Eagle Eye Application Note - AN081

Application and Installation Considerations for DB14 Cameras for Eagle Eye LPR/VSP

2025-06-25 Revision 1.0

Target Audience

This Application Note is intended for resellers, system integrators, and security professionals looking to deploy reliable License Plate Recognition (LPR) solutions for parking enforcement, access control, fleet management, and security applications. It targets technicians who perform on-site installations of Eagle Eye Camera DB14 for LPR applications in the Eagle Eye Cloud VMS.

Introduction

This Application Note provides insights into the Eagle Eye Camera DB14, which is purpose-built for LPR applications with its reliable imaging for great LPR reads. Proper installation of the DB14 camera is critical for reliable operation. Improper installation can result in problems such as accuracy, consistency, offline cameras, or reliability issues. This Application Note explains some of the best practices for DB14 camera installations as well as practices to avoid.

This Application Note is not exhaustive. Please use and adapt this information for your DB14 installations.

Background

Capturing license plates accurately under varied lighting conditions, vehicle speeds, and environmental factors is a critical challenge for security professionals. Traditional surveillance cameras often struggle with:

- Poor nighttime visibility
- Blurry images at street view (vehicle speed between 10 to 30 MPH)
- Glare and low-contrast plates
- Complicated and costly installation

The Eagle Eye DB14 camera is designed for low/medium-speed license plate capture.

Key Features

The Eagle Eye DB14 camera has the following key features:

- Optimized image capture for LPR: 4MP resolution (2592×1520) at up to 60fps
- 1/1.8" Sony Progressive Scan CMOS sensor for superior low-light performance
- 8-32mm P-Iris motorized lens for precise focus and zoom control
- Advanced night vision: Gen 3 IR with Smart Illumination (up to 70m/229ft) ensures sharp, clear plate captures even in complete darkness
- True WDR (Wide Dynamic Range) for handling extreme lighting contrasts
- Designed for high-speed & varying conditions
- Optimized for vehicle speeds up to 40MPH (60KMPH)
- 2D/3D digital noise reduction (DNR) to eliminate motion blur
- Pre-configured for plug-and-play installation with Eagle Eye Cloud VMS
- Real-time AI processing for plate recognition via Eagle Eye LPR
- Secure cloud-based management with automatic software updates
- Built for Harsh Environments: IP66 and IK10-rated weather-resistant housing
- Operates in extreme temperatures (-40°F to 140°F)

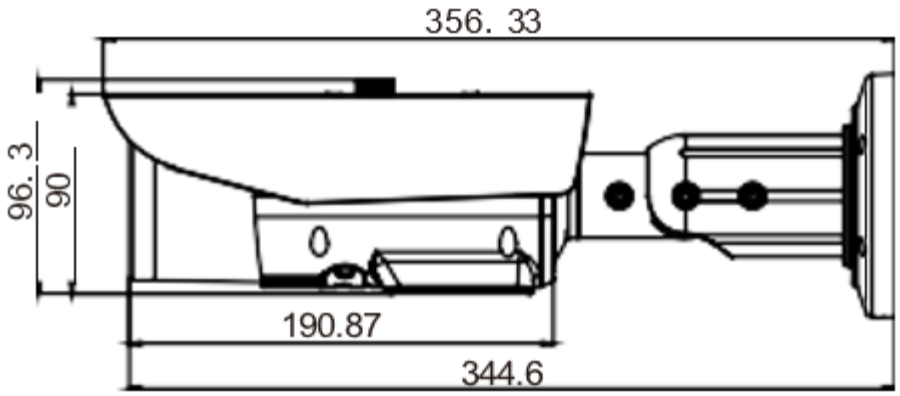


Figure 1: DB14 measurements (in mm)

Integration with Video Surveillance Package (VSP)

The DB14 is fully optimized for LPR application and combined with Eagle Eye LPR, produces high accuracy plate reads. The plate reads are stored, visualized, and analysed in the Eagle Eye Cloud VMS, enabling you to manage these LPR installations from anywhere.

- Sharp imaging for accuracy LPR reads
- Real-time plate detection and logging
- Automatic alerts and access control automation
- Cloud-based historical search and vehicle tracking
- Support for multiple cameras in high-traffic environments

Applications

The DB14 is recommended for the following applications:

- Parking lots & gated communities: Automate vehicle entry/exit.
- Neighborhood security: Tracking unauthorized vehicles in your neighborhood
- Fleet management: Improve audits and tracking.
- Retail and delivery hubs: Verify curbside pickups.
- Corporate campuses and HOAs: Enhance security and access control.

In combination with Eagle Eye LPR , the DB14 eliminates the need for expensive LPR cameras with on-board processing, and any additional onsite processing servers. by making installation easy and cloud managed, this solution reduces maintenance costs without compromising on accuracy.

