

# DH-SD50131U-HNI

720P 31x Starlight PTZ Network Camera



- 1/2.8" STARVIS™ CMOS
- Powerful 31x optical zoom
- H.265 Encoding
- Starlight technology
- Max. 25/30/50/60fps@720P
- Auto-tracking and IVS
- Support PoE+
- IP67, IK10



## System Overview

Featuring powerful optical zoom and accurate pan/tilt/zoom performance, this camera can provide large monitoring range and great detail. The camera has very excellent low light performance due to adopting the latest starlight technology. The camera is equipped with smooth control, high quality image and good protection, which make it can meet most of the requirements of video surveillance applications.

## 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 0.005lux. The camera uses a set of optical features to balance light throughout the scene, resulting in clear images in dark environments.

### Wide Dynamic Range

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.

### Auto-tracking

This feature controls the pan/tilt/zoom actions of the camera to automatically track an object in motion and to keep it in the scene. The tracking action can be triggered manually or automatically by defined rules. Once a rule is triggered, the camera can zoom in and track the defined target automatically.

### 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.

### PFA Technology

PFA technology has innovatively introduced new methods of judgment to ensure the accuracy and predictability of the direction of subject distance adjustment. The result is a set of advanced focusing algorithms. PFA ensures clarity of the image throughout the process of zooming and shortens focus time. The realization of PFA technology substantially improves user experience and increases product value.

### Environmental

Dahua cameras operate in extreme temperature environments, rated for use in temperatures from -40 °C to +60 °C (-40 °F to +140°F) with 95% humidity. The camera complies with the IK10 Vandal Resistance impact rating. Subjected to rigorous dust and water immersion tests and certified to the IP67 Ingress Protection rating makes it suitable for demanding outdoor applications.

### Protection

The camera allows for ±10% input voltage tolerance, suitable for the unstable conditions for outdoor applications. Its 6KV lightning rating provides effective protection for both the camera and its structure against lightning.

### Interoperability

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

Technical Specification			
Camera			
Image Sensor	1/2.8” STARVIS™ CMOS		
Effective Pixels	1280(H) x 720(V), 1 Megapixels		
RAM/ROM	1024M/128M		
Scanning System	Progressive		
Electronic Shutter Speed	1/1s~1/30,000s		
Minimum Illumination	Color: 0.005Lux@F1.6; B/W: 0.0005Lux@F1.6		
S/N Ratio	More than 55dB		
IR Distance	N/A		
IR On/Off Control	N/A		
IR LEDs	N/A		
Lens			
Focal Length	4.8mm~150mm		
Max. Aperture	F1.6 ~ F4.4		
Angle of View	H: 58.3° ~ 1.9°		
Optical Zoom	31x		
Focus Control	Auto/Manual		
Close Focus Distance	100mm~ 1000mm		
DORI Distance			
*Note: The DORI distance is a “general proximity” of distance which makes it easy to pinpoint the right camera for your needs. The DORI distance is calculated based on sensor specification and lab test result according to EN 62676-4 which defines the criteria for Detect, Observe, Recognize and Identify respectively.			
Detect	Observe	Recognize	Identify
1613m(5292ft)	646m(2119ft)	323m(1060ft)	161m(528ft)
PTZ			
Pan/Tilt Range	Pan: 0° ~ 360° endless; Tilt: 0° ~ 90°,auto flip 180°		
Manual Control Speed	Pan: 0.1° ~350° /s; Tilt: 0.1° ~250° /s		
Preset Speed	Pan: 500° /s; Tilt: 500° /s		
Presets	300		
PTZ Mode	5 Pattern, 8 Tour, Auto Pan ,Auto Scan		
Speed Setup	Human-oriented focal Length/ speed adaptation		
Power up Action	Auto restore to previous PTZ and lens status after power failure		
Idle Motion	Activate Preset/ Scan/ Tour/ Pattern if there is no command in the specified period		
Protocol	DH-SD		
Intelligence			
Event Trigger	Motion detection, Video tampering , Scene changing, Network disconnection, IP address conflict, Illegal Access, Storage anomaly		

