

PD5004

4MP IP Pendant PTZ camera with 40x motor zoom, IR, 1/1.8" CMOS

DESCRIPTION

*** Planned release October 1, 2025 ***

The PD5004 is a 4 megapixel HD IP outdoor PTZ camera. A powerful high-grade 40x optical zoom lens ensures sharp and clear images over a wide range. Built-in IR for zero lux operation. The high-speed pan, tilt, and zoom mechanism and auto-focus give instantaneous and stable focused images.

FEATURES

1/1.8 inch Progressive scan CMOS imager

40x optical zoom, 16x digital zoom

Max. 2688x1520 (4MP) resolution

Triple stream H.264, H.264+, H.265, H.265+, and MJPEG

Max. 60fps

5° tilt above horizon without optical distortion

Secured Streaming, IEEE 802.1x authentication

120 dB WDR (HDR)

AI enforced embedded video analytics

ONVIF Profile S, G, T, M



Description

Multi-stream multi-codec

The camera has triple stream capability for simultaneous streaming of H.264, H.264+, H.265, H.265+, and MJPEG. Multiple combinations of resolution, frame rate, and encoding can be configured to fit all possible live viewing and recording scenarios. The 4 megapixel resolution is available at up to 50/60 fps still offering multiple exposure WDR (or HDR, in short) with the possibility to add a second stream.

Open standards

Multiple options are available to easily integrate the PD5004 to a video management system. The TKH Security signature SPI protocol is included as the easiest way to drive the camera in customized environments. In support of open standards, the camera is compliant with the ONVIF Profile S, T, G, and M. Any VMS today supports this camera via the ONVIF driver.

Image enhancement

The PD5004 utilizes advanced image processing technology. Crisp and detailed 4MP images with an extremely high dynamic range in real time due to multiple exposure HDR within one frame. Back-light and High-light compensation enhances image-visibility in difficult lighting situations. In addition the camera provides for 3D motion compensated noise reduction for the best images.

Truly remarkable about the camera is its AI enforced low-light sensitivity. Using this next-gen technology, the disadvantageous effects of low light environments such as noise and motion blur are effectively reduced by this camera, without the help of supplemental lighting.

Power source choices

The PD5004 can be powered by 24 Vdc, 24 Vac, or over the network with PoE++ (IEEE 802.3bt).

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Camera

| | |
|----------------------------|---|
| Image sensor | 1/1.8" CMOS |
| Max. Resolution | 2688x1520 (4MP) |
| Max. Frame rate | 60 (1080p) |
| Minimum scene illumination | 0.001 lx (Color); 0.0002 lx (B/W); F1.69, AGC on) |
| Shutter Speed | 1/25 .. 1/100000 s |
| Lens | Motorized 6.3 .. 252 mm (40x zoom), F1.69, Auto (P-) iris |
| Field of View | 63.62 .. 1.77 ° horizontal, 37.69 .. 0.99 ° vertical |
| Focus Control | Auto, Manual |
| Slow Shutter | Supported |
| Day/Night | Automatic IR-cut Filter |
| IR illumination | 400 m (10pcs IR LED, each max 5Watt); 850 nm |

Video

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|--------------------------------|--|
| Stream 1 resolutions | 2688x1520, 2560x1440, 1920x1080, 1280x960, 1280x720 |
| Stream 2 resolutions | 704x576, 640x480, 352x288 |
| Stream 3 resolutions | 1920x1080, 1280x960, 1280x720, 704x576, 640x480, 352x288 |
| Video Compression | H.265, H.265+, H.264, H.264+, MJPEG |
| H.264 profiles | Baseline profile, Main profile, High profile |
| H.265 profiles | Main profile |
| Video Bitrate | 32 .. 32000 Kbps |
| Bitrate Control | CBR, VBR |
| Number of video output streams | Up to 16 |
| Region of interest | Supported, 8x |
| Video output | Supported, 1x (1 Vp-p Composite Output (75 Ω/CVBS), BNC) |

Image

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|--------------------------|--|
| Image control | Brightness, Contrast, Saturation, Sharpness, Whitebalance, AGC |
| Day/Night control | Auto, Day, Night, Schedule, Timer |
| Wide dynamic range | 120 dB (Dual exposure HDR) |
| SNR | 52 dB |
| Image enhancement | BLC, HLC, Defog, 3DNR, 2DNR |
| Rotation | 0, 180 |
| Mirror | Mirror, Flip |
| Privacy masks | 24 (Solid) |
| Text and picture overlay | 8x Text, Date/time, Camera name, Compass (Custom direction texts), Picture |
| Image stabilization | Supported (EIS) |
| Digital Zoom | 16x |

