DAHUA
TECHNOLOGY

5 MP Fixed Mini Bullet Network Camera
WDR IR Network Camera

- 1/2.7-in. 5 MP Progressive-scan CMOS Sensor
- Dual Stream Encoding with Smart H.265+ and H.264 Dual Codecs
- 5 MP at 20 fps or 3 MP at 30 fps, Maximum Resolution
- Starlight Technology for Ultra-low Light Sensitivity
- 2.8 mm or 3.6 mm Fixed Lens Options
- True WDR (120 dB) and Day/Night (ICR)
- Maximum IR LED Length 30 m (98 ft) with Smart IR
- Intelligent Video System[1]
- IP67 Ingress Protection
- PoE Support
- Five-year Warranty*

5Mp	H.265	WDR	30m IR	IP67

System Overview

The Dahua 5 MP Pro Series cameras offer high-resolution video and cutting-edge technology in a compact and accessible package. The cameras feature Smart H.265+ video compression, reducing bandwidth and storage requirements without sacrificing video quality. The camera's elegant blend of aesthetics combined with a range of easy mounting solutions provides an excellent choice for a variety of small to mid-size applications at an affordable price.

Functions

Starlight Technology

For challenging low-light applications, Dahua's Starlight Ultra-low Light Technology offers best-in-class light sensitivity, capturing color details in low light down to 0.009 lux. The camera uses a set of optical features to balance light throughout the scene, resulting in clear images in dark environments.

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.

Wide Dynamic Range (WDR)

The camera achieves vivid images, even in the most intense contrast lighting conditions, using industry-leading wide dynamic range (WDR) technology. For applications with both bright and low lighting conditions that change quickly, True WDR (120 dB) optimizes both the bright and dark areas of a scene at the same time to provide usable video.

Intelligent Video System

IVS is a built-in video analytic algorithm that delivers intelligent functions to monitor a scene for Tripwire violations, motion detection and intrusion detection. A camera with IVS quickly and accurately responds to monitoring events in a specific area and offers tamper detection by recognizing a dramatic scene change and generating a warning message to inspect the camera.

Smart IR Technology

With IR illumination, detailed images can be captured in low light or total darkness. The camera's Smart IR technology adjusts the intensity of the camera's infrared LEDs to compensate for the distance of an object. Smart IR technology prevents IR LEDs from whitening out images as they come closer to the camera. The camera's integrated infrared illumination provides high-performance in extreme low-light environments up to 30 m (98 ft).

Interoperability

The camera conforms to the ONVIF (Open Network Video Interface Forum) specifications, ensuring interoperability between network video products regardless of manufacturer.

Environmental

Dahua cameras operate in extreme temperature environments, rated for use in temperatures from −30° C to +60° C (−22° F to +140° F) with 95% humidity. The camera allows for ±10% input voltage tolerance, suitable for the most unstable conditions for outdoor applications. Its 2KV lightning rating provides effective protection for both the camera and its structure against lightning. Subjected to rigorous dust and water immersion tests and certified to the IP67 Ingress Protection rating makes it suitable for demanding outdoor applications.

ONVIF **PSIA**

Technical Specification

Camera

Image Sensor	1/2.7-in. 5 MP Progressive-scan CMOS
Effective Pixels	2592(H) x 1944(V)
RAM/ROM	512 MB / 32 MB
Scanning System	Progressive
Electronic Shutter Speed	Auto, Manual; 1/3 s to 1/100000 s
Minimum Illumination	Color: 0.009 lux at F1.6 (1/3 s,30 IRE) Color: 0.09 lux at F1.6 (1/30 s, 30 IRE) 0 lux at F1.6 with IR on
S/N Ratio	More than 50 dB
IR Distance	Distance up to 30.0 m (98.43 ft)
IR On/Off Control	Auto, Manual
IR LEDs	18

Lens

Lens Type		Fixed
Mount Type		Board-in
Focal Length	N51BD22	2.8 mm
	N51BD23	3.6 mm
Maximum Aperture		F1.6
Angle of View	N51BD22	Horizontal: 96° Vertical: 70°
	N51BD23	Horizontal: 78° Vertical: 58°
Focus Control		Fixed

DORI² Distance	Lens	Detect (8 ppf)	Observe (19 ppf)	Recognize (38 ppf)	Identify (76 ppf)
	2.8 mm	63 m (207 ft)	25 m (82 ft)	13 m (43 ft)	6 m (20 ft)
	3.6 mm	80 m (262 ft)	32 m (105 ft)	16 m (52 ft)	8 m (26 ft)

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	Two (2) Streams
Resolution	5 MP (2592 x 1944), 2688 x 1520, 2560 x 1440, 2304 x 1296, 1080p (1920 x 1080), SXGA (1280 x 1024), 1.3 MP (1280 x 960), 720p (1280 x 720), D1 (704 x 480), CIF (352 x 240)
Frame Rate	Main Stream: 5 MP at 20 fps or 3 MP at 30 fps
	Sub Stream 1: D1/CIF at 30 fps
Bit Rate Control	CBR/VBR
Bit Rate	H.264: 32 K to 10240 Kbps H.265: 12 K to 8448 Kbps
Day/Night	Auto (ICR), Color, B/W
BLC Mode	BLC, HLC, WDR (120 dB)

