vertical distance from the ground surface up to the center of the front-facing **right lens (Sensor 2).**
  - Use a reliable measuring tape or laser distance measurer to achieve an accuracy of **at least ±5 cm.**
- **Select a target distance:**
  - **Choose a value as close to 20 meters as possible,** as this represents a balanced setup for most standard vehicles and scenarios.
- **Mark the target distance:**
  - Mark a point on the ground directly in front of the vehicle, aligned with the **optical axis of Sensor 2.**
  - Precision in this alignment is critical; a small object or marker can be used to facilitate visual targeting.
- **Adjust the camera tilt:**
  - Keep the device level (without any side tilt) and pointing straight ahead.
  - Tilt the unit downward until the **yellow laser marker of Sensor 2 (right lens)** strikes the marked target point.

Step 6: Left lens target alignment

- With the device still aligned forward, locate the point where the **yellow laser marker of Sensor 1 (left lens)** strikes the ground.
  - This point will typically be diagonally offset from the vehicle's centrelines.
- **Mark this point and measure the diagonal distance precisely.**
  - Ideally, the diagonal distance for the left lens should be close to the forward distance used for the right lens.

Step 7: Calculating the average elevation angle

- Using the measured distances, refer to the calibration table to determine the corresponding elevation angles (in degrees) for both the right and left lenses based on their respective distances.
- The table values are calculated as the arctangent (arctan) of the height-to-distance ratio.

		Install height												
Target distance		1.4	1.45	1.5	1.55	1.6	1.65	1.7	1.75	1.8	1.85	1.9	1.95	2
	15	-5.3	-5.5	-5.7	-5.9	-6.1	-6.3	-6.5	-6.7	-6.8	-7	-7.2	-7.4	-7.6
	15.5	-5.2	-5.3	-5.5	-5.7	-5.9	-6.1	-6.3	-6.4	-6.6	-6.8	-7	-7.2	-7.4
	16	-6	-5.2	-5.4	-5.5	-5.7	-5.9	-6.1	-6.2	-6.4	-6.6	-6.8	-7	-7.1
	16.5	-4.9	-5	-5.2	-5.4	-5.5	-5.7	-5.9	-6.1	-6.2	-6.4	-6.6	-6.7	-6.9
	17	-4.7	-4.9	-5	-5.2	-5.4	-5.5	-5.7	-5.9	-6	-6.2	-6.4	-6.5	-6.7
	17.5	-4.6	-4.7	-4.9	-5.1	-5.2	-5.4	-5.6	-5.7	-5.9	-6	-6.2	-6.4	-6.5
	18	-4,5	-4.6	-4.8	-4.9	-5.1	-5.2	-5.4	-5.6	-5.7	-5.9	-6	-6.2	-6.3
	18.5	-4.3	-4.5	-4.6	-4.8	-4.9	-5.1	-5.3	-5.4	-5.6	-5.7	-5.9	-6	-6.2
	19	-4.2	-4.4	-4.5	-4.7	-4.8	-5	-5.1	-5.3	-5.4	-5.6	-5.7	-5.9	-6
	19.5	-4.1	-4.3	-4.4	-4.5	-4.7	-4.8	-5	-5.1	-5.3	-5.4	-5.6	-5.7	-5.9
	20	-4	-4.2	-4.3	-4.4	-4.6	-4.7	-4.9	-5	-5.1	-5.3	-5.4	-5.6	-5.7
	20.5	-3.9	-4.1	-4.2	-4.3	-4.5	-4.6	-4.7	-4.9	-5	-5.2	-5.3	-5.4	-5.6
	21	-3.8	-4	-4.1	-4.2	-4.4	-4.5	-4.6	-4.8	-4.9	-5	-5.2	-5.3	-5.4
	21.5	-3.7	-3.9	-4	-4.1	-4.3	-4.4	-4.5	-4.7	-4.8	-4.9	-5.1	-5.2	-5.3
	22	-3.6	-3.8	-3.9	-4	-4.2	-4.3	-4.4	-4.6	-4.7	-4.8	-4.9	-5.1	-5.2
	22.5	-3.6	-3.7	-3.8	-3.9	-4.1	-4.2	-4.3	-4.5	-4.6	-4.7	-4.8	-5	-5.1
	23	-3.5	-3.6	-3.7	-3.9	-4	-4.1	-4.2	-4.4	-4.5	-4.6	-4.7	-4.9	-5
	23.5	-3.4	-3.5	-3.7	-3.8	-3.9	-4	-4.1	-4.3	-4.4	-4.5	-4.6	-4.7	-4.9
	24	-3.3	-3.5	-3.6	-3.7	-3.8	-3.9	-4.1	-4.2	-4.3	-4.4	-4.5	-4.7	-4.8
	24.5	-3.3	-3.4	-3.5	-3.6	-3.7	-3.9	-4	-4.1	-4.2	-4.3	-4.4	-4.6	-4.7
	25	-3.2	-3.3	-3.4	-3.6	-3.7	-3.8	-3.9	-4	-4.1	-4.2	-4.4	-4.5	-4.6