Image

PTZ

| | |
|---------------------|---|
| Pan range | 0 .. 360° Endless |
| Tilt range | -5 .. 185° Auto mechanical flip |
| Pan speed | 0.1 .. 180 °/s; Preset: max. 240 °/s |
| Tilt speed | 0.1 .. 150 °/s; Preset: max. 180 °/s |
| Preset accuracy | 0.1° |
| PTZ functions | Presets (360x), Tour (8x), Pattern (4x), Pan scan, Random scan, Auto PTZ tracking, Speed by zoom |
| Number of presets | 360 |
| Number of sequences | 8 |

Analytics

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| Smart analytics | Line crossing, Intrusion detection, Zone enter, Zone exit, Pedestrian, Left luggage, Object removed, Object counting, Loitering, Face detection, Person detection, People counting, Vehicle detection, Auto tracking, Simultaneous AI, Video Metadata |
| Event detections | Motion detection, Tampering, Network disconnected, IP address conflict, Watchdog bark, Storage full, Storage error, Image quality, Audio detection, Periodical, Manual trigger |
| Event actions | Alarm output, Record video clip, Send message, Upload image |

Audio

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|--------------|----------------------|
| Audio input | 1x Line IN (mono) |
| Audio output | 1x Line OUT (mono) |
| Compression | G.711alaw, G.711ulaw |

Data

| | |
|-------------|------------------|
| Serial port | 1x RS-485 |
| Protocols | Pelco-D, Pelco-P |

Alarm

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|--------|----------------|
| Input | 2x Alarm IN |
| Output | 2x Digital OUT |

Network

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|-----------|---|
| Interface | 10Base-T (IEEE 802.3i) / 100Base-TX (FE, IEEE 802.3u), Self-adaptive RJ45, Flow control (IEEE 802.3x) |
| Protocols | TCP, UDP, ICMP, HTTP, FTP, RTP, DHCP, DNS, DDNS, RTSP, RTCP, PPPoE, NTP, UPnP, SMTP, SNMP v1/v2/v3, IGMP v1/v2/v3, 802.1x, QoS, IPv4, IPv6, SSL, TLS v1.0/v1.1/v1.2/v1.3, ONVIF Profile S/G/T/M, SPI, TACACS+, NTCIP 1205, Diamond |

Specs



Network

| | |
|------------------|--|
| Interoperability | ONVIF Profile S/G/T/M, SPI |
| Security | Password, Complex password, HTTPS encryption, 802.1x port authentication, EAP, IP address filter, Basic authentication, Digest authentication, HTTP authentication, ONVIF WSSE authentication, ONVIF digest authentication, RTSP over HTTPS, RTSP over TLS, Logout after idle timeout, Security audit log, TLSv1.2 (HTTPS, 802.1x), TLSv1.3 (HTTPS, 802.1x) |
| Web browser | Microsoft Edge, Google Chrome, Mozilla Firefox |
| Local Storage | uSD, uSDHC, uSDXC, max. 256 GB |

Environmental

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|-------------------------------|--|
| Protection Level | IP67, IK10 |
| Operating temperature | -40 .. 70 °C (-40 .. 158 °F) (-34..+74 °C conform NEMA TS2) |
| Relative humidity (Operating) | Max. 90% (non-condensing) |
| Storage temperature | -20 .. 70 °C (-4 .. 158 °F) |
| Relative humidity (Storage) | Max. 80% (non-condensing) |
| Demister/Heater | Built-in |
| Power supply | 24VDC, 36VDC (max. 62W) 24VAC, 36VAC (max. 62W) PoE++ 802.3bt (max. 51W) |
| Overvoltage protection | TVS 6000V lightning protection, surge protection and voltage transient protection |

Mechanical

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|--------------------|------------------------|
| Material | Aluminum Alloy (ADC12) |
| Product dimensions | 220 x 220 x 345 |
| Product weight | |
| Package dimensions | |
| Package weight | |
| Color | Signal white, black |

Ordering Information

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|--------|---|
| PD5004 | 4MP IP Pendant PTZ camera with 40x motor zoom, IR, 1/1.8" CMOS |
|--------|---|

RELATED



TKH Security WMPD50
Wall mount, for PD5004x



TKH Security PMPD50
Pole mount, for PD5004x



TKH Security CMPD50
Ceiling mount, for PD5004x



TKH Security WMPD51
Corner mount, for PD5004x