



Explosion Proof & Anti-Corrosion Camera system for hazardous area and harsh environments conditions, they are made of Stainless Steel material and suitable for a variety of applications both on shore and offshore in oil & gas, Marine, Wind, Chemical and many other industries where quality and durability are a pre-requisite.

## Product Brochure



**ISO 9001 2015 Certified Company**

Quick Guide

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# About US

Seatronx is an ISO 9001 2015 Certified U.S. manufacturer and distributor of rugged electronics catering specifically to the Military, Maritime and Industrial markets. Our focus is on superior rugged electronics with unprecedented quality and performance for the toughest environments using proven and tested technology. Services include manufacturing and distribution of commercial off the shelf and custom displays, panel pc's, computers and CCTV camera systems.

At Seatronx we make your ideas a reality and we are proud to have earned the reputation of consistently delivering unique electronic integration solutions that consistently meet or exceed industry standards.

## Our Vision is Your Vision!

It is notably our people that truly make the difference. Our team is made up of dedicated industry professionals with decades of experience and successes that individually and collectively provide innovative solutions to large and small companies around the world. This is what has defined us and has paved the path to our motto, Your Vision is Our Vision.

We indeed take great pride at forging long term relationships by understanding your specific needs and requirements from concept through completion. We enjoy the varied and customized applications we are presented with, and will work diligently to ensure that you receive a world class solution.



Off-Shore & Onshore Drilling Rigs



Petrochemical Plants  
Oil & other Refineries  
Fertilizer Plants  
Sewer Plants & Piping  
Butane/LNG Fueling & Bulk Plants



Power Plants & Coal Plants  
Chemical & Pharmaceutical Plants  
Paint & Varnish Manufacturing Plants  
Grain Silos & Processing  
(any industry with dangerous dust)



Battleships  
LNG Tankers  
Container Vessels  
Various types of marine vessels



Airport  
MRT  
Industrial Cocks  
Naval Bases  
Defense & Aerospace Installations



Truck Tanker  
Tanker Depots  
LNG Terminals  
Ammunition Depots and Plants

# Industries Served

Superior Rugged Electronics Designed  
Specifically for Key Industries



MARINE



MILITARY



INDUSTRIAL



AIR TRAFFIC  
CONTROL



MEDICAL



VEHICLE



## ISO 9001:2015 Certified

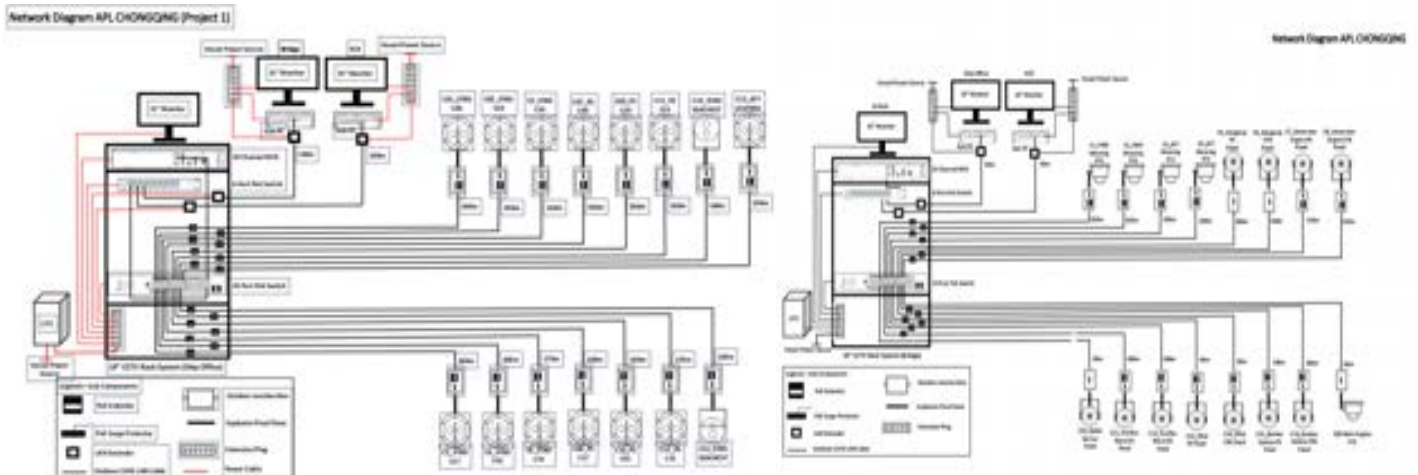
Seatronx has been awarded ISO 9001:2015 certification, an internationally recognized standard that ensures that our products and services meet the needs of our clients through an effective quality management system.

Our commitment to achieve ISO 9001:2015 accreditation demonstrates our commitment to providing high-quality and consistent products and services to our clients and our ongoing investment in technology and development.



# Solutions

We provide many solutions for our clients such as Marine Vessel Camera Systems, Drilling Rig Camera Systems, Oil & Gas Camera Systems, etc.



## MARINE GRADE ANT-CORROSION CCTV CAMERAS

In response to the demand for CCTV systems onboard ships, We offer a range of industry leading marine CCTV Camera Solutions that address the needs of marine environments.



# 2MP Explosion Proof Anti-Corrosion WDR Fixed IR Camera KDM-EX-FL204IR01 (T)



## KEY FEATURES

- Default:Stainless Steel 316L Material
- Up to 1920x1080@30fps
- S+265/H.265/H.264
- Min. illumination Color: 0.02Lux@F2.0
- Smart IR, IR Range: 40m
- Support tripwire and perimeter
- Operating Conditions -40°C~60°C, 0~95% RH
- POE, IP68
- Ex Mark : Ex d IIC T6 Gb /Ex tD A21 IP68 T80

## Application Environments:

This is a miniaturized, infrared integrated, and intelligent Ex-Proof Anti-corrosion monitoring equipment. It can be widely used in petroleum, chemical industry, oil depots, ships,Vessels ,Marine, drilling platforms, gas stations, gas stations, ports, mines, aerospace, Military industry, steel, pharmaceutical, fireworks production, food processing and other places.

It has a built-in infrared lighting chip, which automatically turns on the infrared light at night or when the visible light is insufficient. It adopts a window design with the camera to completely eliminate the infrared light halo and can monitor dangerous places all-weather.The window is special tempered flat glass, the light transmittance is higher than 95%, while being sturdy and durable, it ensures the clear image.Optional low-temperature automatic heating function, automatic heating components can ensure that the equipment can work stably for a long time under the temperature condition of -30°C to +60°C to prevent condensation.The protection grade reaches IP68, the stainless steel Sunshield is adopted, the structure is firm and fully sealed, which represents the current high standard of environmental protection.Also widely used for marine safe environment.



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## SPECIFICATIONS

| Camera                |   |
|-----------------------|---|
| Image Sensor          | 1/2.8" CMOS   |
| Signal System         | PAL/NTSC  |
| Min. Illumination     | Color: 0.02Lux@ (F2.0, AGC ON), B/W: 0Lux with IR   |
| Shutter Time          | 1s to 1/100,000s  |
| Day & Night           | Dual IR Cut Filter with Auto Switch   |
| Wide Dynamic Range    | Digital WDR   |
| Angle Adjustment      | Flexible  |
| Lens                  |   |
| Lens Type             | Fixed   |
| Focus                 | 2.8mm/4mm   |
| Lens Mount            | M12   |
| Aperture              | F2.0, Fixed   |
| FOV                   | Horizontal field of view: 99.7° (2.8mm)/83.3°(4mm)  |
| Illuminator           |   |
| IR LEDs               | 2   |
| IR Range              | Up to 40 m  |
| Wavelength            | 850nm   |
| White LEDs/Warmlights | N/A   |
| Compression Standard  |   |
| Video Compression     | S+265/H.265/H.264   |
| Video Bit Rate        | 32 Kbps~6 Mbps  |
| Audio Compression     | N/A   |
| Audio Bit Rate        | N/A   |
| Image                 |   |
| Max. Resolution       | 1920×1080   |
| Main Stream           | PAL: 25fps (1920×1080, 1280×720, 704×576, 640×480)<br>NTSC: 30fps (1920×1080, 1280×720, 704×480, 640×480) |
| Sub Stream            | PAL: 25fps (704×576, 704×288, 640×360, 352×288)<br>NTSC: 30fps (704×480, 704×240, 640×360, 352×240)       |
| Third Stream          | N/A   |
| Image Setting         | Saturation, brightness, contrast, sharpness, adjustable by client software or web browser                 |
| Image Enhancement     | BLC/3D DNR/HLC  |
| ROI                   | N/A   |
| OSD                   | 16×16, 32×32, 48×48, adaptable size, Letters Such as Week, Date, Time, Total 3 Regions                    |
| Picture Overlay       | N/A   |
| Privacy Mask          | Yes, 4 regions  |
| Smart Defog           | Yes   |
| Feature               |   |
| Alarm Trigger         | Motion Detection, Mask Alarm, IP Address Conflict   |
| Video Analytics       | Tripwire, Perimeter   |
| Early Warning(EW)     | N/A   |



| Network                 |   |
|-------------------------|---|
| ANR                     | Yes(Only Support Tiandy ANR NVR)  |
| Protocols               | TCP/IP, HTTP, FTP, DHCP, DNS, DDNS, IPV4, NTP, UDP, Telnet, ICMP, RTP, RTSP, UPnP   |
| System Compatibility    | ONVIF (PROFILE S/T/G), SDK, P2P(Mutually exclusive with Profile G)  |
| Remote Connection       | ≤7  |
| Client                  | Easy7, EasyLive   |
| Web Version             | Web5  |
| Interface               |   |
| Communication Interface | 1 RJ45 10M/ 100M self adaptive Ethernet port  |
| Audio I/O               | N/A   |
| Alarm I/O               | N/A   |
| Reset Button            | Yes   |
| On-board storage        | N/A   |
| General                 |   |
| Firmware Version        | -   |
| Web Client Language     | 15 languages<br>English, Russian, Spanish, Korean, Italian, Turkish, Simple Chinese, Traditional Chinese, Thai, French, Polish, Dutch, Hebraism, Arabic, Vietnamese |
| Operating Conditions    | -40°C ~ 65°C, 0 ~ 95% RH  |
| Power Supply            | DC 12V±25%, PoE (802.3af)   |
| Power Consumption       | MAX: 6W(12V) MAX: 7W(POE)   |
| Protection              | IP68, Lightning protection, surge protection and voltage transient protection meets EN 55035:2017   |
| Heater                  | N/A   |
| Dimensions              | 100*118*170mm      ×  |
| Weight                  | 3KG   |

\* Listed resolutions are only selectable options. It does not mean that all streams can work at their maximum resolution at the same time.

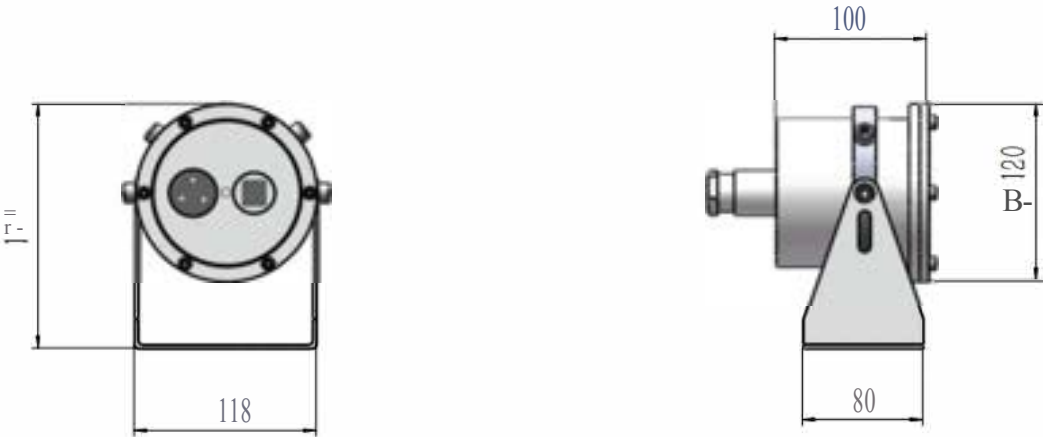
## AVAILABLE MODELS

KDM-EX-FL204IR01(Tiandy)  
KDM-EX-FL228IR01(Tiandy)



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DIMENSIONS



Accessories



Bracket



Ex-Proof Hose



Explosion Proof Anti-Corroison Junction box

# KDM-EX-FL436IR01 (D)

## 4MP Explosion Proof Anti-Corrosion Fixed WDR Camera



- Ex mark : Ex d IIC T6 Gb /Ex tD A21 IP68 T80℃ for hazardous zones
- 4MP, 1/3" CMOS image sensor, low illuminance, high image definition
- Outputs 4MP (2560 × 1440)@25/30 fps, Max. supports 4MP (2688 × 1520) @ 20 fps
- H.265 codec, high compression rate, ultra-low bit rate
- Built-in IR LED, max IR distance: 30 m
- ROI, SMART H.264/H.265, flexible coding, applicable to various bandwidth and storage environments
- Rotation mode, WDR, 3D DNR, HLC, BLC, digital watermarking, applicable to various monitoring scenes
- Intelligent detection: Intrusion, tripwire
- Abnormality detection: Motion detection, video tampering, no SD card, SD card full, SD card error, network disconnected, IP conflict, illegal access, voltage detection
- 256 GB Micro SD card, built-in Mic (optional)
- 12V DC/PoE power support



### System Overview

With upgraded H.265 encoding technology, This series camera has efficient video encoding capacity, which saves bandwidth and storage space. This camera adopts the latest starlight technology and displays better colorful image in the environment of low illumination. It supports SD card storage, waterproof function, dust-proof function, complying to the standards of IP68.