Once the two angles are determined:

- Calculate the average of the two angles by summing them and dividing by two.
- Enter this average value into the software interface (GUI) in the field labelled "Elevation."

This ensures that both lenses are properly calibrated relative to the device's mounting height and distance to the target zones, providing consistent and accurate measurements.

Software configuration interface

The Lynet Speed camera system features a dedicated configuration interface that enables customers to setup and calibrate the device with precision. This interface is especially relevant during initial setup, field adjustments.

Live view

Once the interface is loaded, the following elements become available: http://camera_ip/#lynetspeed

Sensor selection

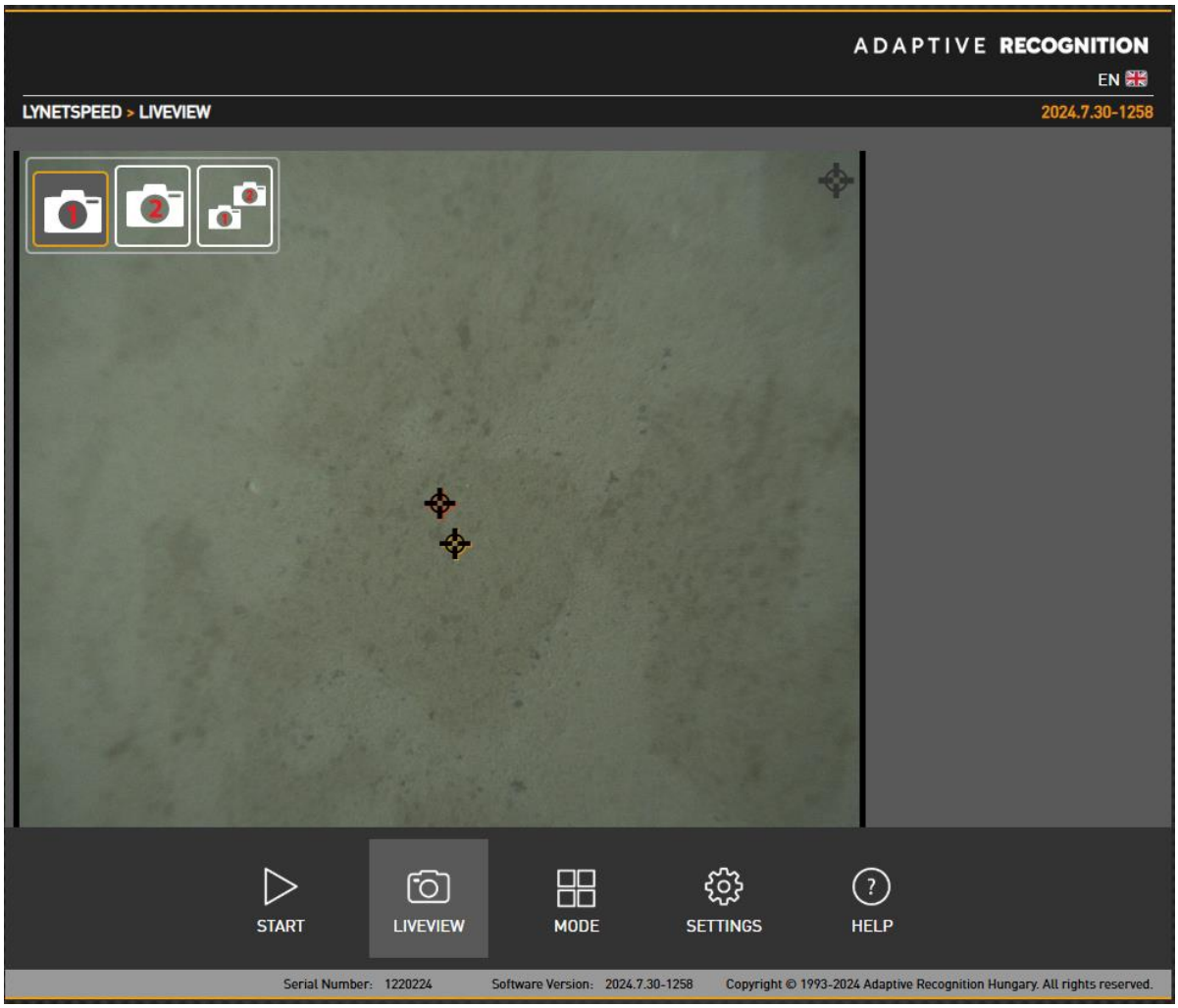
Users can select between:

