2 MP Network PTZ Camera

2 MP 25x Starlight IR PTZ Network Camera

- 1/2.8-in. 2 MP STARVIS™ CMOS Sensor
- Powerful 25x Optical Zoom
- Starlight Technology for Ultra-low Light Sensitivity
- Triple-stream Encoding
- H.265 and H.264 Dual Codec
- 1080p at 30 fps Maximum Resolution
- Intelligent Video System (IVS) Analytics
- Maximum IR Distance up to 100 m (328 ft)
- IP66 Ingress Protection
- Designed for Extreme Temperature Environments
- Five-year Warranty*

H.265	WDR	0.005Lux	ICR D/N	IP66	PoE+

System Overview

The 2 MP Starlight IR PTZ Dome camera features a 1/2.8-in. STARVIS™ CMOS imager with a 25x optical zoom lens, and provides an all in one solution for capturing long-distance video surveillance for indoor and outdoor 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 best-in-class light sensitivity, capturing color 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.

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 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.

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.

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.

Interoperability

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

Environmental

With a built-in heater and a temperature range of −40 °C to +70 °C (−40 °F to 158 °F), the camera is designed for extreme temperature environments. Subjected and certified to rigorous dust and water immersion tests, the IP66 rating makes it suitable for demanding outdoor applications.

Protection

This camera suits even the harsh conditions for outdoor applications. Its 6KV lightning rating provides protection against the camera and its structure from the effects of lightning.

ONVIF ❖PSIA

Technical Specification

Camera

Image Sensor	1/2.8-in. STARVIS™ CMOS Sensor
Effective Pixels	1920(H) x 1080(V), 2MP
RAM/ROM	1024 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; 0 lux at F1.6 with IR on
S/N Ratio	More than 50 dB
IR Distance	Distance up to 100.0 m (328.08 ft)
IR On/Off Control	Auto, Manual
IR LEDs	Six (6)

Lens

Focal Length	4.8 mm to 120 mm
Max. Aperture	F1.6 to F4.4
Angle of View	Horizontal: 59.2° to 2.4°
Optical Zoom	25x
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)
1613 m (5292 ft)	646 m (2119 ft)	323 m (1060 ft)	161 m (528 ft)

PTZ

Pan/Tilt Range	Pan: 0° to 360° endless, Tilt: −15° to 90° Auto Flip 180°
Manual Control Speed	Pan: 0.1° to 200° /s Tilt: 0.1° to 120° /s
Preset Speed	Pan: 240° /s Tilt: 200° /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

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 or 720p at 30 fps
	Sub Stream 1	D1 or CIF at 30 fps
	Sub Stream 2	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, 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, Defog
Digital Zoom		16x
Flip		180°
Privacy Masking		Up to 24 areas

Audio

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

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

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

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

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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.

Electrical

Power Supply	12 VDC, 3 A, PoE+ (802.3at)
Power Consumption	13 W, 20 W with IR on

Environmental

Operating Conditions	−40° C to 70° C (−40° F to +158° F), with built-in heater Less than 90% RH
Ingress Protection	IP66

Construction

Casing	Metal
Dimensions	Ø160.0 mm x 295.0 mm (Ø6.30 in. x 11.61 in.)
Net Weight	3.0 kg (6.61 lb)
Gross Weight	4.20 kg (9.26 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

Facial Detection	Detects and captures a snapshot of a human face in a defined area within a scene.

Ordering Information

Type	Part Number	Description
2 MP PTZ Camera	49225TNI	2 MP 25x Starlight IR PTZ Network Camera, Built-in Heater, True WDR, IVS
Accessories, Included	PFB305W	Wall Mount
	DC12V/3A	Power Adapter
Accessories, Optional	PFA111	Mount Adapter
	PFA120	Water-proof Junction Box
	PFA140	Power Box
	PFA150	Pole Mount
	PFA151	Corner Mount
	PFB300C	Ceiling Mount
	PFB303S	Parapet mount

Accessories

Included:

PFB305W
Wall Mount

DC12V/3A
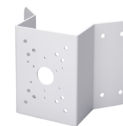Power Supply

Optional:

PFA111
Mount Adapter

PFA120
Junction Box

PFA140
Power box

PFB300C
Ceiling Mount

PFA151
Corner Mount

PFA150
Pole Mount

PFB303S
Parapet Mount

Ceiling Mount	Junction Mount
PFA111 + PFB300C	PFB305W + PFA120
Power Box Mount	**Pole Mount**
PFB305W + PFA140	PFB305W + PFA150
Corner Mount	**Parapet Mount**
PFB305W + PFA151	PFA111+ PFB303S

Dimensions (mm/in.)

50.0 mm
(1.97 in.)

109.0 mm
(4.29 in.)

295.0 mm
(11.61 in.)

140.0 mm
(5.51 in.)

ø160.0 mm
(ø6.30 in.)