### Functions

#### Smart (H.265+ & H.264+)

Adopting advanced algorithm of auto stream control according to the environment, Dahua smart encoding technology realizes the higher efficiency than (H.265 & H.264), providing high-quality video, and reducing the cost of storage and transmission.

#### Wide dynamic range (WDR)

Adopts advanced Wide Dynamic Range (WDR) technology. You can get clear details in the environment of strong brightness contrast. In high brightness and back-light environment, bright region and dark region with strong light source, you can also get clear images.

#### Starlight

Dahua Starlight technology mainly applies to the environment of low illumination, and it can provide clear colorful video. Even in the environment of min. illumination, the technology can guarantee the good image effect.

#### Intelligent Video Analysis (IVS)

With advanced video algorithm, camera supports intelligent detection, such as tripwire and intrusion and so on.

#### Protection (IP68, wide voltage)

IP68: The camera passes a series of strict test on dust and soak. It has dust-proof function, and the enclosure can work normal after soaking in 2 m deep water for 30 minutes.

Wide voltage: The camera allows  $\pm 30\%$  input voltage tolerance (wide voltage range), and it is widely applied to outdoor environment with instable voltage.

#### Application Environment

With A, II B, II C class II combustible gas, the ignition temperature group is zone 1, zone 2 of the T1-T6 group, and the place where the combustible gas or the explosive mixture formed by vapor and air is also suitable for the ignition temperature group is zone 20, zone 21, zone 22 of the T1-T6 group, and the place containing the combustible dust mixture. Such as: petroleum, chemical industry, mine, military industry, medicine, oil depot, ship, drilling platform, gas station, fireworks production, grain processing and storage. Also widely used for offshore marine environment.



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## Technical Specification

### Camera

|                          |   |
|--------------------------|---|
| Image Sensor             | 1/3" 4Megapixel progressive CMOS                  |
| Effective Pixels         | 2688 (H) × 1520 (V)                               |
| ROM                      | 128 MB  |
| RAM                      | 128 MB  |
| Scanning System          | Progressive                                       |
| Electronic Shutter Speed | Auto/Manual 1/3 s–1/100000 s                      |
| Min. Illumination        | 0.008 Lux @ F1.6                                  |
| IR Distance              | 30 m (98.43 ft)                                   |
| IR On/Off Control        | Auto/Manual                                       |
| IR LEDs Number           | 2   |
| Pan/Tilt/Rotation Range  | Pan: 0°–360°<br>Tilt: 0°–78°<br>Rotation: 0°–360° |

### Lens

|                      |        |  |                       |                      |                     |
|----------------------|--------|--|-----------------------|----------------------|---------------------|
| Lens Type            |        | Fixed-focal  |                       |                      |                     |
| Mount Type           |        | M12  |                       |                      |                     |
| Focal Length         |        | 2.8 mm<br>3.6 mm   |                       |                      |                     |
| Max. Aperture        |        | F1.6<br>F1.6   |                       |                      |                     |
| Field of View        |        | 2.8 mm:<br>Pan: 102.0°<br>Tilt: 55.0°<br>Diagonal: 121.0°<br>3.6 mm :<br>Pan: 84.0°<br>Tilt: 45.0°<br>Diagonal: 100.0° |                       |                      |                     |
| Iris Type            |        | Fixed aperture   |                       |                      |                     |
| Close Focus Distance |        | 2.8 mm: 0.9 m (2.95 ft)<br>3.6 mm: 1.6 m (3.61 ft)   |                       |                      |                     |
| DORI Distance        | Lens   | Detect   | Observe               | Recognize            | Identify            |
|                      | 2.8 mm | 56 m<br>(183.73 ft)  | 22.4 m<br>(73.49 ft)  | 11.2 m<br>(36.75 ft) | 5.6 m<br>(18.37 ft) |
|                      | 3.6 mm | 80 m<br>(262.47 ft)  | 32.0 m<br>(104.99 ft) | 16.0 m<br>(52.49 ft) | 8.0 m<br>(26.25 ft) |

### Smart event

|                       |                     |
|-----------------------|---------------------|
| General IVS Analytics | Tripwire; intrusion |
|-----------------------|---------------------|

### Video

|                   |  |
|-------------------|--|
| Video Compression | H.265; H.264; H.264B; MJPEG  |
| Smart Codec       | Yes  |
| Video Frame Rate  | Main stream:<br>2688 × 1520 (1 fps-20 fps)<br>2560 × 1440 (1 fps-25/30 fps)<br>Sub stream:<br>704 × 576 (1 fps-25 fps)<br>704 × 480 (1 fps-30 fps) |
| Stream Capability | 2 streams  |

|                         |  |
|-------------------------|--|
| Resolution              | 2688 × 1520 (2688 × 1520); 2560 × 1440 (2560 × 1440); 2304 × 1296 (2304 × 1296); 1080p (1920 × 1080); 1.3M (1280 × 960); 720p (1280 × 720); D1 (704 × 576/704 × 480); VGA (640 × 480); CIF (352 × 288/352 × 240) |
| Bit Rate Control        | CBR/VBR  |
| Video Bit Rate          | H.264: 32 Kbps–6144 Kbps<br>H.265: 12 Kbps–6144 Kbps   |
| Day/Night               | Auto(ICR)/Color/B/W  |
| BLC                     | Yes  |
| HLC                     | Yes  |
| WDR                     | 120 dB   |
| White Balance           | Auto/natural/street lamp/outdoor/manual/regional custom  |
| Gain Control            | Auto/Manual  |
| Noise Reduction         | 3D DNR   |
| Motion Detection        | OFF/ON (4 areas, rectangular)  |
| Region of Interest(Rol) | Yes (4 areas)  |
| Smart IR                | Yes  |
| Image Rotation          | 0°/90°/180°/270° (Supports 90°/270° with 1080p resolution and lower.)  |
| Mirror                  | Yes  |
| Privacy Masking         | 4 areas  |

### Audio

|                   |     |
|-------------------|-----|
| Built-in MIC      | N/A |
| Audio Compression | N/A |

### Network

|                     |  |
|---------------------|--|
| Network             | RJ-45 (10/100 Base-T)  |
| Protocol            | IPv4; IPv6; HTTP; HTTPS; TCP; UDP; ARP; RTP ; RTSP; RTCP; RTMP; SMTP; FTP; SFTP; DHCP; DNS; DDNS; QoS; UPnP; NTP; Multicast; ICMP; IGMP; NFS; PPPoE; 802.1x; Bonjour |
| Interoperability    | ONVIF(Profile S/Profile G/Profile T);CGI; P2P; Milestone; Genetec  |
| User/Host           | 20   |
| Edge Storage        | Dahua Cloud; FTP; SFTP; Micro SD Card (support max. 256 GB); NAS   |
| Browser             | IE<br>Chrome<br>Firefox  |
| Management Software | Smart PSS; DSS; DMSS   |
| Mobile Phone        | IOS; Android   |

### Certification

|                |  |
|----------------|--|
| Certifications | ATEX<br>CE-LVD: EN60950-1<br>CE-EMC<br>FCC: 47 CFR FCC Part 15, Subpart B<br>UL/CUL: UL60950-1 CAN/CSA C22.2 No.60950-1-07 |
|----------------|--|



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## Power

|                   |                      |
|-------------------|----------------------|
| Power Supply      | 12V DC/PoE (802.3af) |
| Power Consumption | < 6.6W               |

## Environment

|                      |   |
|----------------------|---|
| Operating Conditions | -40°C to +60°C (-40°F to +140°F)/less than ≤ 95% RH |
| Storage Temperature  | -40°C to +60°C (-40°F to +140°F)                    |
| Protection           | IP68  |

## Structure

|              |                       |
|--------------|-----------------------|
| Casing       | SS316L /SS304         |
| Dimensions   | Diameter100*118*170mm |
| Net Weight   | 2.8KG                 |
| Gross Weight | 3kg                   |

## Optional Accessories



Explosion Proof Hose

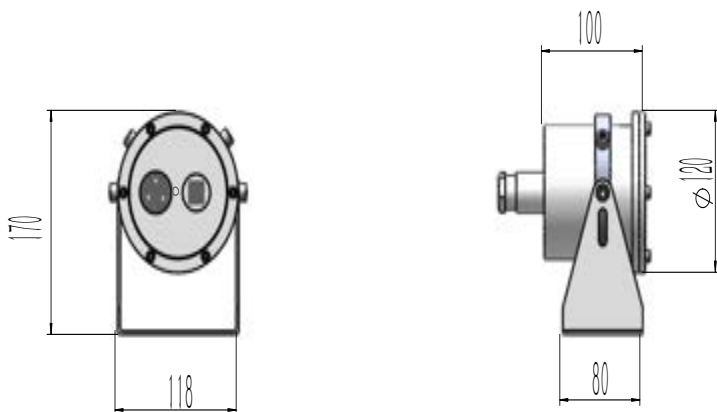


Explosion Proof Junction box



Stainless Bracket

## Dimension :



## 2MP Explosion Proof Anti-Corrosion Fixed IR Camera KDM-EX-FL204IR01 (H)



### Basic Features:

- 1/2.8" Progressive Scan CMOS
- 1920 × 1080@30fps
- 2.8/4/6 mm fixed lens
- Color: 0.01 Lux @ (F1.2, AGC ON), 0.028 Lux @ (F2.0, AGC ON), 0 Lux with IR
- H.265, H.265+, H.264, H.264+
- Three streams
- 120dB WDR
- BLC/3D DNR/ROI/HLC
- IP68
- DC12V/PoE power optional
- Ex-Proof ,Anti-Corrosion ,Weatherproof ,Suitable for all kinds of extreme environment.
- Made of Stainless Steel 316 Material for marine zones.
- Ex Mark :Ex mark : Ex d IIC T6 Gb /Ex tD A21 IP67/68 T80℃

### Application Environments:

This is a miniaturized, infrared integrated, and intelligent Ex-Proof Anti-corrosion monitoring equipment. It can be widely used in petroleum, chemical industry, oil depots, ships, Vessels, Marine, drilling platforms, gas stations, ports, mines, aerospace, Military industry, steel, pharmaceutical, fireworks production, food processing and other places.

It has a built-in infrared lighting chip, which automatically turns on the infrared light at night or when the visible light is insufficient. It adopts a window design with the camera to completely eliminate the infrared light halo and can monitor dangerous places all-weather. The window is made of special tempered flat glass, the light transmittance is higher than 95%, while being sturdy and durable, it ensures the clear image. Optional low-temperature automatic heating function, automatic heating components can ensure that the equipment can work stably for a long time under the temperature condition of -30℃ to +60℃ to prevent condensation. The protection grade reaches IP68, the stainless steel Sunshield is adopted, the structure is firm and fully sealed, which represents the current high standard of environmental protection. Also widely used for marine safe environment.



