Eagle Eye Application Note - AN077

Key Features and Applications of DX02 360° Panoramic Cameras

2025-03-21 Revision 1.0

Target Audience

This Application Note provides guidance on the proper application and key features of the Eagle Eye DX02 360° Panoramic Camera. It is intended for resellers, system integrators, and security professionals looking to deploy high-coverage surveillance solutions efficiently.

Introduction

The DX02 360° Panoramic Camera is designed to provide comprehensive security coverage with four independent 5MP camera sensors in a single housing. Unlike traditional fixed cameras, the DX02 camera delivers up to four separate video streams, allowing users to independently position and configure each camera head. This flexibility makes it an ideal choice for wide-area surveillance, reducing blind spots while minimizing installation complexity and costs.

Key Features and Capabilities

An overview of the key features and capabilities of the DX02 360° Panoramic Camera is below.

- 4 × 5MP Progressive Scan CMOS Sensors – The DX02 captures high-resolution images with up to 2592 × 1944 resolution per stream.
- 360° Coverage with Independent Camera Heads – Each sensor can be positioned and adjusted independently, offering tailored viewing angles and zoom levels.
- AI-Powered Video Analytics – The camera supports face, human, and vehicle detection, as well as intrusion detection, line crossing alerts, loitering and more.
- Flexible Lens and Zoom Options – The motorized 2.7–13.5mm lens with DC iris control provides a 95.6°–26.9° field of view.
- Single-Cable Installation – The camera uses a single network cable and IP address, reducing infrastructure complexity and lowering total cost of ownership.

- Rugged Design for Indoor and Outdoor Use – The DX02 is built with an IP67 and IK10-rated aluminum alloy housing, capable of withstanding harsh weather and vandalism.

Suggested Applications

The DX02 360° Panoramic Camera is designed for high-security environments that require wide-area coverage with minimal infrastructure. Ideal applications include:

- Building Perimeters & Corners – Reduce blind spots by covering multiple directions with one device.
- Intersections & Hallways – Monitor multiple lanes, corridors, and entry points with flexible viewing angles.
- Parking Lots & Open Areas – Minimize the number of cameras required for expansive spaces.
- Retail & Commercial Spaces – Enhance security and customer monitoring with detailed multi-stream coverage.
- Industrial & Warehouse Facilities – Monitor large operational zones with independent camera control.

Installation and Setup Considerations

Power and Connectivity

The DX02 supports PoE+ (802.3at) or DC12V power. Ensure adequate power is supplied, especially for multi-stream configurations.

Camera Positioning

Each camera head has a pan range of -180° to 180°, tilt range of 0° to 130°, and rotation range of 0° to 355°, allowing for optimal placement in different environments. See Figure 1 for dimensions of the DX02 camera.

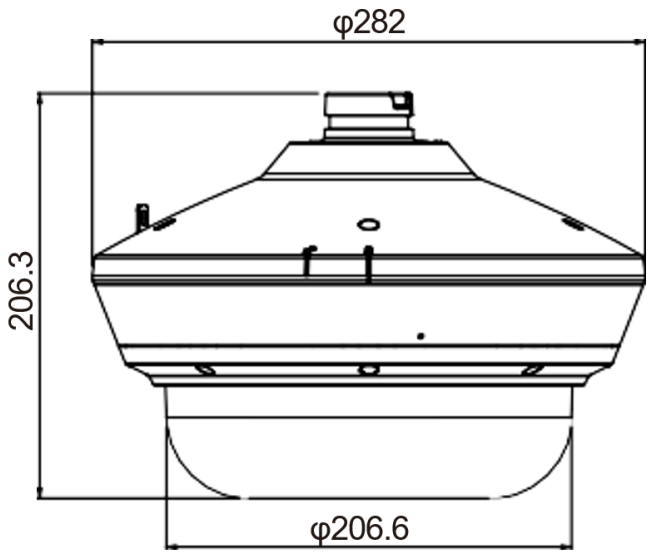

Figure 1: DX02 Camera Dimensions (in mm)

Bandwidth and Storage Optimization

The camera offers CBR/VBR bit rate control and supports ROI (Region of Interest) encoding to optimize video quality and storage efficiency.

High-resolution video (5MP per sensor) may require adjusted recording settings to balance image quality and bandwidth consumption. Greater bandwidth at the site allows for higher-resolution recording. We recommend you have higher speed bandwidth to support higher MP recording.

Other Considerations

Multi-Sensor vs. Traditional Camera

- The DX02 replaces multiple fixed cameras, reducing the number of devices required for full coverage.
- Unlike stitched view cameras, each DX02 sensor provides an independent, high-resolution stream, ensuring greater control over image quality and analytics.

Advanced Analytics for Smart Security

- Built-in AI capabilities allow for precise monitoring of human and vehicle movements.
- Intrusion, line-crossing, and loitering detection features enhance proactive security responses.

Durability and Environmental Resilience

- With its IP67-rated housing, the DX02 is built for extreme weather conditions from -40 °F to 140 °F (-40 °C to 60 °C).
- IK10 vandal resistance makes it suitable for deployment in high-risk environments.

Additional Support

For additional support, refer to the DX02 data sheet at een.com/docs/camera-datasheets, the DX02 Quick Start Guide at een.com/install, or contact our technical support team.