White Balance	Auto, Natural, Street Lamp, Outdoor, Manual
Gain Control	Auto, Manual
Noise Reduction	3D DNR
Motion Detection	Off, On (4 Zones, Rectangle)
Region of Interest	Off, On (4 Zones)
Smart IR	Support
Digital Zoom	16x
Flip	0°, 90°, 180°, 270°
Mirror	Off, On
Privacy Masking	Off, On (4 Areas, Rectangle)

Network

Ethernet	RJ-45 (10/100 Base-T)
Protocol	HTTP, HTTPs, TCP, ARP, RTSP, RTP, UDP, SMTP, FTP, DHCP, DNS, DDNS, PPPOE, IPv4/v6, 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
Web Viewer	IE, Chrome, Firefox, Safari
Management Software	Smart PSS, DSS
Mobile Operating System	IOS, Android

Certifications

Safety	UL60950-1
Electromagnetic Compatibility (EMC)	FCC CFR 47 Part 15 Subpart B

Electrical

Power Supply	12 VDC ± 10% , 400 mA maximum; or PoE (802.3af Class 0)
Power Consumption	< 4.85 W

Environmental

Operating Conditions	−30° C to +60° C (−22° F to +140° F) Less than 95% RH
Storage Conditions	−30° C to +60° C (−22° F to +140° F) Less than 95% RH
Ingress Protection	IP67

Construction

Casing	Metal and Plastic
Dimensions	Ø70.0 mm x 164.70 mm (Ø2.76 in. x 6.49 in.)
Net Weight	0.38 kg (0.84 lb)
Gross Weight	0.44 kg (0.97 lb)

Intelligence[1]

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

Standard Features	• Tampering with the camera. • Error writing to an onboard Micro SD card. • Error sending or receiving data over the network. • Unauthorized access to the camera.
Premium Features	
Tripwire	A target crosses a user-defined line.
Intrusion	A target enters or exits a defined perimeter.

Ordering Information

Type	Part Number	Description
5 MP Camera	N51BD22	5 MP IR Mini Bullet Network Camera, WDR, 2.8 mm
	N51BD23	5 MP IR Mini Bullet Network Camera, WDR, 3.6 mm
Accessories, optional	PFA134	Junction Box
	PFA150	Pole Mount
	PFA151	Corner Mount
	PFM321	12 VDC, 1 A Power Adapter

Accessories

Optional:

PFA134
Junction Box

PFA150
Pole Mount

PFA151
Corner Mount

PFM321
Power Adapter

Corner Mount	Pole Mount
PFA134 + PFA151	PFA134 + PFA150

Junction Mount
PFA134

Dimensions (mm/inch)

164.70 mm (6.48 in.)
92.0 mm (3.62 in.)
70.0 mm (2.76 in.)
70.0 mm (2.76 in.)

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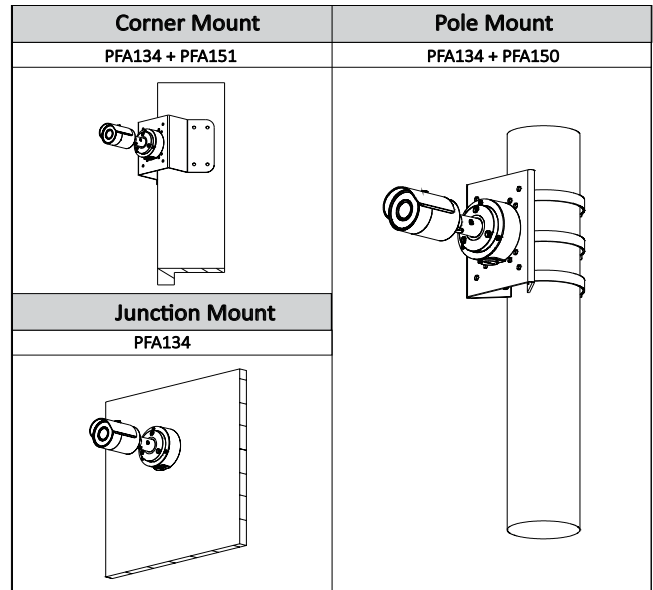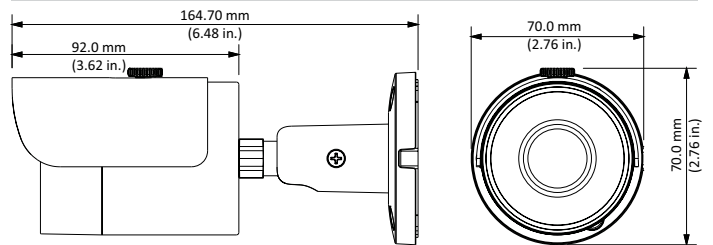
1. IVS Premium Features require Firmware Version 20171110 or higher.
2. The DORI distance is a measure of the general proximity for a specific classification to help pinpoint the right camera for your needs. The DORI distance is calculated based on sensor specifications and lab test results according to EN 62676-4 , the standard that defines the criteria for the Detect, Observe, Recognize and Identify classifications.