## Specifications

| Camera                  |   |
|-------------------------|---|
| Image Sensor            | 1/2.8" Progressive Scan CMOS  |
| Min. Illumination       | Color: 0.01 Lux @ (F1.2, AGC ON), 0.028 Lux @ (F2.0, AGC ON), 0 Lux with IR   |
| Shutter Speed           | 1/3 s to 1/100,000 s  |
| Slow Shutter            | Yes   |
| Day & Night             | IR Cut Filter.  |
| Digital Noise Reduction | 3D DNR  |
| WDR                     | 120 dB  |
| Angle Adjustment        | Pan: 0° to 360°, tilt: 0° to 90°, rotate: 0° to 360°  |
| Lens                    |   |
| Focal length            | 2.8/4/6/8 mm  |
| Aperture                | F2.0  |
| Focus                   | Fixed   |
| FOV                     | 2.8 mm, horizontal FOV: 103°, vertical FOV: 59°, diagonal FOV: 118°<br>4 mm, horizontal FOV: 86°, vertical FOV: 46°, diagonal FOV: 102°<br>6 mm, horizontal FOV: 54°, vertical FOV: 30°, diagonal FOV: 62°  |
| Lens Mount              | M12   |
| IR                      |   |
| IR Range                | Up to 30 m  |
| Wavelength              | 850 nm  |
| Compression Standard    |   |
| Video Compression       | Main stream: H.265/H.264<br>Sub-stream: H.265/H.264/MJPEG<br>Third stream: H.265/H.264/MJPEG  |
| H.264 Type              | Main Profile/High Profile   |
| H.264+                  | Main stream supports  |
| H.265 Type              | Main Profile  |
| H.265+                  | Main stream supports  |
| Video Bit Rate          | 256 Kbps to 16 Mbps   |
| Smart Feature-Set       |   |
| Smart Event             | Line crossing detection, up to 1 line configurable<br>Intrusion detection, up to 1 region configurable<br>Unattended baggage detection, up to 1 region configurable<br>Object removal detection, up to 1 region configurable<br>Face detection: detects faces<br>Scene change detection |
| Basic Event             | Motion detection, video tampering alarm, exception (network disconnected, IP address conflict, illegal login, HDD full, HDD error)  |
| Face Detection          | Yes   |

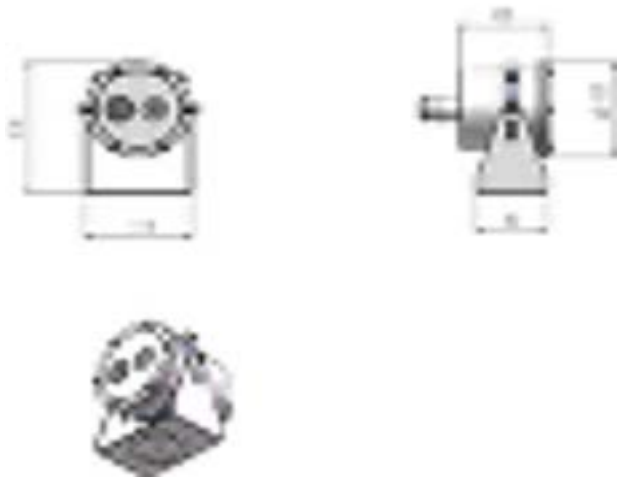
|                         |   |
|-------------------------|---|
| Linkage Method          | Trigger recording: memory card, network storage, pre-record and post-record<br>Trigger captured pictures uploading: FTP, HTTP, NAS, Email<br>Trigger notification: HTTP, ISAPI, Email   |
| Region of Interest      | 5 fixed region for main stream and sub-stream   |
| <b>Image</b>            |   |
| Max. Resolution         | 1920 × 1080   |
| Main Stream             | 50Hz: 25fps (1920 × 1080, 1280 × 960, 1280 × 720)<br>60Hz: 30fps (1920 × 1080, 1280 × 960, 1280 × 720)  |
| Sub-stream              | 50Hz: 25fps (640 × 480, 640 × 360, 320 × 240)<br>60Hz: 30fps (640 × 480, 640 × 360, 320 × 240)  |
| Third Stream            | 50Hz: 25fps (1920 × 1080, 1280 × 720, 640 × 360, 352 × 288)<br>60Hz: 30fps (1920 × 1080, 1280 × 720, 640 × 360, 352 × 240)  |
| Image Enhancement       | BLC/3D DNR/HLC  |
| Image Settings          | Rotate mode , saturation, brightness, contrast, sharpness, AGC, and white balance are adjustable by client software or web browser  |
| Day/Night Switch        | Day/Night/Auto/Schedule   |
| <b>Network</b>          |   |
| Network Storage         | Support Micro SD/SDHC/SDXC card (128G), local storage and NAS (NFS,SMB/CIFS), ANR   |
| Protocols               | TCP/IP, UDP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, RTCP, PPPoE, NTP, UPnP, SMTP, SNMP, IGMP, 802.1X, QoS, IPv6, UDP, Bonjour, SSL/TLS   |
| General Function        | Anti-flicker, three streams , heartbeat, mirror, privacy masks, password reset via e-mail, pixel counter, HTTP listening  |
| API                     | ONVIF (PROFILE S, PROFILE G, PROFILE T), ISAPI, SDK, Ehome  |
| Security                | Password protection, complicated password, HTTPS encryption, 802.1X authentication (EAP-TLS 1.2, EAP-LEAP, EAP-MD5), watermark, IP address filter, basic and digest authentication for HTTP/HTTPS, WSSE and digest authentication for ONVIF, TLS1.2 |
| Simultaneous Live View  | Up to 6 channels  |
| User/Host               | Up to 32 users, 3 levels: administrator, operator and user  |
| Client                  | iVMS-4200, Hik-Connect, Hik-Central   |
| Web Browser             | Plug-in required live view: IE8+<br>Plug-in free live view: Chr2ome 57.0+, Firefox 52.0+, Safari 11+<br>Local Service: Chrome 41.0+, Firefox 30.0+  |
| <b>Interface</b>        |   |
| Communication Interface | 1 RJ45 10M/100M self-adaptive Ethernet port   |
| On-board storage        | Optional  |
| Reset Button            | Yes   |
| <b>General</b>          |   |
| Operating Conditions    | -30 °C to +60 °C , humidity 95% or less (non-condensing)  |

|                               |  |
|-------------------------------|--|
| Web Client Language           | 32 languages<br>English, Russian, Estonian, Bulgarian, Hungarian, Greek, German, Italian, Czech, Slovak, French, Polish, Dutch, Portuguese, Spanish, Romanian, Danish, Swedish, Norwegian, Finnish, Croatian, Slovenian, Serbian, Turkish, Korean, Traditional Chinese, Thai, Vietnamese, Japanese, Latvian, Lithuanian, Portuguese (Brazil) |
| Power Supply                  | 12 VDC $\pm$ 25%, PoE (802.3af, class 3)   |
| Power Consumption and Current | 12 VDC, 0.5A, max. 6W; PoE (802.3af, 36V to 57V), 0.2A to 0.1A, max. 7.5W  |
| Protection Level              | IP68   |
| Material                      | Stainless Steel 316 or 304   |
| Dimensions                    | $\Phi$ 118 $\times$ 100 mm   |
| Weight                        | Camera: Approx. 2.8kg<br>With Package: 3kg   |

## Available Model

KDM-EX-HKIPFL2040IR01 ,KDM-EX-HKIPFL2060IR01

## Dimension



## Accessory



Ex-Poof Junction box



Ex-Proof Hose



Stainless Bracket

# 2MP Explosion Proof Anti-Corrosion IR Fixed WDR Network Camera KDM-EX-FL204IR02(U)



Ex II 2 G D  
Ex db IIC T6 Gb  
Ex tb IIC T80°C Db  
Ta = -40°C to +60°C

## Key Features



## Smart

Perimeter Protection, include Cross Line, Intrusion, Enter Area, Leave Area detection

Based on target classification, smart intrusion prevention significantly reduce false alarm caused by leaves, birds and lights etc., accurately focus on human and vehicle.

## Optics

Day/night functionality

Smart IR, up to 3.0m IR distance

Optical glass window with higher light transmittance

IR anti-reflection window to increase the infrared transmittance

2D/3D DNR (Digital Noise Reduction)

SD Card

## Compression

Ultra 265, H.265, H.264, MJPEG

ROI (Region of Interest)



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## Network

ONVIF Conformance

## Structure

Wide temperature range: -30°C ~ 60°C

Wide voltage range of ±25%

IP68

Made of SS304 or SS316L material ,Used for potentially explosive atmosphere and corrosive areas.Also widely used for marine environment.

## Specifications

|                         |   |            |                |               |                   |
|-------------------------|---|------------|----------------|---------------|-------------------|
|                         |   |            |                |               |                   |
| Camera                  |   |            |                |               |                   |
| Sensor                  | 1/2.8", 2.0 megapixel, progressive scan, CMOS   |            |                |               |                   |
| Lens                    | 2.8mm@F1.6  |            |                | 4.0mm@F1.6    |                   |
| DORI Distance           | Lens (mm)   | Detect (m) | Observe (m)    | Recognize (m) | Identify (m)      |
|                         | 2.8   | 43.4       | 17.4           | 8.7           | 4.3               |
|                         | 4.0   | 62.1       | 24.8           | 12.4          | 6.2               |
| Angle of View (H)       | 106.7°  |            |                | 87.5°         |                   |
| Angle of View (V)       | 57.1°   |            |                | 46.3°         |                   |
| Angle of View (O)       | 115.7°  |            |                | 92.4°         |                   |
| Adjustment angle        | Pan: 0° ~ 360°  |            | Tilt: 0° ~ 90° |               | Rotate: 0° ~ 360° |
| Shutter                 | Auto/Manual, 1 ~ 1/100000s  |            |                |               |                   |
| Minimum Illumination    | Colour: 0.001Lux (F1.6, AGC ON)<br>0Lux with IR on  |            |                |               |                   |
| Digital noise reduction | 2D/3D DNR   |            |                |               |                   |
| Day/Night               | IR-cut filter with auto switch (ICR)  |            |                |               |                   |
| S/N                     | >52dB   |            |                |               |                   |
| IR Range                | Up to 40m (131 ft) IR range   |            |                |               |                   |
| Wavelength              | 850nm   |            |                |               |                   |
| IR On/Off Control       | Auto/Manual   |            |                |               |                   |
| Defog                   | Digital Defog   |            |                |               |                   |
| WDR                     | 120dB   |            |                |               |                   |
| Video                   |   |            |                |               |                   |
| Video Compression       | Ultra 265, H.265, H.264, MJPEG  |            |                |               |                   |
| H.264 code profile      | Baseline profile, Main Profile, High Profile  |            |                |               |                   |
| Frame Rate              | Main Stream: 2MP (1920*1080), Max 30fps; 720P (1280*720), Max 30fps;<br>Sub Stream: 720P (1280*720), Max 30fps; D1 (720*576), Max 30fps; 640*360,Max 30fps; 2CIF(704*288), Max 30fps;<br>CIF(352*288), Max 30fps;<br>Third Stream: D1 (720*576), Max 30fps; 640*360,Max 30fps; 2CIF(704*288), Max 30fps; CIF(352*288), Max 30fps; |            |                |               |                   |



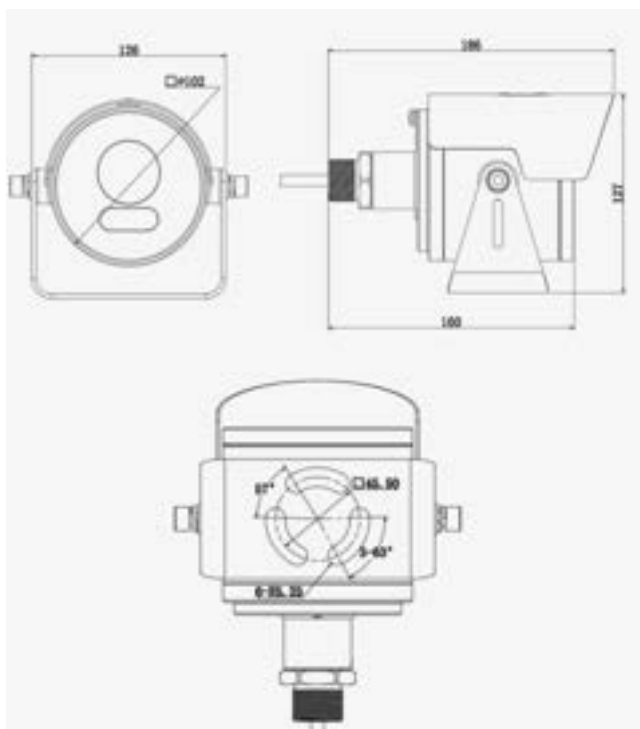
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|  |  |
|--|--|
| OSD  | Up to 8 OSDs   |
| Privacy Mask   | Up to 4 areas  |
| ROI  | Up to 8 areas  |
| Motion Detection                                     | Up to 4 areas  |
| <b>Image</b>   |  |
| White Balance  | Auto/Outdoor/Fine Tune/Sodium Lamp/Locked/Auto2  |
| Digital noise reduction                              | 2D/3D DNR  |
| Smart IR   | Support  |
| Flip   | Normal/Vertical/Horizontal/180°/90°Clockwise/90°Anti-clockwise   |
| Dewarping  | Supported  |
| HLC  | Supported  |
| BLC  | Supported  |
| <b>Audio</b>   |  |
| Audio Compression                                    | N/A  |
| Suppression  | N/A  |
| Sampling Rate  | N/A  |
| <b>Storage</b>                                       |  |
| Edge Storage   | Micro SD, up to 256GB  |
| Network Storage                                      | ANR, NAS(NFS)  |
| <b>Smart</b>   |  |
| Smart intrusion Prevention (Deep Learning Algorithm) | Cross Line, Intrusion, Enter Area, Leave Area detection;   |
| Behavior Detection                                   | Motion detection, Tampering alarm,   |
| Recognition  | Audio detection  |
| General Function                                     | Watermark, IP Address Filtering, Tampering Alarm, Access Policy, ARP Protection, RTSP Authentication, User Authentication      |
| <b>Network</b>                                       |  |
| Protocols  | IPv4, IGMP, ICMP, ARP, TCP, UDP, DHCP, PPPoE, RTP, RTSP, RTCP, DNS, DDNS, NTP, FTP, UPnP, HTTP, HTTPS, SMTP, 802.1x, SNMP, QoS |
| Compatible Integration                               | ONVIF (Profile S, Profile G, Profile T), API   |
| Client   | EZStation<br>EZView<br>EZLive  |
| Web Browser  | Plug-in required live view: IE9+, Chrome 41 and below, Firefox 52 and below  |
|  | Plug-in free live view: Chrome 57.0+, Firefox 58.0+, Edge 16+, Safari 11+  |
| <b>Interface</b>                                     |  |
| Network  | 1 RJ45 10M/100M Base-TX Ethernet   |
| Built-in Mic   | Supported  |
| <b>Certifications</b>                                |  |
| Certifications                                       | CE: EN 60950-1<br>FCC: FCC Part 15<br>ATEX:EN60079   |
| <b>General</b>                                       |  |
| Power  | DC 12V±25%, PoE (IEEE 802.3af)   |
|  | Power consumption: Max 5.0W  |



|                        |   |
|------------------------|---|
| Dimensions (L x W x H) | 170x 100 x 120 mm                                 |
| Net Weight             | 2.5kg   |
| Material               | Stainless Steel 304 or 316L                       |
| Working Environment    | -40°C ~ 60°C , Humidity: ≤95% RH (non-condensing) |
| Storage Environment    | -40°C ~ 60°C , Humidity: ≤95% RH (non-condensing) |
| Surge Protection       | 2KV   |
| Ingress Protection     | IP68  |

