12 MP Vari-focal Bullet Network Camera

12 MP IR Bullet Network Camera

System Overview

The 12 MP day/night bullet network camera features an advanced 1/1.7-in progressive-scan CMOS Sony STARVIS™ imager with a motorized zoom lens. The camera uses the Smart H.265+ video compression standard to improve encoding efficiency while preserving high-quality video, and the camera also features built-in business intelligence algorithms. The IP67 environmental protection rating and the IK10 vandal resistance ensure the camera operates in the harshest environments.

Functions

4K Technology

4K resolution is a revolutionary breakthrough in image processing technology. 4K delivers four times the resolution of standard HDTV 1080p cameras and offers superior picture quality and image details. 4K resolution improves the clarity of a magnified scene to view or record crisp forensic video from large areas.

Electronic Pan/Tilt/Zoom (E-PTZ) Functionality

The E-PTZ feature scans a portion of the scene and zooms that scene for improved observation. E-PTZ coupled with ultra-high resolution lets an operator monitor a large area from a single camera, reducing overall security costs.

Intelligent Video System (IVS)

IVS is a built-in video analytic algorithm that delivers intelligent functions to monitor a scene for Tripwire violations, intrusion detection, and abandoned or missing objects. A camera with IVS quickly and accurately responds to monitoring events in a specific area. In addition to scene analytics, the camera supports face detection to quickly capture a face and upload the image to a server. The camera also offers tamper detection by recognizing a dramatic scene change and generating a warning message to inspect the camera.

1/1.7-in. 12 MP Progressive Scan STARVIS™ CMOS Sensor

Triple-stream Encoding

H.265 and H.264 Dual Codecs

12 MP (4000 x 3000) at 20 fps and 4K (3840 x 2160) at 30 fps

Digital WDR, Day/Night (ICR), 3DNR, AWB, AGC, BLC

Multiple Network Monitoring: Web Viewer, CMS (DSS/PSS) and DMSS

4.1 mm to 16.4 mm Motorized Lens

Max. IR LED Length 50 m (164 ft)

Micro SD Memory, IP67, IK10, PoE+

Intelligent Video System with Intelligent Business Analysis

Five-year Warranty*

Intelligent Business Analysis

The built-in IVS features people counting and heat map functionality, advanced features that add business intelligence to your security system. Intelligent Analysis tracks and stores daily, weekly, monthly, and yearly people flow through a defined scene and produces a configurable report. The system uses this data to produce a Heat Map, a two-dimensional representation of data that provides an immediate visual summary of information. People Counting and Heat Maps can identify the most active areas of a retail space providing valuable data analysis for commercial applications.

Smart H.265+

Smart H.265+ is the optimized implementation of the H.265 codec that uses a scene-adaptive encoding strategy, dynamic GOP, dynamic ROI, flexible multi-frame reference structure and intelligent noise reduction to deliver high-quality video without straining the network. Smart H.265+ technology reduces bit rate and storage requirements by up to 70% when compared to standard H.265 video compression.

Smart Scene Adaptive (SSA) Technology

Smart Scene Adaptive (SSA) is an intelligent image technology, developed by Dahua that automatically evaluates and compensates for changes in the luminance of a scene. SSA automatically regulates the exposure parameters to improve image quality in a backlit scene, especially in scenes with traffic lights or headlights.

Environmental

With a built-in heater and a temperature range of -40 °C to +60 °C (-40 °F to +140 °F), the camera is designed for extreme temperature environments. The camera complies with the IK10 impact rating making it capable of withstanding the equivalent of 55 kg (120 lbs) of force. Subjected and certified to rigorous dust and water immersion tests, the IP67 rating makes it suitable for demanding outdoor applications.

*Warranty applies to products sold through an authorized Dahua Dealer.
Technical Specification

Camera

Image Sensor  
1/1.7-in. 12 MP STARVIS™ CMOS

Effective Pixels  
4000(H) x 3000(V)

RAM/ROM  
1024 MB / 128 MB

Minimum Illumination  
Color: 0.02 Lux at F1.53, 0 Lux at F1.53 with IR on

S/N Ratio  
More than 50 dB

IR Distance  
Distance up to 50 m (164.04 ft)

IR On/Off Control  
Auto, Manual

IR LEDs  
Four (4)

Lens

Lens Type  
Motorized Auto Iris (HALL)

Mount Type  
Board-in

Focal Length  
4.1 mm to 16.4 mm Motorized

Max. Aperture  
F1.53

Angle of View  
Horizontal: 85° to 35°  
Vertical: 63° to 26°

Optical Zoom  
4x

Focus Control  
Motorized

Close Focus Distance  
0.50 m (1.64 ft)

DORI¹ Distance

<table>
<thead>
<tr>
<th>Lens</th>
<th>Detect (8 ppf)</th>
<th>Observe (19 ppf)</th>
<th>Recognize (38 ppf)</th>
<th>Identify (76 ppf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wide</td>
<td>115 m (377 ft)</td>
<td>46 m (151 ft)</td>
<td>23 m (75 ft)</td>
<td>11 m (36 ft)</td>
</tr>
<tr>
<td>Tele</td>
<td>227 m (909 ft)</td>
<td>111 m (364 ft)</td>
<td>55 m (180 ft)</td>
<td>28 m (92 ft)</td>
</tr>
</tbody>
</table>