- **Sensor 1 (left lens)**
- **Sensor 2 (right lens)**
- **Dual view (both lenses simultaneously)**

Each sensor's image stream is displayed in the center of the screen, overlaid with the following visual guides:

- **Red crosshair:** Indicates the **physical center** of the image sensor.
- **Yellow crosshair:** Indicates the **optical alignment center,** calculated from offset values

These markers help installers align the system correctly during mounting and calibration. During calibration, the yellow crosshair must align with the target point at the configured Trigger Distance to ensure accurate measurement.



Zoom and Focus adjustment

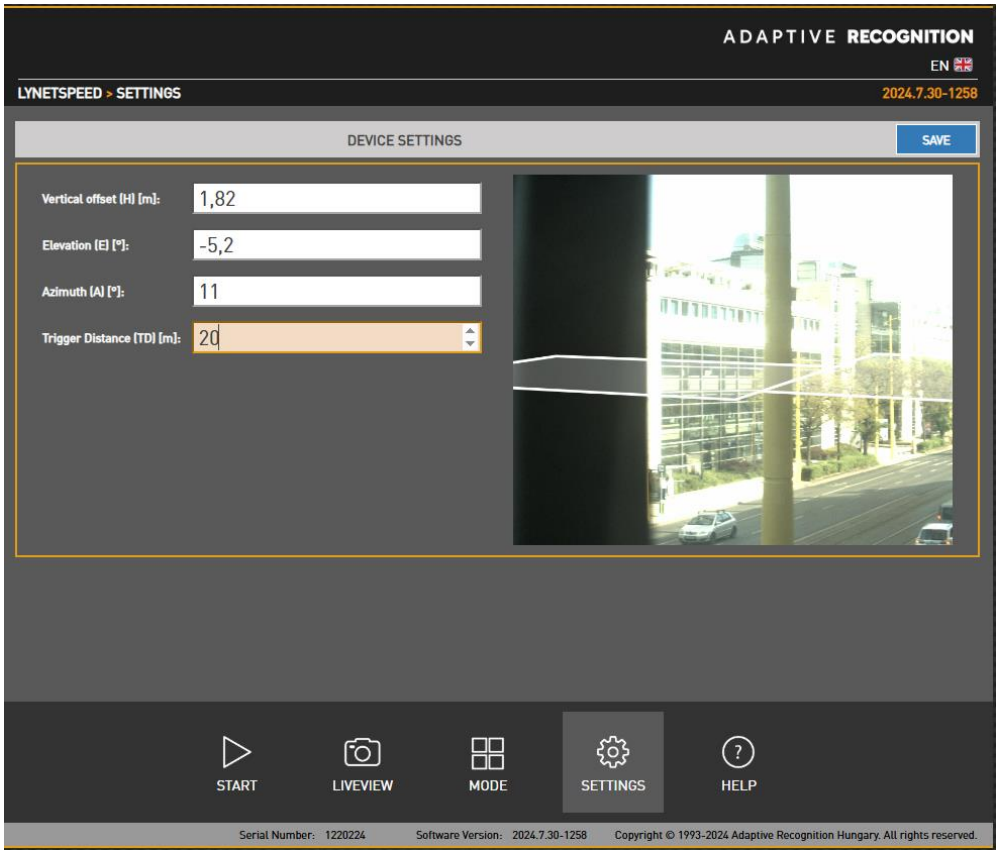
- After selecting the appropriate sensor (typically Sensor 2), use the zoom control in the http://camera_ip/#liveview/optics to frame the area corresponding to the configured Trigger Distance (e.g. 20 m).
- It is recommended to perform zoom and focus adjustment already during crosshair alignment, so that the optical markers (red and yellow crosshairs) can be positioned with maximum precision.
- Verify image clarity both in daylight and low-light conditions. Save the settings and validate with live traffic.

