2 MP PTZ Network Camera
30x Starlight In-ceiling PTZ Network Camera

- 1/2.8-in. 2 MP STARVIS™ CMOS Sensor
- Powerful 30x Optical Zoom
- Starlight Technology for Ultra-low Light Sensitivity
- Triple-stream Encoding
- H.265 and H.264 Dual Codec
- 1080p at 60 fps Maximum Resolution
- Intelligent Video System (IVS) Analytics with Auto-tracking
- IK10 Vandal Resistance
- Five-year Warranty*

System Overview

The 2 MP Starlight PTZ Dome camera features a 1/2.8-in. STARVIS™ CMOS imager with a 30x optical zoom lens, and provides an all in one solution for capturing long-distance video surveillance for indoor applications. The camera uses the Smart H.265+ video compression standard to improve encoding efficiency while preserving high-quality video. The PTZ camera is equipped with quick and accurate pan/tilt/zoom control and True WDR for applications with direct sunlight or glare.

Functions

Starlight Technology
For challenging low-light applications, Dahua's Starlight Ultra-low Light Technology offers light sensitivity that captures details in low light down to 0.005 lux. 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.

Intelligent Video System
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 offers tamper detection by recognizing a dramatic scene change and generating a warning message to inspect the camera.

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.

PFA Technology
The camera uses innovative PFA Technology to improve zoom accuracy and to decrease focus time. A series of advanced algorithms more accurately judge the direction and the distance to a subject, improving picture clarity throughout the zooming process.

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.

Cybersecurity
Dahua network cameras are equipped with a series of key cybersecurity technologies including: security authentication and authorization, access control, trusted protection, encrypted transmission, and encrypted storage. These technologies improve the camera's ability to prevent malicious access and to protect data.

Environmental
With a temperature range of −30° C to +60° C (−22° F to 140° F), the camera is designed for extreme temperature environments. The camera complies with the IK10 Vandal Resistance impact rating making it capable of withstanding the equivalent of 5 kg (11.02 lbs) of force dropped from a height of 40 cm (15.75 in.).

Technical Specification

Camera

Image Sensor	1/2.8-in. STARVIS™ CMOS Sensor
Effective Pixels	1920(H) x 1080(V), 2 MP
RAM/ROM	512 MB / 128 MB
Scanning System	Progressive
Electronic Shutter Speed	1/1 s to 1/30,000 s
Minimum Illumination	Color: 0.005 lux at F1.6 B/W: 0.0005 lux at F1.6
S/N Ratio	More than 55 dB

Lens

Focal Length	4.5 mm to 135.0 mm
Maximum Aperture	F1.6 to F4.4
Angle of View	Horizontal: 67.8° to 2.4°
Optical Zoom	30x
Focus Control	Auto, Manual
Close Focus Distance	100 mm to 1000 mm

DORI Distance[1]

Detect (8 ppf)	Observe (19 ppf)	Recognize (38 ppf)	Identify (76 ppf)
1862 m (6109 ft)	744 m (2441 ft)	372 m (1220 ft)	186 m (610 ft)

PTZ

Pan/Tilt Range	Pan: 0° to 360° endless, Tilt: 0° to 90° Auto Flip 180°
Manual Control Speed	Pan: 0.1° to 350° /s Tilt: 0.1° to 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, Pelco-P/D (Auto-recognition)

Video

Compression		Smart H.265+, H.265, Smart H.264+, H.264
Streaming Capability		Three (3) Streams
Resolution		1080p (1920 x 1080), 1.3 MP (1280 x 960), 720p (1280 x 720), D1 (704 x 480), CIF (352 x 240)
Frame Rate	Main Stream	1080p, 1.3 MP or 720p at 60 fps
	Sub Stream 1	D1 or CIF at 30 fps
	Sub Stream 2	1080p, 1.3 MP, 720p, D1, or CIF at 30 fps

Bit Rate Control	CBR, VBR
Bit Rate	H.265/H.264: 448 K to 8192 Kbps
Day/Night	Auto (ICR), Color, B/W
Backlight Compensation	BLC, HLC, True WDR (120 dB)
White Balance	Auto, ATW, Indoor, Outdoor, Manual
Gain Control	Auto, Manual
Noise Reduction	Ultra DNR (2D/3D)
Advanced Features	Motion Detection, Region of Interest, Electronic Image Stabilization (EIS), Defog
Digital Zoom	16x
Flip	180°
Privacy Masking	Up to 24 areas

Audio

Compression	G.711a, G.711Mu, G.722, G.726, G.729, MPEG2-L2

Network

Ethernet	RJ-45 (10 Base-T/100 Base-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, PSIA, CGI
Streaming Method	Unicast / Multicast
Max. User Access	20 users
Edge Storage	Network Attached Storage (NAS) Local PC for instant recording, Micro SD card, up to 128 GB
Web Viewer	IE 10, Firefox, Safari
Management Software	Smart PSS, DSS
Mobile Operating System	IOS, Android, Windows
Cybersecurity	Video Encryption, Firmware Encryption, Configuration Encryption, Digest, WSSE, Account Lockout, Security Logs, IP/MAC Filtering, Generating and Importing X.509 Certification, Syslog, HTTPS, 802.1x, Trusted Boot, Trusted Execution, Trusted Upgrade

Certifications

CE	EN 55032, EN 55024, EN 50130-4
UL	UL60950-1 + CAN/CSA C22.2, No.60950-1
Electromagnetic Compatibility (EMC)	FCC Part 15 Subpart B ANSI C63.4-2014

Interface

Video	One (1) BNC
Audio	Input: One (1) Channel Output: One (1) Channel
RS485	One (1)
Alarm	Input: Two (2) Channels Output: One (1) Channel

Electrical

Power Supply	24 VAC, 1.5 A (± 10%), PoE+ (802.3at)
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.

Environmental

Operating Conditions	−30° C to 60° C (−22°F to 140° F), Less than 90% RH
Vandal Resistance	IK10
Lightning Protection	6 KV

Construction

Casing	Metal
Dimensions	ø198.0 mm x 177.0 mm (ø7.80 in. x 7.0 in.)
Net Weight	2.20 kg (4.85 lb)
Gross Weight	3.70 kg (8.16 lb)

Intelligence

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	
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	
Auto-tracking	Controls the pan/tilt/zoom actions of the camera to automatically track an object in motion and to keep it in the scene.

Dimensions (mm/in.)

ø178.0 mm (ø7.01 in.)
177.0 mm (6.97 in.)
19.0 mm (0.75 in.)
98.0 mm (3.86 in.)
ø140.0 mm (ø5.51 in.)
ø198.0 mm (ø7.80 in.)

Ordering Information

Type	Part Number	Description
2 MP PTZ Camera	52C230UNI	2 MP 30x Starlight PTZ Network Camera, WDR, IVS
Accessory, included	AC24V/1.5A	Power Adapter

Accessories

Included:

AC24V/1.5A
Power Supply