Pan/Tilt/Rotation

Range  
Pan: 0° to 360°  
Tilt: 0° to 90°  
Rotation: 0° to 360°

Video

Compression  
Smart H.265+, H.265, Smart H.264+, H.264, MJPEG

Streaming Capability  
Three (3) Streams

Resolution  
12 MP (4000 x 3000), 4K (3840 x 2160), 6 MP (3072 x 2048), 5 MP (2560 x 1920), 3 MP (2048 x 1536), 3 MP (2304 x 1296), 1080p (1920 x 1080), 1.3 MP (1280 x 960), 720p (1280 x 720), D1 (704 x 480), VGA (640 x 480), CIF (352 x 240)

Frame Rate  
Main Stream: 12 MP at 20 fps or 4K at 30 fps  
Sub Stream: 01 at 30 fps  
Third Stream: 1080p at 30 fps

Bit Rate Control  
CBR, VBR

Bit Rate  
H.264: 24 to 16384 Kbps  
H.265: 14 to 9984 Kbps

Day/Night  
Auto (ICR), Color, B/W

BLC Mode  
BLC, HLC, DWDR, SSA

White Balance  
Auto, Natural, Street Lamp, Outdoor, Manual

Gain Control  
Auto, Manual

Noise Reduction  
3D DNR

Motion Detection  
Off, On (4 Zone, Rectangle)

Region of Interest  
Off, On (4 Zone)

Electronic Image Stabilization (EIS)  
Support

Smart IR  
Support

Defog  
Support

Digital Zoom  
16x

Flip  
0°, 90°, 180°, 270°

Mirror  
Off, On

Privacy Masking  
Off, On (4 Area, Rectangle)

Audio

Compression  
G.711a, G.711Mu, AAC, G.726

Network

Ethernet  
RJ-45 (100/1000 Base-T)

Protocol  
HTTP, HTTPs, TCP, ARP, RTSP, RTP, UDP, SMTP, FTP; DHCP, DNS, DDNS, PPPOE, IPv6, QoS, UPnP, NTP; Bonjour, 802.1x, Multicast, ICMP, IGMP, SNMP

Interoperability  
ONVIF, PSIA, CGI

Streaming Method  
Unicast / Multicast

Max. User Access  
10 Users / 20 Users

Edge Storage  
NAS  
Local PC for instant recording  
Mirco SD card, maximum 128 GB

Web Viewer  
IE, Chrome, Firefox, Safari

Management Software  
Smart PSS, DSS

Mobile Operating Systems  
IOS, Android

Certifications

Safety  
UL60950-1

Electromagnetic Compatibility (EMC)  
FCC Part 15 Subpart B

Interface

Audio  
Input: One (1) Channel  
Output: One (1) Channel

Alarm  
Input: Two (2) Channels  
Output: One (1) Channel

Electrical

Power Supply  
12 VDC, PoE+ (802.3at, Class 4)

Power Consumption  
< 13 W

1. The DORI distance is a measure of the general proximity for a specific classification to help pinpoint the right camera for your needs. The DORI distance is calculated based on sensor specifications and lab test results according to EN 62676-4, the standard that defines the criteria for the Detect, Observe, Recognize and Identify classifications.
### Ultra Series | NK8BB7Z

#### Environmental

<table>
<thead>
<tr>
<th>Operating Conditions</th>
<th>-40° C to +60° C (-40° F to +140° F), with built-in heater Less than 95% RH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage Conditions</td>
<td>-40° C to +60° C (-40° F to +140° F) Less than 95% RH</td>
</tr>
<tr>
<td>Ingress Protection</td>
<td>IP67</td>
</tr>
<tr>
<td>Vandal Resistance</td>
<td>IK10</td>
</tr>
</tbody>
</table>

#### Construction

<table>
<thead>
<tr>
<th>Casing</th>
<th>Metal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>273.20 mm x 95.0 mm x 96.40 mm (10.76 in. x 3.74 in. x 3.79 in.)</td>
</tr>
<tr>
<td>Net Weight</td>
<td>1.12 kg (2.47 lb)</td>
</tr>
<tr>
<td>Gross Weight</td>
<td>1.52 kg (3.35 lb)</td>
</tr>
</tbody>
</table>

#### Intelligence

**IVS triggers an alarm and takes a defined action for the following events:**

**Standard Features**
- Tampering with the camera.
- Camera loses or changes focus drastically.
- Error writing to an onboard Micro SD card.
- Error sending or receiving data over the network.
- Unauthorized access to the camera.

**Premium Features**
- Motion: An object moves through any part of the scene.
- Tripwire: A target crosses a user-defined line.
- Intrusion: A target enters or exits a defined perimeter.
- Scene Change: A person or object moves the camera to change the scene or covers the camera to obscure the scene.
- Abandoned/Missing Object: A target leaves an object in designated area, or a target removes an object from the same designated area.

**Advanced Features**
- Facial Detection: Detects and captures a snapshot of a human face in a defined area within a scene.
- People Counting: Measure the number of customers, visitors or passengers in a surveillance scene.
- Heat Map: Generates a visual representation of data.

#### Ordering Information

<table>
<thead>
<tr>
<th>Type</th>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 MP Camera</td>
<td>NK8BB7Z</td>
<td>12 MP IR Bullet Network Camera, Built-in Heater, IVS</td>
</tr>
<tr>
<td>Accessories (optional)</td>
<td>PFA121</td>
<td>Junction Box</td>
</tr>
<tr>
<td></td>
<td>PFA152</td>
<td>Pole Mount</td>
</tr>
</tbody>
</table>

#### Accessories

**Optional:**
- PFA121 Junction box
- PFA152 Pole mount

#### Junction Mount | Pole Mount
- PFA121
- PFB121 + PFA152

#### Dimensions (mm/inch)

- 273.2 [10.76"]
- 174.7 [6.88"]
- 95.0 [3.74"]
- 96.4 [3.79"]

© 2018 Dahua. All rights reserved. Design and specifications are subject to change without notice.