Settings

In the **"Settings"** tab, advanced calibration options become available:

- **Vertical offset (H) [m]:** Represents the vertical distance in meters, between the optical center of the camera and a predefined reference point—typically the ground level.
- **Elevation (E) [°]::** It is calculated from **Vertical offset (H)** and **Trigger Distance (TD).**
- **Azimuth (A) [°]:** The azimuth angle describes the horizontal rotation of the camera or lens, measured in degrees relative to a straight-ahead (forward-facing) orientation. It is used to determine how much the optical axis is turned left (negative angle) or right (positive angle) from the ideal forward direction.
- **Trigger Distance (TD) [m]::** Users can set a target distance (e.g., 20 meters), and the system will auto-calculate the ideal radar tilt based on installation height.
- **Save & Apply:** All changes made through the interface are stored persistently and take effect upon activation.

> **Note**
>
> First set **Vertical offset (H)** and **Trigger distance (TD)** and rest is filled automatically. Check the resulting **E**, then adjust **A** based on the crosshair alignment in Live View.



Modes

The system allows loading of **preconfigured presets** for different operating modes (Tripod, Stationary, Patrol, Interceptor). This feature enables quick switching between deployment scenarios without re-entering all calibration parameters.

Each mode optimizes camera behaviour, triggering logic, and data handling for specific use cases:

Tripod

- Designed for mobile deployments where the camera is mounted on a tripod.
- Ideal for temporary roadside speed enforcement.
- Often used in covert operations or quick-response setups.

Stationary

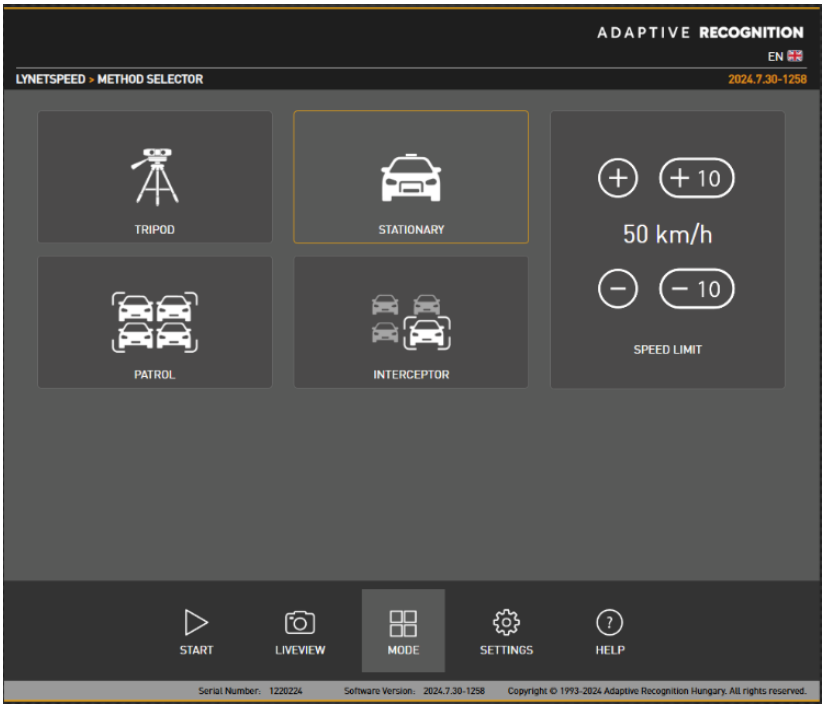
- For fixed installations such as roadside poles or gantries.
- Offers stable long-term measurement and minimal recalibration needs.
- Frequently used for permanent speed enforcement points.