## Dimensions



## Accessories



Bracket



Ex-Proof Hose



Ex-Proof Junction Box

# 2MP Explosion Proof Anti-Corrosion WDR Fixed IR Camera KDM-EX-FL204IR02 (T)



## KEY FEATURES

- Default:Stainless Steel 316L or 304 Material
- Up to 1920x1080@30fps
- S+265/H.265/H.264
- Min. illumination Color: 0.02Lux@F2.0
- Smart IR, IR Range: 40m

- Support tripwire and perimeter
- Operating Conditions -40°C~60°C, 0~95% RH
- POE, IP68
- Ex Mark : Ex d IIC T6 Gb /Ex tD A21 IP68 T80

## Application Environments:

This is a miniaturized, infrared integrated, and intelligent Ex-Proof Anti-corrosion monitoring equipment. It can be widely used in petroleum, chemical industry, oil depots, ships,Vessels ,Marine, drilling platforms, gas stations, gas stations, ports, mines, aerospace, Military industry, steel, pharmaceutical, fireworks production, food processing and other places.

It has a built-in infrared lighting chip, which automatically turns on the infrared light at night or when the visible light is insufficient. It adopts a window design with the camera to completely eliminate the infrared light halo and can monitor dangerous places all-weather.The window is special tempered flat glass, the light transmittance is higher than 95%, while being sturdy and durable, it ensures the clear image.Optional low-temperature automatic heating function, automatic heating components can ensure that the equipment can work stably for a long time under the temperature condition of -30°C to +60°C to prevent condensation.The protection grade reaches IP68, the stainless steel Sunshield is adopted, the structure is firm and fully sealed, which represents the current high standard of environmental protection.Also widely used for marine safe environment.



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## SPECIFICATIONS

| Camera                |   |
|-----------------------|---|
| Image Sensor          | 1/2.8" CMOS   |
| Signal System         | PAL/NTSC  |
| Min. Illumination     | Color: 0.02Lux@ (F2.0, AGC ON), B/W: 0Lux with IR   |
| Shutter Time          | 1s to 1/100,000s  |
| Day & Night           | Dual IR Cut Filter with Auto Switch   |
| Wide Dynamic Range    | Digital WDR   |
| Angle Adjustment      | Flexible  |
| Lens                  |   |
| Lens Type             | Fixed   |
| Focus                 | 2.8mm/4mm   |
| Lens Mount            | M12   |
| Aperture              | F2.0, Fixed   |
| FOV                   | Horizontal field of view: 99.7° (2.8mm)/83.3°(4mm)  |
| Illuminator           |   |
| IR LEDs               | 2   |
| IR Range              | Up to 40 m  |
| Wavelength            | 850nm   |
| White LEDs/Warmlights | N/A   |
| Compression Standard  |   |
| Video Compression     | S+265/H.265/H.264   |
| Video Bit Rate        | 32 Kbps~6 Mbps  |
| Audio Compression     | N/A   |
| Audio Bit Rate        | N/A   |
| Image                 |   |
| Max. Resolution       | 1920×1080   |
| Main Stream           | PAL: 25fps (1920×1080, 1280×720, 704×576, 640×480)<br>NTSC: 30fps (1920×1080, 1280×720, 704×480, 640×480) |
| Sub Stream            | PAL: 25fps (704×576, 704×288, 640×360, 352×288)<br>NTSC: 30fps (704×480, 704×240, 640×360, 352×240)       |
| Third Stream          | N/A   |
| Image Setting         | Saturation, brightness, contrast, sharpness, adjustable by client software or web browser                 |
| Image Enhancement     | BLC/3D DNR/HLC  |
| ROI                   | N/A   |
| OSD                   | 16×16, 32×32, 48×48, adaptable size, Letters Such as Week, Date, Time, Total 3 Regions                    |
| Picture Overlay       | N/A   |
| Privacy Mask          | Yes, 4 regions  |
| Smart Defog           | Yes   |
| Feature               |   |
| Alarm Trigger         | Motion Detection, Mask Alarm, IP Address Conflict   |
| Video Analytics       | Tripwire, Perimeter   |
| Early Warning(EW)     | N/A   |

| Network                 |   |
|-------------------------|---|
| ANR                     | Yes(Only Support Tiandy ANR NVR)  |
| Protocols               | TCP/IP, HTTP, FTP, DHCP, DNS, DDNS, IPV4, NTP, UDP, Telnet, ICMP, RTP, RTSP, UPnP   |
| System Compatibility    | ONVIF (PROFILE S/T/G), SDK, P2P(Mutually exclusive with Profile G)  |
| Remote Connection       | ≤7  |
| Client                  | Easy7, EasyLive   |
| Web Version             | Web5  |
| Interface               |   |
| Communication Interface | 1 RJ45 10M/ 100M self adaptive Ethernet port  |
| Audio I/O               | N/A   |
| Alarm I/O               | N/A   |
| Reset Button            | Yes   |
| On-board storage        | N/A   |
| General                 |   |
| Firmware Version        | -   |
| Web Client Language     | 15 languages<br>English, Russian, Spanish, Korean, Italian, Turkish, Simple Chinese, Traditional Chinese, Thai, French, Polish, Dutch, Hebraism, Arabic, Vietnamese |
| Operating Conditions    | -40°C ~ 65°C, 0 ~ 95% RH  |
| Power Supply            | DC 12V±25%, PoE (802.3af)   |
| Power Consumption       | MAX: 6W(12V) MAX: 7W(POE)   |
| Protection              | IP68, Lightning protection, surge protection and voltage transient protection meets EN 55035:2017   |
| Heater                  | N/A   |
| Dimensions              | 186*126*127mm      ×  |
| Weight                  | 3KG   |

\* Listed resolutions are only selectable options. It does not mean that all streams can work at their maximum resolution at the same time.

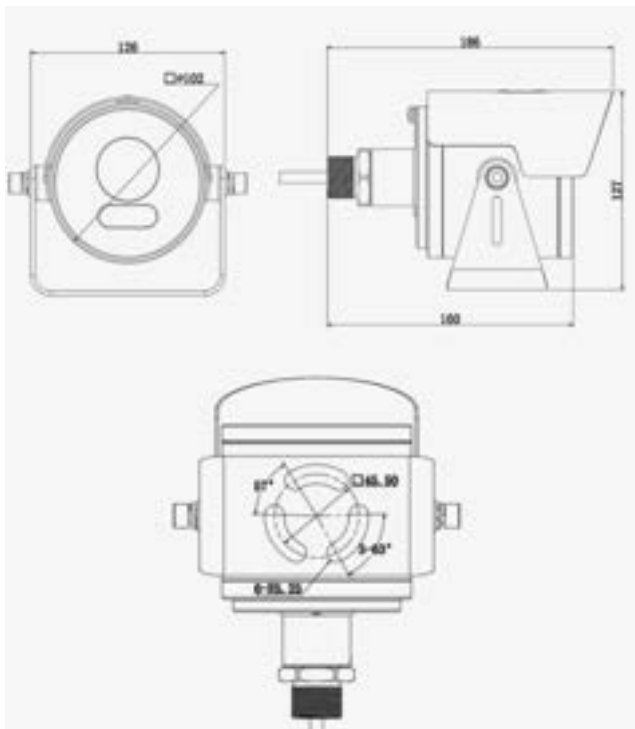
## AVAILABLE MODEL

KDM-EX-FL204IR02(T)  
KDM-EX-FL228IR02(T)



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## DIMENSIONS



## Accessories



Bracket



Ex-Proof Hose



Explosion Proof Anti-Corrosion Junction box

# Explosion Proof Anti-Corrosion Fixed Super Mini Camera KDM-EX-FL204IR03 (T)



## Application Environment :

Applicable to the Zone 1 and Zone 2 where the factory has iia, iib, iic grade t1~t6 group of flammable gas ,explosive mixture formed by steam and air, and Zone 20 and Zone 21 formed by mixing flammable dust and air.Explosion hazardous area in Zone 22.Such as petroleum, chemical, docks, oil depots, ships, drilling platforms,gas stations, mines, ports, aerospace, military, medicine,steel, fireworks production, machinery, food processing and storage, etc., especially suitable for tank trucks, dangerous goods transport vehicles , tankers, smallwarehouses, chemical reagent laboratories, pharmaceutical workshops, explosion-proof elevators and other places where high volume and weight are required .Also widely used for marine environment.

## KEY FEATURES:

- Up to 1920x1080@30fps
- S+265/H.265/H.264
- Min. illumination Color: 0.02Lux@F2.0
- Smart IR, IR Range: 15m
- Support tripwire and perimeter
- Operating Conditions -40°~60°, 0~95% RH
- POE/DC12V, IP68
- Casing material :SS304 /SS316/Cast Aluminium
- Ex Mark :Exd II CT6Gb/ExtD A21 IP68 T80°C
- Certificates:ATEX CE FCC CNEEx
- Explosion Proof ,Corrosion Proof ,Weather Proof , Dust Proof etc.
- Super small size ,light weight ,easy to install .



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## SPECIFICATIONS

| Camera                |   |
|-----------------------|---|
| Image Sensor          | 1/2.9" CMOS   |
| Signal System         | PAL/NTSC  |
| Min. Illumination     | Color: 0.02Lux@ (F2.0, ACG ON), B/W: 0Lux with IR   |
| Shutter Time          | 1s to 1/100,000s  |
| Day & Night           | Dual IR Cut Filter with Auto Switch   |
| Wide Dynamic Range    | Digital WDR   |
| Lens                  |   |
| Lens Type             | Fixed   |
| Focus                 | 2.8mm/4mm   |
| Lens Mount            | M12   |
| Aperture              | F2.0, Fixed   |
| FOV                   | Horizontal field of view: 97.4° (2.8mm)/82.1° (4mm)   |
| Illuminator           |   |
| IR LEDs               | 10  |
| IR Range              | Up to 15m   |
| Wavelength            | 850nm   |
| White LEDs/Warmlights | N/A   |
| Compression Standard  |   |
| Video Compression     | S+265/H.265/H.264   |
| Video Bit Rate        | 32 Kbps~6 Mbps  |
| Audio Compression     | N/A   |
| Audio Bit Rate        | N/A   |
| Image                 |   |
| Max. Resolution       | 1920×1080   |
| Main Stream           | PAL: 25fps (1920×1080, 1280×720, 704×576, 640×480)<br>NTSC: 30fps (1920×1080, 1280×720, 704×480, 640×480) |
| Sub Stream            | PAL: 25fps (704×576, 704×288, 640×360, 352×288)<br>NTSC: 30fps (704×480, 704×240, 640×360, 352×240)       |
| Third Stream          | N/A   |
| Image Setting         | Saturation, brightness, contrast, sharpness, adjustable by client software or web browser                 |
| Image Enhancement     | BLC/3D DNR/HLC  |
| ROI                   | N/A   |
| OSD                   | 16×16, 32×32, 48×48, adaptable size, Letters Such as Week, Date, Time, Total 3 Regions                    |
| Picture Overlay       | N/A   |
| Privacy Mask          | Yes, 4 regions  |
| Smart Defog           | Yes   |
| Feature               |   |
| Alarm Trigger         | Motion Detection, Mask Alarm, IP Address Conflict   |
| Video Analytics       | Tripwire, Perimeter   |
| Early Warning(EW)     | N/A   |

| Network                 |   |
|-------------------------|---|
| ANR                     | Yes, auto store video in SD card when NVR disconnected, and upload video to NVR when resumed connection (Only Support Tiandy ANR NVR)                               |
| Protocols               | TCP/IP, HTTP, FTP, DHCP, DNS, DDNS, MULTICAST, IPV4, NTP, UDP, Telnet   |
| System Compatibility    | ONVIF (PROFILE S/T/G), SDK, P2P(Mutually exclusive with Profile G)  |
| Remote Connection       | ≤7  |
| Client                  | Easy7, EasyLive   |
| Web Version             | Web5  |
| Interface               |   |
| Communication Interface | 1 RJ45 10M/ 100M self adaptive Ethernet port  |
| Audio I/O               | Optional  |
| Alarm I/O               | Optional  |
| Reset Button            | Yes   |
| On-board storage        | Built-in Micro SD card slot, up to 512 GB   |
| General                 |   |
| Firmware Version        | -   |
| Web Client Language     | 15 languages<br>English, Russian, Spanish, Korean, Italian, Turkish, Simple Chinese, Traditional Chinese, Thai, French, Polish, Dutch, Hebraism, Arabic, Vietnamese |
| Operating Conditions    | -40°C ~ 60°C, 0 ~ 95% RH  |
| Power Supply            | DC 12V±25%, PoE (802.3af)   |
| Power Consumption       | MAX: 6W(12V) MAX: 7W(POE)   |
| Protection              | IP68, Lightning protection, surge protection and voltage transient protection meets EN 55035:2017   |
| Heater                  | N/A   |
| Dimensions              | 109x96x108mm(L*W*H)   |
| Weight                  | Stainless steel : 1.5Kg Cast Aluminium :0.8Kg   |

\* Listed resolutions are only selectable options. It does not mean that all streams can work at their maximum resolution at the same time.