Auto Tracking	Support
IVS	Tripwire, Intrusion, Abandoned/Missing
Advanced Intelligent Functions	Face Detection, Heat Map
Video	
Compression	H.265+/H.265/H.264+/H.264
Streaming Capability	3 Streams
Resolution	720P(1280× 720)/D1(704×576/704×480)/CIF(352×288/352×240)
Frame Rate	Main stream: 720P(1~50/60fps)
	Sub stream1: D1/CIF(1 ~ 25/30fps)
	Sub stream2: 720P/D1/CIF (1~25/30fps)
Bit Rate Control	CBR/VBR
Bit Rate	H.265/H.264: 448K ~ 8192Kbps
Day/Night	Auto(ICR) / Color / B/W
Backlight Compensation	BLC / HLC / WDR (120dB)
White Balance	Auto, ATW, Indoor, Outdoor, Manual
Gain Control	Auto / Manual
Noise Reduction	Ultra DNR (2D/3D)
Motion Detection	Support
Region of Interest	Support
Electronic Image Stabilization (EIS)	Support
Defog	Support
Digital Zoom	16x
Flip	180°
Privacy Masking	Up to 24 areas
Audio	
Compression	G.711a/G.711Mu/AAC/G.722 / G.726/G.729/ MPEG2-L2
Network	
Ethernet	RJ-45 (10Base-T/100Base-TX)
Protocol	IPv4/IPv6, HTTP, HTTPS, SSL, TCP/IP, UDP, UPnP, ICMP, IGMP, SNMP, RTSP, RTP, SMTP, NTP, DHCP, DNS,PPPOE,DDNS,FTP, IP Filter,QoS,Bonjour,802.1x
Interoperability	ONVIF Profile S&G, API
Streaming Method	Unicast / Multicast
Max. User Access	20 users
Edge Storage	NAS (Network Attached Storage),Local PC for instant recording, Micro SD card 256GB
Web Viewer	IE, Chrome, Firefox, Safari
Management Software	Smart PSS, DSS, DMSS
Smart Phone	IOS, Android

**Certifications**

## Certifications

CE: EN55032/EN55024/EN50130-4  
 FCC: Part15 subpartB, ANSI C63.4- 2014  
 UL: UL60950-1+CAN/CSA C22.2, No.60950-1

**Interface**

Video Interface	N/A
RS485	N/A
Audio I/O	1/1
Alarm I/O	2/1

**Electrical**

Power Supply	AC24V/1.5A(±10%), PoE+(802.3at)
Power Consumption	13W,23W (Heater on)

**Environmental**

Operating Conditions	-40°C ~ 60°C (-40°F ~ +140°F) / Less than 95% RH
Ingress Protection	IP67
Vandal Resistance	IK10

**Construction**

Casing	Metal
Dimensions	Φ186(mm) x 253(mm)
Net Weight	2.5kg(5.51lb)
Gross Weight	4.5kg(9.92lb)

**Ordering Information**

Type	Part Number	Description
720P PTZ Camera	DH-SD50131U-HNI	720P 31x Starlight PTZ Network Camera, WDR, PAL
	DH-SD50131UN-HNI	720P 31x Starlight PTZ Network Camera, WDR, NTSC
	SD50131U-HNI	720P 31x Starlight PTZ Network Camera, WDR, PAL
	SD50131UN-HNI	720P 31x Starlight PTZ Network Camera, WDR, NTSC
Accessories	PFB300S	Wall Mount
	PFA110	Mount Adapter
	AC24V/1.5A	Power Adapter
	PFA140	Power Box
	PFB300C	Ceiling Mount
	PFA120	Water-proof Junction Box
	PFA150	Pole Mount
	PFA151	Corner Mount
	PFB303S	Parapet Mount

**Accessories**

Included:



PFB300S  
Wall Mount



PFA110  
Mount Adapter



AC24V/1.5A  
Power Adapter

Optional:



PFA140  
Power Box



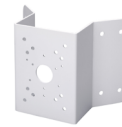
PFB300C  
Ceiling Mount



PFA120  
Junction Box



PFA150  
Pole Mount



PFA151  
Corner Mount



PFB303S  
Parapet Mount

Ceiling Mount	Junction Mount
PFA110 + PFB300C	PFA110 + PFB300S + PFA120
Power Box Mount	Pole Mount
PFA110 + PFB300S + PFA140	PFA110 + PFB300S + PFA150
Corner Mount	Parapet Mount
PFA110 + PFB300S + PFA151	PFA110 + PFB303S

Dimensions (mm)

