**alhua**
TECHNOLOGY

# 2 MP In-ceiling PTZ Network Camera

## 2 MP 12x Starlight Network Camera



- 1/2.8-in. 2 MP STARVIS™ CMOS Sensor
- Starlight Technology for Ultra-low Light Sensitivity
- Powerful 12x Optical Zoom
- Triple-stream Encoding
- H.265 and H.264 Dual Codecs
- 1080p at 30 fps Maximum Resolution
- Intelligent Video System (IVS)
- IK10 Vandal Resistance
- PoE+ Support
- Five-year Warranty*

| H.265 | WDR | 0.005 Lux | ICR D/N | Vandal-proof | PoE+ |
|---|---|---|---|---|---|

## System Overview

The 2 MP Starlight In-ceiling PTZ Dome camera features a 1/2.8-in. STARVIS™ CMOS imager with a 12x optical zoom lens, and provides an all in one solution for capturing long-distance video surveillance for indoor applications. The camera uses the 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 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.

### 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.

### 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.

### High Efficiency Video Coding (H.265)

The H.265 (ITU-T VCEG) video compression standard offers double the data compression ratio at the same level of video quality, or substantially improved video quality at the same bit rate, as compared to older video compression technologies. H.265 offers such impressive compression by expanding the pattern comparison and difference-coding, improving motion vector prediction and motion region merging, and incorporating an additional filtering step called sample-adaptive offset filtering.

### 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 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 an IK10 vandal resistance 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.).

### Protection

This camera suits even the harsh conditions for outdoor applications. Its 2KV lightning rating provides protection against the camera and its structure from the effects of lightning.

ONVIF ❖PSIA

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

## Technical Specification

### Camera

| | |
|---|---|
| Image Sensor | 1/2.8-in. STARVIS™ CMOS Sensor |
| Effective Pixels | 1920(H) x 1080(V), 2 MP |
| 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<br>B/W: 0.0005 lux at F1.6 |
| S/N Ratio | More than 55 dB |

### Lens

| | |
|---|---|
| Focal Length | 5.3 mm to 64 mm |
| Max. Aperture | F1.6 to F4.4 |
| Angle of View | Horizontal: 58.2° to 4.8° |
| Optical Zoom | 12x |
| 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) |
|---|---|---|---|
| 883 m (2897 ft) | 353 m (1158 ft) | 177 m (581 ft) | 88 m (289 ft) |

### PTZ

| | |
|---|---|
| Pan/Tilt Range | Pan: 0° to 360° endless,<br>Tilt: −2° to 90°<br>Auto Flip 180° |
| Manual Control Speed | Pan: 0.1° to 300° /s<br>Tilt: 0.1° to 120° /s |
| Preset Speed | Pan: 300° /s<br>Tilt: 200° /s |
| Presets | 300 |
| PTZ Mode | 5 Pattern, 8 Tour, Auto Pan, Auto Scan |
| Speed Compensation | Proportional Pan/Tilt Speed to Zoom Ratio |
| 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

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|---|---|
| Compression | H.265, H.264, MJPEG |
| 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, 720p, or D1 at 30 fps |
| | Sub Stream 1 | D1 or CIF at 30 fps |
| | Sub Stream 2 | 1080p, 720p, D1, or CIF at 30 fps |
| Bit Rate Control | | CBR, VBR |
| Bit Rate | | H.265/H.264: 448 K to 8192 Kbps<br>MJPEG: 5120 K to 10240 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, Defog |
| Digital Zoom | | 16x |
| Flip | | 180° |
| Privacy Masking | | Up to 24 areas |

### Audio

| | |
|---|---|
| Compression | G.711a, G.711u (32 kbps), PCM (128 kbps) |

### Network

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|---|---|
| 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)<br>Local PC for Instant Recording<br>Micro SD Card Slot, maximum 128 GB |
| Web Viewer | IE 10, Firefox, Safari |
| Management Software | Smart PSS, DSS |
| Mobile Operating System | IOS, Android |

### Certifications

| | |
|---|---|
| UL | UL60950-1 + CAN/CSA C22.2, No.60950-1 |
| Electromagnetic Compatibility (EMC) | EN 55032<br>EN 50130-4<br>CFR 47 FCC Part 15 Subpart B<br>ANSI C63.4-2014 |
| Immunity | EN 55024 |

### Interface

| | |
|---|---|
| Audio | Input: One (1) Channel<br>Output: One (1) Channel |
| Alarm | Input: Two (2) Channels<br>Output: One (1) Channel |

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 | 24 VAC, 1.5 A; PoE+ (802.3at Class 4) |
| Power Consumption | 12 W |

## Environmental

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|---|---|
| Operating Conditions | −30° C to 60° C (−22° F to +140° F)<br>Less than 90% RH |
| Vandal Resistance | IK10 |

## Construction

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|---|---|
| Casing | Metal |
| Dimensions | Ø198.0 mm x 158.0 mm (Ø7.80 in. x 6.22 in.) |
| Net Weight | 2.30 kg (5.07 lb) |
| Gross Weight | 3.30 kg (7.28 lb) |

## Intelligence

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

| | |
|---|---|
| Standard Features | • Tampering with the camera.<br>• Error writing to an onboard Micro SD card.<br>• Error sending or receiving data over the network.<br>• 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. |

## Ordering Information

| Type | Part Number | Description |
|---|---|---|
| 2 MP PTZ Camera | 42C212TNI | 2 MP 12x Starlight In-ceiling PTZ Network Camera, True WDR, IVS |
| Accessory, included | AC24V/1.5A | Power Adapter |

## Accessories

Included:

AC24V/1.5A
Power Adapter

## Dimensions (mm/in.)

178.0 mm
(7.0 in.)

158.0 mm
(6.22 in.)

21.0 mm
(0.83 in.)

80.0 mm
(3.15 in.)

120.0 mm
(4.72 in.)

198.0 mm
(7.80 in.)