## AVAILABLE MODEL

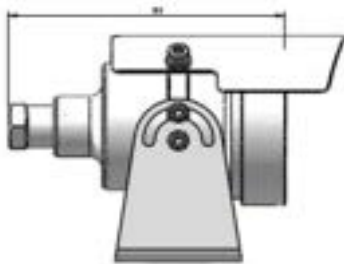
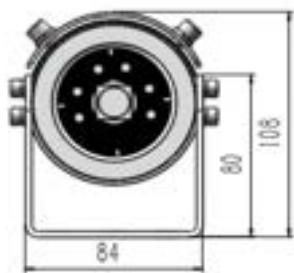
KDM-EX-FL228IR03 2.8MM

KDM-EX-FL204IR03 4MM



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Dimensions



Ex-Proof hose



Ex-Proof Junction Box



Bracket



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# 2MP Explosion Proof Anti-Corrosion Super Mini Fixed IR Camera

## KDM-EX-FL204IR03 (S)



Ex II 2G Ex db IIC T6 Gb  
II 2D Ex tb IIIC T80°C Db IP68

### Key features

- Small size, light weight, flexible installation ,designed for dangerous goods logistics and transportation monitoring system;
- Ex mark : Ex d IIC T6 Gb /Ex tD A21 IP68 T80°C for hazardous zones.
- Up to 2 megapixel high resolution
- Max. 1920\*1080@25/30fps(50Hz/60Hz)
- Day/Night, AWB/MWB, BLC, 3D-DNR,Shutter, IR-CUT, D-WDR, Mirror, Image Flip etc. Functions
- 4mm fixed lens(2.8mm optional)
- IR range: up to 15m
- Ingress Protection:IP68
- DC12V&POE Power Supply .
- Casing is Made of Stainless Steel 304 or 316 Material .
- Anti-Explosion ,Anti-Corrosion ,Weather proof suitable for Potential explosive atmosphere and corrosive environment.

### Application Environment

Applicable to the Zone 0, Zone 1 and Zone 2 where the factory has iia, iib, iic grade t1~t6 group of flammable gas,explosive mixture formed by steam and air, and Zone 20 and Zone 21 formed by mixing flammable dust and air.Explosion hazardous area in Zone 22.Such as petroleum, chemical, docks, oil depots, ships, drilling platforms,gas stations, mines, ports, aerospace, military, medicine, steel, fireworks production, machinery, food processing and storage, etc.,especially suitable for tank trucks, dangerous goods transport vehicles , tankers, small ware houses, chemical reagent laboratories, pharmaceutical workshops, explosion-proof elevators and other places where high volume and weight are required.Also widely used for marine vessels.

### Specifications

| Camera             |   |
|--------------------|---|
| Image Sensor:      | 1/2.8" 2MP Progressive Scan CMOS              |
| Signal System:     | PAL/NTSC                                      |
| Min. Illumination: | Color: 0.05lux @(F1.2, AGC ON), 0 lux with IR |
| Shutter Time:      | 1/25 s to 1/100,000 s                         |
| Lens:              | 2.8mm Fixed Lens                              |
| Day&Night:         | IR cut filter with auto switch                |

|                                      |  |
|--------------------------------------|--|
| Image Enhancement:                   | BLC/3D DNR/D-WDR   |
| Motion Detection                     | Support  |
| Privacy Protection                   | Support(4 Self-customized Areas)   |
| Water-Proof:                         | IP68   |
| Illumination for Infrared Switching: | 0.5~5Lux   |
| Infrared Wavelength:                 | 850nm  |
| Mimimum Illumination:                | 0 Lux(IR ON)   |
| IR Range:                            | 8PCS LEDS  |
|                                      | 15m  |
| <b>Compression Standard</b>          |  |
| Video Compression:                   | H.265/H.264/MJPEG  |
| Video Bit Rate:                      | 32Kbps~12288Kbps(CBR/VBR Selectable)   |
| Audio Compression:                   | N/A  |
| Dual Streams:                        | Yes  |
| Triple Streams:                      | No   |
| <b>Image</b>                         |  |
| Max. Image Resolution:               | 1920*1080(2MP)   |
| Frame Rate:                          | 50/60Hz: Max.: 1920*1080@25fps/30fps   |
| Sub Stream:                          | 50Hz/60Hz: Max.<br>(800*488/704*576/640*360/352*288)@25fps/30fps   |
| Third Stream(Mobile Stream):         | /  |
| Image Settings:                      | 3D NR, D-WDR, Image Flip, Saturation, Brightness, Contrast, Sharpness  |
|                                      | adjustable via client software, web browser or Smartphone App  |
| Day/Night Switch:                    | Auto(Passive Mode)/Day/Night/Auto(Active Mode)/Time  |
| <b>Network</b>                       |  |
| Network Protocols:                   | HTTP, TCP/IP, IPv4, UPNP, RTSP, UDP, SMTP, NTP, DHCP, DNS, IP Filter, PPPOE, DDNS, IP Search(Support P6S IP camera, DVR, NVS etc.) |
| General Function:                    | Anti-Flicker, heartbeat, password protection, privacy mask, Watermark  |
| System Compatibility:                | ONVIF(2.4+ Media2)/P6S   |
| On-line Viewing                      | Max. Support 6 Users Simultaneously  |
| <b>Interface</b>                     |  |
| Communication Interface:             | 1 RJ45 10M / 100M Ethernet Interface   |
| RCA Audio Interface:                 | RCA Audio input/output Interface (Optional)  |
| DC Power Plug:                       | DC Power Femate Interface  |
| <b>General</b>                       |  |
| Operating Conditions:                | -40 °C ~ 60 °C   |
|                                      | Humidity 95% or less (non-condensing)  |
| Power Supply:                        | 12 V DC ± 10%/PoE(Optional)  |
| Power Consumption:                   | 12 VDC ± 10%, Max Power Comsumption Less than 8W   |
|                                      | (When the infrared lamps turn on)  |
| Weight:                              | 1.5KG  |
| Casing                               | Stainless Steel 304 or 316   |
| Surface Treatment                    | Electronic polishing   |

|              |                   |
|--------------|-------------------|
| Dimensions   | 109 * 96 * 108 mm |
| Certificates | ATEX CE FCC       |

## Accessories(Optional)



Ex-Proof Hose

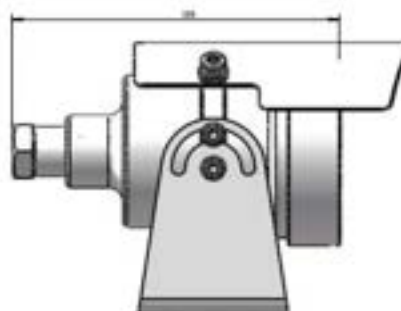
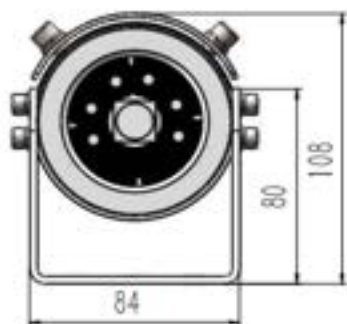


Ex-Proof junction Box



Brackets

## Dimensions (mm[inch])



# Explosion Proof Anti-Corrosion Fixed Mini Dome Super Wide View Camera KDM-EX-FL21704



## Basic Descriptions

- 316L stainless steel enclosure, protecting cameras to be used in corrosive environments, providing reliability and longevity compared to standard cameras
- IP68 water resistant, preventing water ingress for outdoor use
- small size, light weight, flexible installation, can be used for Marine time, Vessels, tankers, tankers and other places as a transport monitoring system image acquisition tools;
- equipped with the latest NVP2630+291 million high-definition image sensor, high-definition 1080P quality.
- sensitivity greatly improved, minimum illumination as low as 0.001 Lux@F1.2; color
- the latest fourth generation wide dynamic technology, the dynamic range of more than 75 dB, the effect is very obvious;
- automatic IR CUT day and night conversion, clear and meticulous color lifelike high-quality picture, equipped with synchronous infrared lamp night image excellent;
- aviation grade high strength polycarbonate explosion-proof ball cover, the light pass rate is higher than 93%;

- non-stick water, non-stick oil, repel dust;
- high quality 316 L stainless steel precision manufacturing, explosion-proof, dustproof, waterproof ; anticorrosion;
- 316 stainless steel primary color treatment, with mild corrosion resistance;
- intelligent 3 D ring design is convenient for camera installation at any angle to obtain clear horizontal image.
- clearer: more advanced bright color separation, signal filtering ,3 D noise reduction technology, higher image definition, better image restoration

High integration: front-end chip ISP and TX two-in-one, more economical and stable, lower power consumption

Open standards: third party open standards, compatible with other manufacturers' products.

Zero delay: front-end data is transmitted to back-end without coding compression, full real time, high fidelity

Easy to do: Support OSD menu settings, set what you want.

## Technical Specifications

|                               |   |
|-------------------------------|---|
| Model                         |   |
| <b>Certification</b>          |   |
| Certificates                  | CE FCC ATEX                               |
| Material                      | 316 L stainless steel                     |
| Surface treatment             | Primary stainless steel, electropolishing |
| Protection level              | IP68                                      |
| Interface specifications      | G-1/2"                                    |
| Weight                        | ≤1.5 kg[ stainless steel]                 |
| Installation mode             | Top suction mounting, wall mounting       |
| <b>Electrical performance</b> |   |

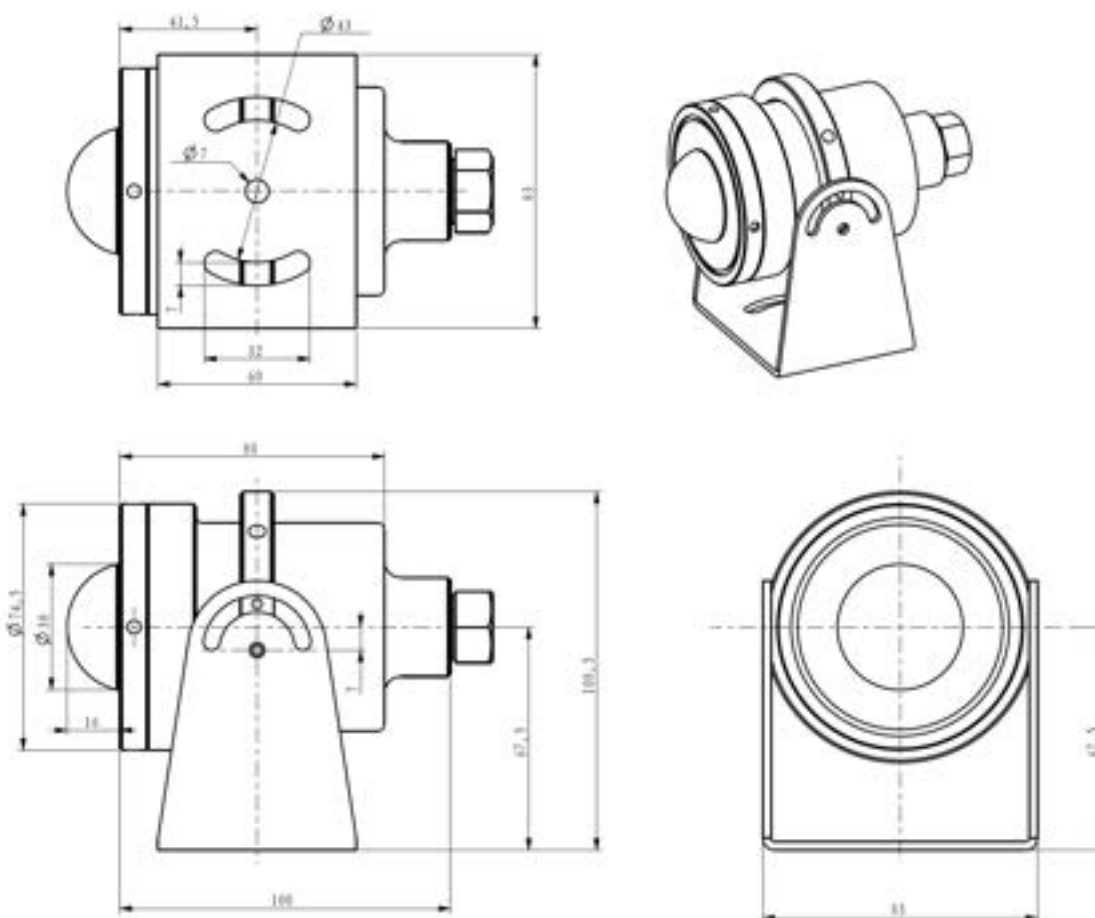


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|                       |                      |   |
|-----------------------|----------------------|---|
| Input voltage         |                      | DC12V ,PoE is optional                                    |
| Working current       |                      | A ≤1  |
| Camera                | Imaging devices      | 1/2.8 IMX291  |
|                       | Resolution           | 2 or 3million pixels [IP or HDCVI or HDTVI or AHD format] |
|                       | Camera               | 1.7 mm /1.1mm /2.1mm/2.5mm/2.8mm optional                 |
|                       | SNR                  | ≥ 41 dB   |
|                       | Minimum illumination | 0.01 LUX  |
|                       | wavelength           | nm 850  |
|                       | Switch               | Auto (≤10 Lux)  |
| Electrical connection |                      | Composite cable [75-3 or 75-5 video cable, power cord]    |
| <b>Environment</b>    |                      |   |
| Ambient temperature   |                      | (-30°C, +60°C)  |
| Atmospheric pressure  |                      | KPa 80-106  |
| Relative humidity     |                      | ≤ 95 RH(+25°C)  |