Patrol

- Suited for onboard vehicle operation while in motion.
- Used when monitoring traffic during driving without direct pursuit.

Interceptor

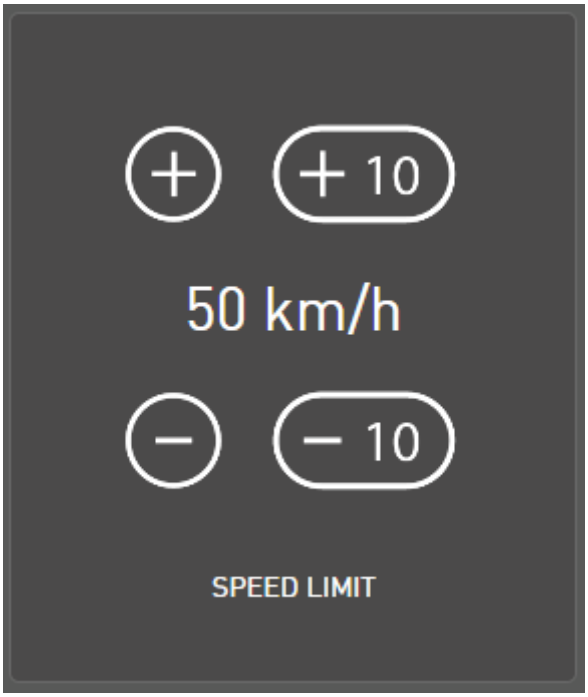
- For active pursuit situations.
- Allows continuous tracking and speed capture of a specific target vehicle.



Speed limit configuration panel

On the right side, the operator can define the active speed threshold used for triggering events.

- Adjustments:
  - + / – buttons change the value by ±1 km/h
  - +10 / –10 buttons allow for fast changes in larger steps
- Enables quick adaptation to changing road sections or mobile patrol conditions.



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Start

- Real-time events, including vehicle speed, license plate, and localization data, appear as individual events within the interface.
- Each event tile is clickable and opens a zoomed-in view of the captured frame and metadata.
- **Save** the configuration by the **Accept** button.

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Quick setup checklist

- The camera is securely mounted (no vibration, no loose screws).
- Cable connectors are firmly attached, and unused connectors are sealed with protective caps.
- Installation height and target point have been measured (accuracy within ±5 cm).
- Laser alignment of the sensors has been set to the correct target distance.
- In the GUI, Vertical offset, Elevation, Azimuth, and Trigger Distance are configured correctly.
- Operating mode selected: Tripod / Stationary / Patrol / Interceptor.
- Speed limit configured (Speed Limit Configuration Panel).
- Test images and speed measurements verified in the Live View interface.