Installation and Activation Considerations

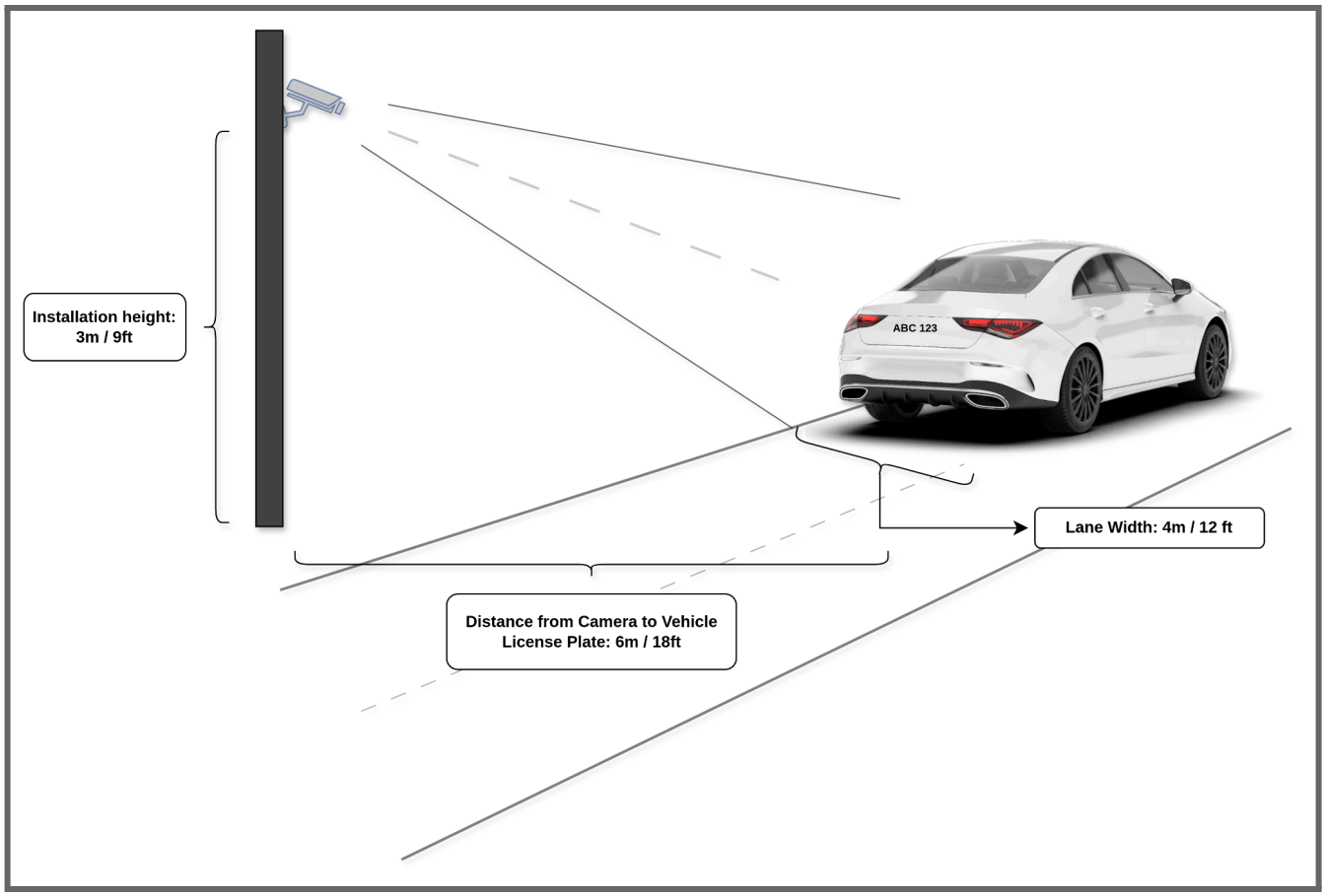
Deployment Considerations

- Positioning: Install 5-15° off-center for optimal plate capture.
- Lighting: Use IR mode for night capture, and avoid direct glare sources.
- Camera Settings: Configure Eagle Eye Cloud VMS to automatically detect and optimize the camera for LPR mode.

Refer to the DB14 Quick Start Guide for more details on installation.

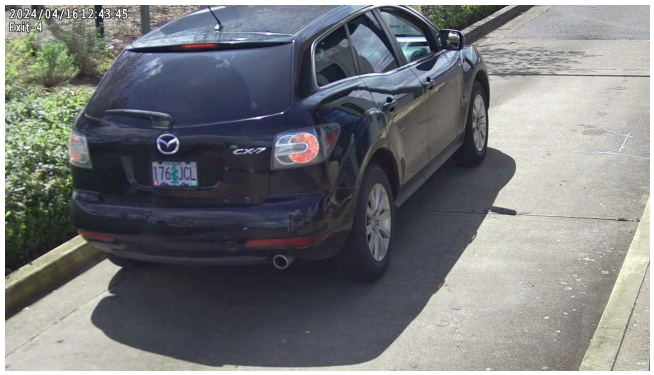
Camera Installation Considerations

Parameter	Min	Max	Preferred
Installation Height	2 m / 6 ft	5 m / 15 ft	2.5 m / 8 ft
Lane Width	3 m / 9 ft	7 m / 22 ft	4 m / 12 ft
Distance from Camera to Vehicle License Plate	4 m / 12 ft	15 m / 50 ft	6 m / 18 ft



Reference images for Indoor View:

Reference Images of Outdoor View:



Adding DB14 to the Eagle Eye VSP System

- Install and position the DB14 camera for optimal plate view.
- Connect to Eagle Eye Cloud VMS.
- Enable LPR mode and assign to a VSP-enabled site.
- Set up AI-based plate recognition rules for alerts, logging, and automation.

For DB14 camera installation information, refer to the DB14 Camera Quick Start Guide on https://cloud.een.com/install. For additional LPR integration details, refer to AN033 Camera Installation Considerations for LPR/ANPR.

Conclusion

The Eagle Eye Camera DB14 is a powerful, purpose-built license plate capture camera designed to enhance security, automate vehicle tracking, and integrate seamlessly with Eagle Eye LPR. With industry-leading low-light performance, smart IR, and cloud-based intelligence, the DB14 camera eliminates missed plates and manual data entry.