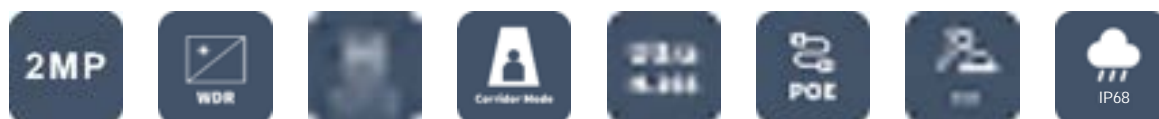
## Outside Dimensions



# 2MP Explosion Proof Anti-Corrosion WDR HD IR Fixed Dome Network Camera KDO-EX-FL204IR



## Key Features



- High quality image with 2MP, 1/2.7"CMOS sensor
- 2MP (1920\*1080)@30/25fps; 720P (1280\*720)@30/25fps
- Ultra 265, H.265, H.264, MJPEG
- 120dB true WDR technology enables clear image in strong light scene
- Support 9:16 Corridor Mode
- Smart IR, up to 30m (98ft) IR distance
- Supports 128 G Micro SD card
- IP68 ,IK10,PoE/DC12V Power .
- EX Mark:Ex IIC T6 Gb/Ex tD A21 IP68 T80℃
- Stainless Steel 304 or 316 Ex casing .
- Ex-Proof ,Corrosion Proof ,Weather Proof ,Dust Proof etc ,suitable for high corrosive sites as well as potential explosive atmosphere .

## Application Environment:

The Ex-Proof Anti-corrosion Camera not only be designed to use in flammable and explosive hazardous areas that has iia, iib, iic flammable gas, and the ignition temperature group is zone 1 and zone 2 of the t1-t6 group. The flammable gas or the explosive mixture formed by steam and air is also applicable to the ignition temperature group. It is a place containing a combustible dust mixture in Zones 20, 21, and 22 of the t1-t6 group. Such as: petroleum, chemical, military, medicine, oil depot, drilling platform, gas station, fireworks production, grain processing and storage etc . but also can be used for offshore ,Ship ,Vessel ,Marine Safe environment.



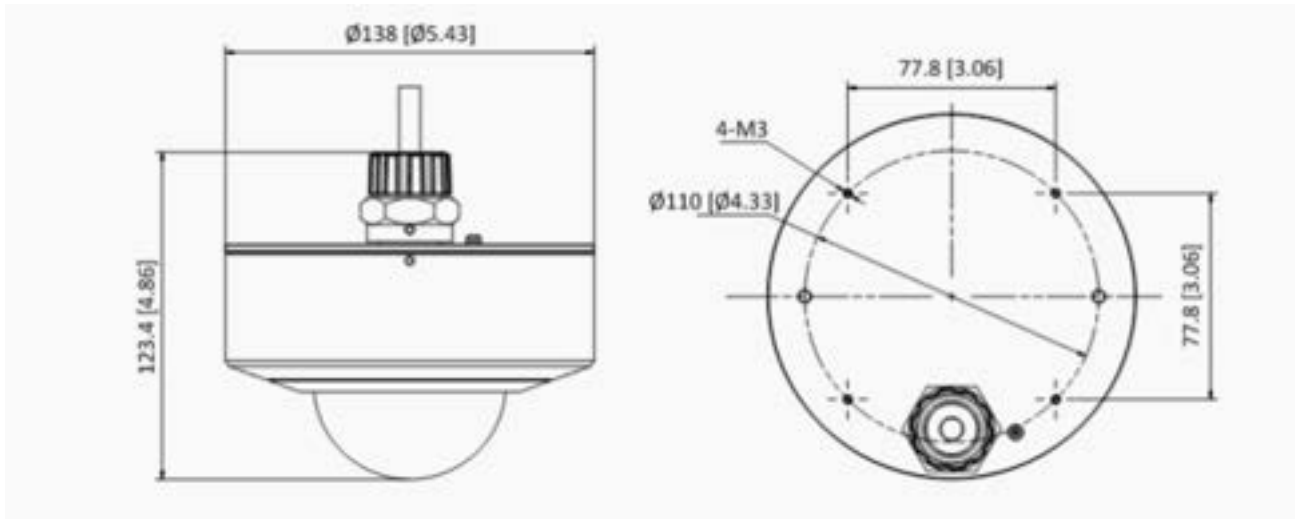
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## Specifications

|                         |   |            |                |            |                   |              |  |
|-------------------------|---|------------|----------------|------------|-------------------|--------------|--|
|                         | KDO-EX-FL228IR  |            |                |            | KDO-EX-FL204IR    |              |  |
| Camera                  |   |            |                |            |                   |              |  |
| Sensor                  | 1/2.7", 2.0 megapixel, progressive scan, CMOS   |            |                |            |                   |              |  |
| Lens                    | 2.8mm@F2.0  |            |                | 4.0mm@F2.0 |                   |              |  |
| DORI Distance           | Lens (mm)   | Detect (m) | Observe (m)    |            | Recognize (m)     | Identify (m) |  |
|                         | 2.8   | 42         | 16.8           |            | 8.4               | 4.2          |  |
|                         | 4.0   | 60         | 24             |            | 12                | 6            |  |
| Angle of View (H)       | 112.9°  |            |                | 91.2°      |                   |              |  |
| Angle of View (V)       | 59.1°   |            |                | 47.9°      |                   |              |  |
| Angle of View (O)       | 121.2°  |            |                | 95.9°      |                   |              |  |
| Adjustment angle        | Pan: 3° ~ 360°  |            | Tilt: 0° ~ 68° |            | Rotate: 3° ~ 360° |              |  |
| Shutter                 | Auto/Manual, 1 ~ 1/100000s  |            |                |            |                   |              |  |
| Minimum Illumination    | Colour: 0.01Lux ( F2.0, AGC ON)<br>0Lux with IR   |            |                |            |                   |              |  |
| Day/Night               | IR-cut filter with auto switch (ICR)  |            |                |            |                   |              |  |
| Digital noise reduction | 2D/3D DNR   |            |                |            |                   |              |  |
| S/N                     | >52dB   |            |                |            |                   |              |  |
| IR Range                | Up to 30m (98ft) IR range   |            |                |            |                   |              |  |
| Wavelength              | 850nm   |            |                |            |                   |              |  |
| IR On/Off Control       | Auto/Manual   |            |                |            |                   |              |  |
| Defog                   | Digital Defog   |            |                |            |                   |              |  |
| WDR                     | 120dB   |            |                |            |                   |              |  |
| Video                   |   |            |                |            |                   |              |  |
| Video Compression       | Ultra 265, H.265, H.264, MJPEG  |            |                |            |                   |              |  |
| H.264 code profile      | Baseline profile, Main profile, High profile  |            |                |            |                   |              |  |
| Frame Rate              | Main Stream: 1080P (1920*1080), Max 30fps; 720P (1280*720), Max 30fps<br>Sub Stream: 720P (1280*720), Max 30fps; D1 (720*576), Max 30fps; 640*360,Max 30fps; 2CIF(704*288), Max 30fps; CIF(352*288), Max 30fps; |            |                |            |                   |              |  |
| Video Bit Rate          | 128 Kbps~16 Mbps  |            |                |            |                   |              |  |
| OSD                     | Up to 4 OSDs  |            |                |            |                   |              |  |
| Privacy Mask            | Up to 4 areas   |            |                |            |                   |              |  |
| ROI                     | Up to 8 areas   |            |                |            |                   |              |  |
| Motion Detection        | Up to 4 areas   |            |                |            |                   |              |  |
| Image                   |   |            |                |            |                   |              |  |
| White Balance           | Auto/Outdoor/Fine Tune/Sodium Lamp/Locked/Auto2   |            |                |            |                   |              |  |
| Digital noise reduction | 2D/3D DNR   |            |                |            |                   |              |  |
| Smart IR                | Supported   |            |                |            |                   |              |  |
| Flip                    | Normal/Vertical/Horizontal/180°   |            |                |            |                   |              |  |
| Dewarping               | N/A   |            |                |            |                   |              |  |
| HLC                     | Supported   |            |                |            |                   |              |  |
| BLC                     | Supported   |            |                |            |                   |              |  |

|   |  |
|---|--|
| Network                                       |  |
| Protocols                                     | IPv4, IGMP, ICMP, ARP, TCP, UDP, DHCP, RTP, RTSP, RTCP, DNS, DDNS, NTP, FTP, UPnP, HTTP, HTTPS, SMTP, QoS, SSL, SNMP |
| Compatible Integration                        | ONVIF (Profile S, Profile G, Profile T), API   |
| Client  | EZStation<br>EZView<br>EZLive  |
| Storage                                       |  |
| Edge Storage                                  | Micro SD, up to 128GB  |
| Network Storage                               | ANR,NAS(NFS)   |
| Interface                                     |  |
| Network                                       | 10/100M Base-TX Ethernet   |
| Certifications                                |  |
| Certifications of Camera module and Ex casing | CE: EN 60950-1 UL: UL60950-1<br>FCC: FCC Part 15 ATEx:EN60079  |
| General                                       |  |
| Power   | DC 12V±25%, PoE (IEEE 802.3af)   |
|   | Power consumption: Max 5.0W  |
| Dimensions (Ø x H)                            | Φ138x 123mm  |
| Weight  | 3KG  |
| Casing Material                               | Stainless Steel 304 or 316   |
| Working Environment                           | -40°C ~ 60°C , Humidity: ≤95% RH (non-condensing)  |
| Storage Environment                           | -40°C ~ 60°C , Humidity: ≤95% RH (non-condensing)  |
| Surge Protection                              | 2KV  |
| Ingress Protection                            | IP68   |
| Vandal Resistant                              | IK10   |
| Reset Button                                  | N/A  |

## Dimensions



## Accessories



Ex-Proof Hose



Wall Mounting Bracket



Ceiling Mounting Bracket



Ex-Proof Junction Box

# Explosion Proof Anti-Corrosion Fixed WDR HD IR Camera with wiper KDW-EX-VL204IRW02(H)



## Body Features

- Integrated intelligent design of camera, infrared lamp and wiper
- Selected high-performance imported infrared IR, visible distance up to 30 meters
- With wiper and sunshade
- Made of stainless steel 316L for marine environment.
- The window adopts sturdy tempered flat glass, which completely eliminates infrared light halo.
- Optional automatic heating components.
- Protection level reaches IP68.
- Ex Mark:Exd II CT6 Gb /Ex tD A21 IP68 T80 °C
- Certificates:CE FCC ATEX

## Camera Key Features

- 2MP 1/2.8" progressive scan CMOS
- Up to 1920×1080 resolution
- 4 × optical zoom; focal length 2.8mm to 12mm
- Min. illumination: Color: 0.05Lux @(F1.6, AGC ON), B/W: 0.01Lux @(F1.6, AGC ON)
- Zoom speed: 2.6 s
- IR cut filter with auto switch
- 3D DNR, low bitrate, digital WDR

## Application Environments:

This is a miniaturized, infrared integrated, and intelligent Ex-Proof Anti-corrosion monitoring equipment. It can be widely used in petroleum, chemical industry, oil depots, ships, Vessels, Marine, drilling platforms, gas stations, ports, mines, aerospace, Military industry, steel, pharmaceutical, fireworks production, food processing and other places.