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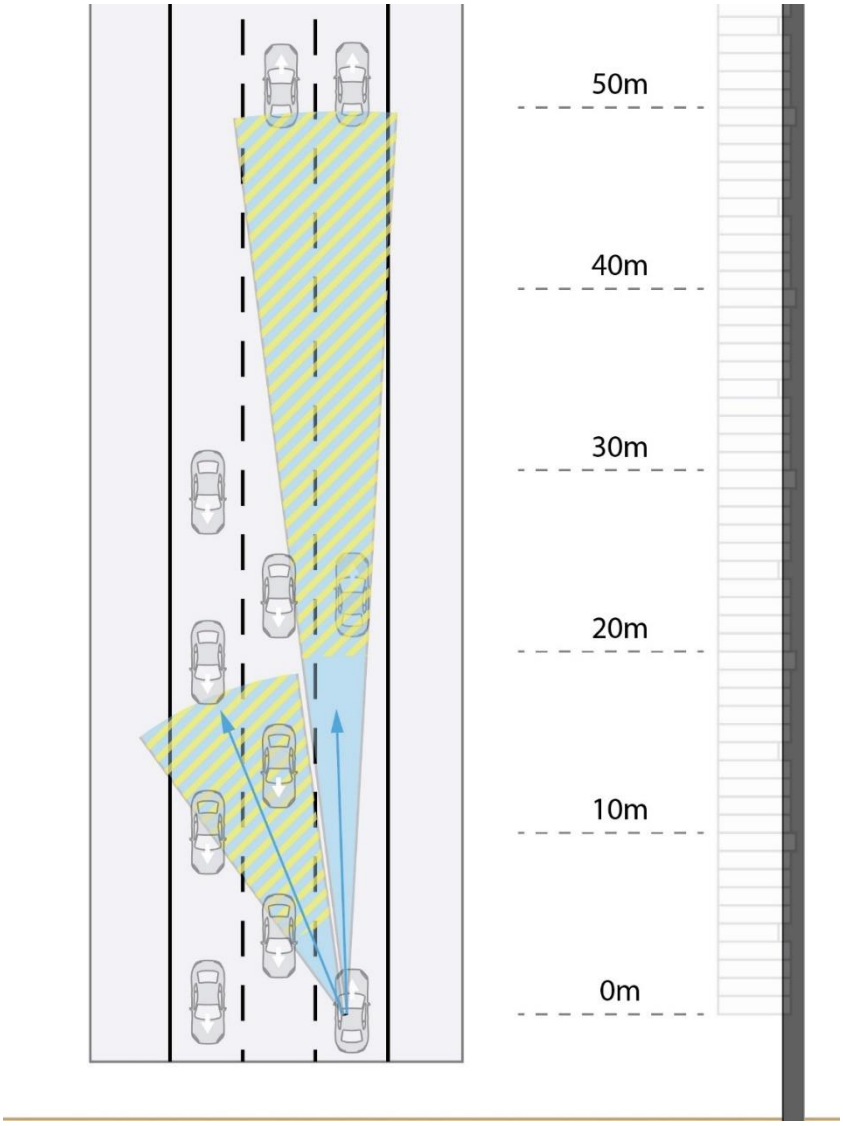
Installation example

The Lynet Speed software interface combines simplicity and technical depth, allowing full control over the system during installation, calibration, and operation. From precise trigger zone definition to dynamic preset loading, the interface empowers users to deploy the system with confidence and accuracy—whether on vehicles, tripods, or fixed installations.



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To illustrate the procedure, here is a practical example:

1. Lynet Speed is installed inside a 2020 Toyota Corolla.
2. The measured mounting height from the ground to the right lens center is 1.62 meters. For calibration purposes, this is rounded to 1.6 meters.
3. From the calibration table, a forward target distance of 20 meters is selected, as it is optimal for this height.
4. A marker is placed 20 meters ahead of the vehicle, aligned with the optical axis of the right lens.
5. The device is tilted downward until the yellow marker from Sensor 2 (right lens) hits the 20-meter mark on the ground.
6. Simultaneously, the point where the yellow marker from Sensor 1 (left lens) strikes the ground is measured. The diagonal distance is found to be approximately 22 meters, which is sufficiently close to the forward distance.
7. Based on the table:
    - The right (20 m) angle = -4.57°
    - The left (22 m) angle = -4.16°
8. Calculating the average:
   (-4.57 + -4.16) / 2 = -4.36°
9. The value -4.36° is entered into the "Elevation" field in the system's graphical user interface.

By carefully following these steps, you ensure that the Lynet Speed camera is optimally positioned, providing the highest possible measurement accuracy and compliance with regulatory standards.

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Safety

Important!

All screws should be hand- tightened! Do not overtighten the screws. Failures due to inappropriate installation void the warranty.

Important!

The camera must only be installed on a stable surface!

Important!

For cabling use quality, outdoor-certified cables! Improper cabling causes warranty to void!

Important!

To maintain the camera's watertightness please make sure that connected cables are tightened properly and the unused connectors are capped.

Important!

Avoid to clean the camera with high-pressure water jets!

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Troubleshooting

Important!

- **No image in the GUI**
  - Check the cable connections (P1/P2).
  - Make sure the power LED is green.
  - Restart the software.