It has a built-in infrared lighting chip, which automatically turns on the infrared light at night or when the visible light is insufficient. It adopts a window design with the camera to completely eliminate the infrared light halo and can monitor dangerous places all-weather. Sunshade and wiper are randomly configured. The wiper and the protective cover are fully integrated to eliminate condensation water droplets and do not hinder the visual range of the system. The lens wiper adopts a car wiper blade, which has good weather resistance and is easy to replace; The window is made of special tempered flat glass, the light transmittance is higher than 95%, while being sturdy and durable, it ensures the clear image. Optional low-temperature automatic heating function, automatic heating components can ensure that the equipment can work stably for a long time under the temperature condition of -40 °C to +60 °C to prevent condensation. The protection grade reaches IP68, the stainless steel Sunshield is adopted, the structure is firm and fully sealed, which represents the current high standard of environmental protection.



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## Specifications

### Camera Module

|                   |   |
|-------------------|---|
| Image Sensor      | 1/2.8" Progressive Scan CMOS  |
| Video Compression | H.264, H.265  |
| Audio Compression | G.722.1, G.711-a law, G.711-u law, MP2L2, G.726, PCM  |
| Resolution        | Main stream: 50HZ: 25fps (1920 × 1080, 1280 × 960, 1280 × 720), 60HZ: 30fps (1920×1080, 1280 × 960, 1280 × 720)<br>Sub-stream: 50HZ: 25fps (704 × 576, 640 × 480, 352 × 288), 60HZ: 30fps (704 × 480, 640 × 480, 352 × 240) |
| Min. Illumination | Color: 0.05Lux @ (F1.6, AGC ON)<br>B/W: 0.01Lux @ (F1.6, AGC ON)  |
| S/N ratio         | > 52dB  |
| Day & Night       | IR Cut Filter   |
| Focus Mode        | Auto, Semi-auto, Manual   |
| Regional Focus    | Yes   |
| Exposure Mode     | Auto/Iris Priority/Shutter Priority/Manual  |
| Regional Exposure | Yes   |
| Day & Night Mode  | Auto/Color/BW/Scheduled-Switch/Triggered by Alarm Input   |
| Shutter Time      | 1/1 s to 1/30,000 s   |
| White Balance     | Auto 1, Auto 2, Indoor, Outdoor, Manual, Sodium Lamp, Fluorescent Lamp  |
| BLC               | Yes   |
| Gain              | Auto, Manual  |
| 3D DNR            | Yes   |
| Video Bit Rate    | 32Kbps to 16Mbps  |
| Heartbeat         | Yes   |
| Digital Zoom      | 12 ×  |

### Lens

|                       |  |
|-----------------------|--|
| Focal Length          | 2.8 mm to 12 mm, 4 × optical /5-60mm, 10x optical zoom ) |
| Aperture Range        | F1.6 to F2.7   |
| Horizontal FOV        | 115° to 33.8° (Wide-Tele)                                |
| Min. Working Distance | 100 mm to 1500mm (Wide-Tele)                             |
| Zoom Speed            | Approx. 2.6 s (Optical, Wide-Tele)                       |

### Function

|                     |  |
|---------------------|--|
| Image Enhancement   | WDR, HLC   |
| Smart Encoding      | Low bit rate, ROI  |
| Exception Detection | Illegal Login  |
| Power-off Memory    | Yes  |
| Smart Detection     | Motion Detection, Video Tampering Detection, Audio Exception Detection, Line Crossing Detection, Intrusion Detection |

### Network

|                        |   |
|------------------------|---|
| Protocols              | IPv4/IPv6, HTTP, HTTPS, 802.1x, Qos, FTP, SMTP, UPnP, DNS, DDNS, NTP, RTSP, RTCP, RTP, TCP/IP, DHCP, Bonjour                        |
| API                    | Open-ended, support ONVIF and ISAPI, support HIKVISION SDK and third-party management platform                                      |
| Web Browser            | IE 8 to 11, Chrome 31.0+, Firefox 30.0+, Safari 11+   |
| Simultaneous Live View | Up to 20 channels   |
| User                   | Up to 32 users; 3 levels: administrator, operator, and user   |
| Security Measures      | User authentication (ID and PW); host authentication (MAC address); HTTPS encryption; IEEE 802.1x port-based network access control |

### Interface

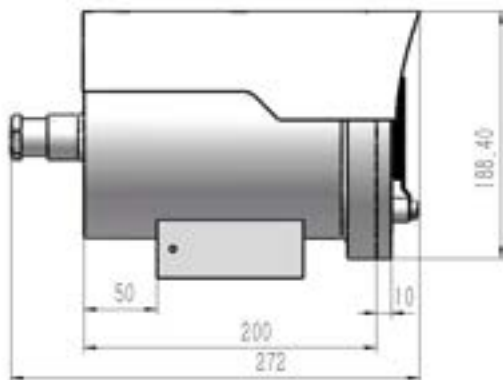
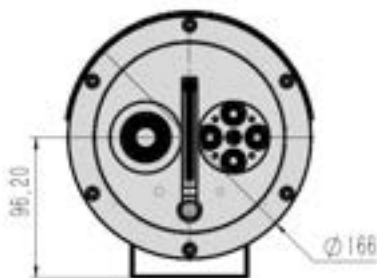
|                         |                               |
|-------------------------|-------------------------------|
| Power Interface         | DC12V ±10%                    |
| Communication Interface | 10 M/100 M Ethernet interface |
| Audio I/O               | Optional                      |
| Alarm I/O               | Optional                      |
| Video Output            | Yes                           |
| SDI Output              |                               |
| RS-485                  | Yes                           |

|                      |  |
|----------------------|--|
| On-board Storage     | Yes (no on-board MicroSD card socket)  |
| Interface            | 36pin FFC (including network interface, RS485, RS232, CVBS, SDHC, alarm in/out, line in/out, power supply) |
| Communication        | RS232 interface, HIKVISION protocol, RS485 interface, Pelco protocol                                       |
| <b>General</b>       |  |
| Operating Conditions | Temperature: -40 °C to 60 °C<br>Humidity: < 90%  |
| Power Consumption    | DC12V (PoE power optional)   |
| Dimension            | 272*179*162MM  |
| Weight               | 6KG  |

## Order Model

KDW-EX-VL204IRW02

## Dimensions



Optional Accessories :



Bracket



Hose



Junction Box



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## 2MP 30X Explosion Proof Anti-Corrosion Fixed IR Camera with wiper KDH-EX-VL230IRW01



### Product characteristics

- Explosion-proof design: the camera has passed international ATEX CE FCC certifications, and can be used in gas and dust hazardous scenarios
- 316L or 304 stainless steel enclosure, protecting the camera from damage caused by sparks or corrosive materials
- IP68 water resistant, preventing water ingress for outdoor use
- Under Ultra Low Illumination Starlight Monitoring
- 30x optical zoom
- 120 dB Optical width dynamics
- Support for electronic compass, automatic azimuth calibration
- H.265、 SVC scalable video coding algorithm with higher compression efficiency and flexible application
- Three-stream package capability to meet real-time and storage flow requirements with different bandwidth and frame rate
- Embedded intelligent algorithm can perform a variety of behavior detection, anomaly detection, intelligent identification and statistical analysis
- Customize OSD, provide custom effects for multiple content styles (size, color, background, style, subtitle scrolling, etc)
- Support OSD image overlay
- support timing, interval, preset, event grab and upload to FTP or center



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- Network adaptive, packet loss environment provides effective monitoring
- Dual iSCSI Data Block Direct Memory
- Support UNP technologies to address the NAT of public-private networks
- Support authorized user and password access, weak password detection and error login suppression, improve password security
- Support HTTPS security Web visits
- Supports RTSP access authentication to ensure that video stream requests are legitimate
- Support IP filtering, effectively block illegal IP address access
- Support gateway ARP binding to prevent gateway MAC address spoofing
- Support 802.1X terminal access control to enhance terminal access security
- Support video watermarking to prevent data tampering
- Compact structure to meet different application requirements
- Smart wiper make the window glass keep clean.
- Infrared lamp with multi-angle fog / bright array, low thermal energy, low power consumption, infrared distance up to 100 m (optional)
- Windows with special explosion-proof glass, glass surface treated by nanotechnology, high light pass, non-stick water, non-stick oil, repel dust

### Application Environment


The Camera is fully-developed and specially designed for use in flammable and explosive hazardous areas that has IIA, IIB, IIC flammable gas, and the ignition temperature group is zone 1 and zone 2 of the T1-T6 group. The flammable gas or the explosive mixture formed by steam and air is also applicable to the ignition temperature group. It is a place containing a combustible dust mixture in Zones 20, 21, and 22 of the T1-T6 group. Such as: petroleum, chemical, mine, military, medicine, oil depot, ship, drilling platform, gas station, fireworks production, grain processing and storage etc. Also widely used for marine safe environment.

### Product specifications

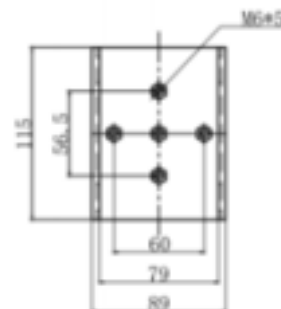
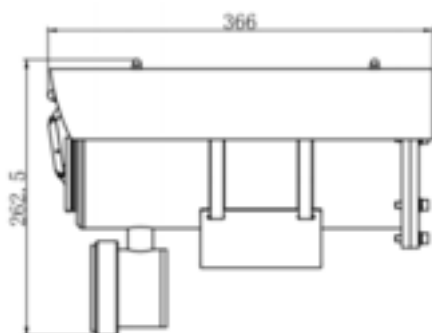
| Camera                    | Description   |
|---------------------------|---|
| Imaging devices           | 1/2.8 inch 1080P Progressive Scan CMOS image sensor                         |
| Focal length/Optical zoom | Range of focal length :4.5~135mm ,30x optical zoom                          |
| Zoom mode                 | Electric zoom, autofocus  |
| aperture                  | Automatic/manual, aperture range: F1.6~F4.4                                 |
| Shutter                   | Auto/manual, shutter range :1/6~1/1000000 s                                 |
| Wide dynamic range        | 120 dB  |
| Minimum illumination      | 0.002 lux (F1.5, AGCON, colour)<br>0.0002 lux (F1.5, AGCN, black and white) |
| Day and night switching   | Automatic infrared filter switching color to black                          |
| Video                     | Description   |
| Code Protocol             | H.265、H.264、MJPEG   |
| Code format               | 1080P (1920*1080) Maximum 30 frames/sec                                     |
| Video streaming           | Three-code stream   |
| OSD                       | Time OSD, Custom OSD  |



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|                                |   |
|--------------------------------|---|
| Privacy Cover                  | Support   |
| <b>Storage</b>                 | <b>Description</b>  |
| Front-end storage              | Support for Micro SD storage, up to 128 GB  |
| Back-end storage               | Dual iSCSI data block direct storage (with platform use)  |
| <b>Intelligent</b>             | <b>Description</b>  |
| Behavioral testing             | Movement detection, cross-border detection, area intrusion, entry into area, departure area, hovering detection, rapid movement, personnel gathering, illegal parking, residue detection, removal detection |
| Abnormal detection             | Occlusion detection, abnormal sound   |
| Intelligent Identification     | Face detection  |
| Statistical analysis           | Passenger flow statistics   |
| <b>Network</b>                 | <b>Description</b>  |
| Agreement                      | L2TP 、 IPv4、 IGMP 、 ICMP 、 ARP 、 TCP 、 UDP 、 DHCP 、 PPPoE 、 RTP 、 RTSP 、 DNS 、 DDNS 、 NTP 、 FTP 、 UPnP 、 HTTP 、 SNMP 、 SIP 、 802.1X etc   |
| Compatibility                  | ONVIF2.4、 GB/T28181( Compatible with New National Standard)   |
| <b>General characteristics</b> | <b>Description</b>  |
| Power                          | DC12V /PoE /AC85V-260V optional   |
| Size (length x width x height) | 366mmX 153mmX 262 mm  |
| Weight                         | 8kg   |
| Working environment            | -40°C~60°C  |
| Casing                         | Stainless Steel 316L or 304   |
| Ingress Protection             | IP68  |
| Ex Mark                        |  II 2 G D<br>Ex db IIC T6 Gb<br>Ex tb IIIC T80°C Db<br>Ta= -40°C ≤ Tamb ≤ +60°C  |
| Certificates                   | ATEX / FCC / CE   |

## Dimensions



## Optional Accessories



Ex-Proof Junction box

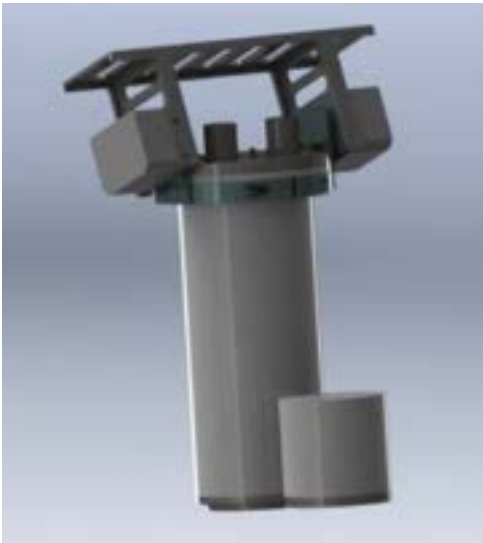


Ex-Proof hose



Bracket

## 2MP 20X Explosion Proof Anti-corrosion Crane Damping Starlight IR Camera KDH-EX-VL220IR01C



### Product Introduction:

This Crane CCTV system meets the requirements of Crane operators. The Crane cctv system is to be installed in hazardous areas and is primarily used on offshore cranes, supplied with up to 3-4 cameras providing clear view of the cargo, the wire drum and pedestal enhancing hoisting operations.