- **No radar data displayed**
  - Verify that the radar module's factory tilt of -3° has not been changed.
  - Ensure the correct value is entered in the GUI "Elevation" field.
  - Check that the target distance (around 20 m) is configured correctly.

- **Inaccurate speed measurement**
  - Make sure the camera has not shifted (verify mounting stability).
  - Check for reflections or obstacles in the field of view.
  - Repeat the laser target calibration.

- **System overheating**
  - Use the ventilated protective housing.
  - Check environmental conditions at the installation site (a shaded location is recommended).

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Maintenance

The cameras are designed for 24/7/365 work for every weather condition and they do not need special maintenance. Please keep clean the camera front. During the cleaning process, avoid scratching the front cover.

Use only warm, soapy water for cleaning the camera! Some cleaning detergents may damage the camera, so we recommend using only common soap. Avoid to clean the camera with high-pressure water jets!

Instruction for Cleaning Acrylic and Polycarbonate Sheets or Display Cover Glass

Materials Needed:

1. Synthetic microfiber wipes (without any added chemicals).
2. IPA/H2O* mixture (details provided below).
3. Clean and dry hands or powder-free, disposable silicone rubber or PUR gloves.

**IPA (Isopropanol) and distilled water mixtures in ratios between 30/70% and 70/30%.*

Steps for Cleaning:

1. **Preparation:**
    - Wash and dry your hands or put on disposable, powder-free gloves.
    - Prepare the IPA/H2O mixture.
2. **Moisten the Wipe:**
    - Lightly spray the microfiber wipe with the IPA/H2O mixture. (Only 1-2 sprays needed).
3. **Wet Wiping:**
    - Begin cleaning by gently wiping the surface from the center towards the edges using the moistened wipe.
    - Use circular motions to cover the entire surface, moving from the center outwards.

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4. **Dry Polishing:**
    - Immediately after wet wiping, use a dry microfiber wipe to polish the surface.
    - Apply circular motions from the center outwards to remove any remaining streaks or stains.
5. **Repeat if Needed:**
    - If the surface remains contaminated, repeat the wet wiping and dry polishing process until the desired result is achieved.

Avoid using:

- Do not wash (recycle) wipes using softeners or detergents.
- Do not polish the surface using abrasive materials (glass/ceramic cleaner).
- Do not use regular 'kitchen wipes', as they might produce scratches.
- Non-woven polishing wipes similar to Katrin 45591 (www.katrin.com or ABSORMATTM (www.crtoy.com), is also recommended.
- Do NOT apply any substances that claim to improve surface quality i.e., silicon sprays and 'lotus effect sprays'.
- It is forbidden to use solvents and detergents!

By following these steps, you should achieve a clean, streak-free surface.

Using a shield on the camera is recommended, as it can greatly help to cool the device properly in warm weather.

The cameras should be stored in low humidity environment in temperature range of -30 °C to + 55 °C. Always use the sealing caps on the connectors to keep the camera unit waterproof! If you miss to use it, the warranty will be void! The maintenance of the devices is recommended on a quarterly basis. In case of extreme weather conditions more often.

During the maintenance, make sure that:

- the camera operates properly,
- it is facing to the previously set direction,
- the fastening is not slack,
- the front of the camera and the camera itself is clean (no spider webs or any other contaminants inhibit the visibility),
- there are no strange circumstances (vapor, damage).

Regulatory Information

EU Conformity Statement

This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the EMC Directive 2004/108/EC, the RoHS Directive 2011/65/EU.

2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points.

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Adaptive Recognition Hungary Technical Support System (ATSS) is designed to provide you the fastest and most proficient assistance, so you can quickly get back to business.

Information regarding your hardware, latest software updates and manuals are easily accessible for customers via our Documents Site (www.adaptiverecognition.com/doc) after a quick registration.

New User

If this is your first online support request, please contact your sales representative to register you in our Support System. More help here (www.adaptiverecognition.com/support)!

Returning User

All registered ATSS customers receive a personal access link via e-mail. If you previously received a confirmation message from ATSS, it contains the embedded link that allows you to securely enter the support site.