Whereas building structures, objects, distances and light conditions used to represent big challenges for the crane operator, the Crane CCTV makes even the most challenging tasks feasible. With a crane camera installed to overlook the topside of the load and crane hook assembly, valuable information is relayed to the crane operator via his monitor. Offered a clear view of the load on the monitor the traditional difficulties of manoeuvring the load safely and efficiently have been reduced significantly.

The optional Automatic Object Tracking feature automatically zooms in on the predefined object, tracking the payload during hoisting or lowering, keeping the object a constant size on the screen. This is practical for checking clearances, correct wire spooling etc. The interface unit uses an analogue feedback signal from the wire drum. The Crane Camera overlooking the crane hook assembly is suspended from the crane structure via an integrated oil damper. The design keeps the camera in a stable vertical position even when the crane boom is tilted. The oil damper absorbs shocks and vibration protecting the camera and ensuring stable pictures.

Depending on the model, the Crane CCTV system includes either a joystick or a push-button based control. All camera functions such as iris, zoom, focus and camera selections can be operated with the joystick. The joystick can be removed from the control box and installed into other panels if required.

A compact central unit links the system together as well as providing room for the electronics and the power supply for the camera station

This crane damping CCTV camera is developed for offshore surveillance system. It is featured as to get stable video, and will not effect by crane moving or working

# Mechanical

|                     |   |
|---------------------|---|
| <b>Housing</b>      | Stainless steel 304 or 316L   |
| IP                  | IP68  |
| Cable thread hole   | 2pcs G3/4 or NPT3/4   |
| Stable type         | oil pressured type  |
| Impact speed        | 5m/s  |
| Swing angle         | ≤2.5°   |
| Return back time    | ≤1.5s   |
| Voltage             | AC100-240V, AC24V or POE  |
| Power               | 8W  |
| <b>Ambient</b>      |   |
| Ambient temperature | -40 to +60℃   |
| Air pressure        | 80Kpa to 106Kpa   |
| Relative Humidity   | ≤95% (no condensation)  |
| <b>Network</b>      |   |
| Network Interface   | 1pcs of RJ45, support 10M/100M/1000M  |
| Video Compression   | H.264 main profile / MJPEG  |
| Audio Compression   | G.722.1/ G.711-a law/ G7.11-u law/MP2L2/G.726   |
| Voice Intercom      | Support   |
| Stream              | Support three streams   |
| Internet Protocol   | IPv4/IPv6,HTTP,HTTPS,802.1x,Qos,<br>FTP,SMTP,UPnP,SNMP<br>,DNS,DDNS,NTP,RTSP,RTP,<br>TCP,UDP,IGMP,ICMP,DHCP,PPPoE |
| Time Display        | Support   |
| Standard            | ONVIF, CGI, GB/T28181, PISA   |
| IE browser          | Support IE7 or above, Google, Firefox, Apple  |
| Security            | Password protection, Multiple access control  |
| <b>Camera</b>       |   |
| Image Sensor        | 1/2.8" interline-transfer CCD   |
| Effective pixel     | 1.3MP, 2MP,4MP,8MP  |
| Lens                | 4.7-94mm (20X), 4.5-135mm (30X)   |
| Min. Illumination   | Color 0.05Lux B/W: 0.01Lux  |
| Day&night           | Auto/ Color/ BW   |
| S/N ratio           | >52dB (AGC off)   |



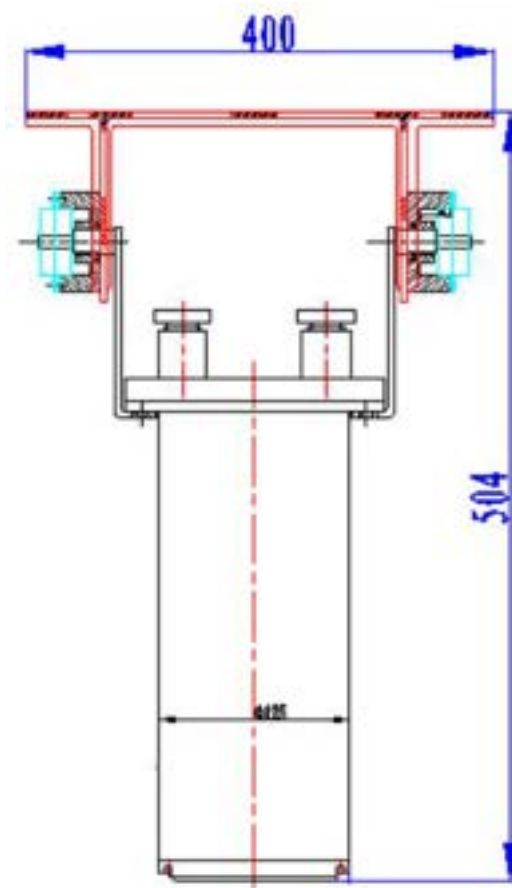
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|               |  |
|---------------|--|
| Gain          | off/ lower/ higher   |
| White Balance | Auto/ Manual/ Auto tracking white balance/ indoor/outdoor/ Sodium Lamp/ Fluorescent Lamp |
| 3D DNR        | Support  |
| BLC           | ON/OFF   |
| Image setting | Mirror, Saturation, Brightness, Contrast, Sharpness adjustable                           |
| Optical zoom  | 20X / 30X  |

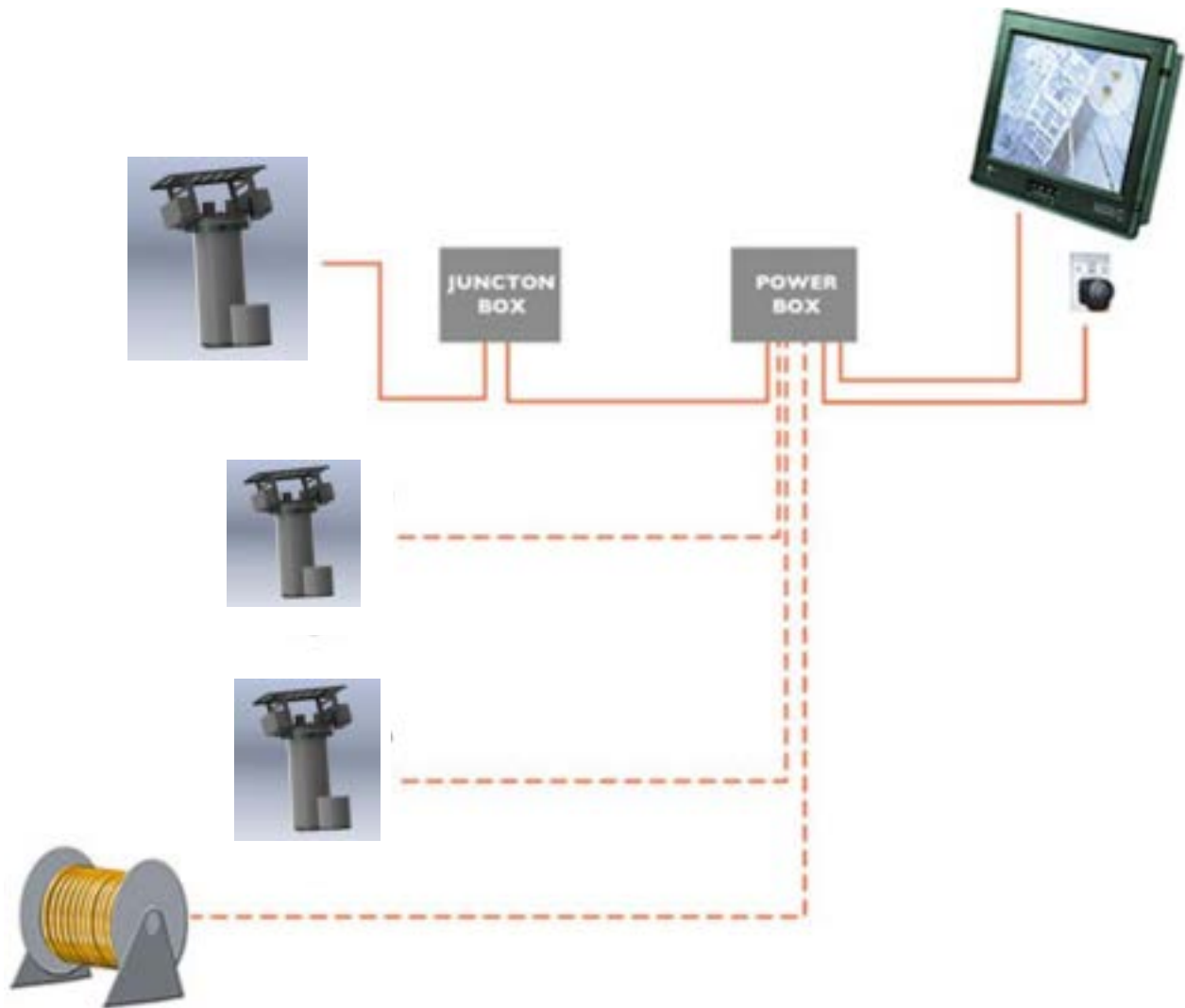
#### General

|        |                  |
|--------|------------------|
| Cable  | integrated cable |
| Size   | 504*125*400mm    |
| Weight | 10kg             |
| Mount  | On crane         |

#### Dimensions:



The system consist of as following :





# KDH-EX-VLM4828IR

4x8MP Ex-Proof Anti-Corrosion Multi-Sensor Panoramic Bullet Starlight IR Network Camera



Launched by Dahua Technology, Dahua WizMind is a full portfolio of solutions composed of project-oriented products including IPC, NVR, PTZ, XVR, Thermal and software platform which adopts industry-leading deep learning algorithms. Focusing on customer's requirements, WizMind provides precise, reliable and comprehensive AI solutions for verticals.

## Series Overview

The splicing camera supports a 180° panoramic view and 4-channel hardware splicing to realize HD panoramic surveillance. The camera supports crowd situation analysis, vehicle situation analysis, and perimeter protection. It is widely applied in various scenes such as squares, airports, safe city, and traffic.

## Functions

### Smart H.265+ & Smart H.264+

With advanced scene-adaptive rate control algorithm, Dahua smart encoding technology realizes the higher encoding efficiency than H.265 and H.264, provides high-quality video, and reduces the cost of storage and transmission.

### Panoramic Splicing

With advanced splicing algorithm, Dahua Panoramic Splicing technology deletes overlapped area and splices multiple images to be a complete panorama. The field of view of the spliced image can be up to 360°, which largely improves surveillance efficiency and user experience. Generally, after splicing, the field of view of four-sensor camera can be 180°, and the field of view of eight-sensor camera can be 360°.

- 4 × 8MP, 1/1.8" CMOS image sensor, low illuminance, high image definition
- Outputs max. 32MP (8192 × 3840) @25/30 fps; with intelligent functions enabled, it can output 32MP (8192 × 3840) @25 fps
- Built-in IR LED, max. IR distance: 30 m
- ROI, SMART H.264+/H.265+, flexible coding, applicable to various bandwidth and storage environments.
- Intelligent detection: Intrusion, tripwire
- Intelligent functions: Crowd distribution map, Vehicle situation
- Supports object tracking and image correction
- Support video clip, the image can be clipped as needed
- Stainless Steel 304 or 316L Material .
- Ex-Proof ,Corrosion Proof ,Whether Proof ,designed for Potential Explosive Environment or high Corrosive Environment .
- Ex-Proof Sign:Ex d IIC T6 Gb/Ex tD A21 IP68 T80degree



### Crowd Density

With deep learning algorithm, Dahua Crowd Density technology can detect the crowd density on the image, and display it on heat map; it can detect people quantity and density in selected area and set threshold. When the number or density is larger or smaller than the threshold, it triggers linkage.

### Vehicle Density

With deep learning algorithm, Dahua Vehicle Density technology analyses the vehicle situation in the image, such as vehicle number in selected area. You can set threshold, and when the number is larger or smaller than the threshold, it triggers linkage.

### Perimeter Protection

With deep learning algorithm, Dahua Perimeter Protection technology can recognize human and vehicle accurately. In restricted area (such as pedestrian area and vehicle area), the false alarms of intelligent detection based on target type (such as tripwire, intrusion) are largely reduced.

### Cyber Security

Dahua network camera is equipped with a series of key security technologies, such as security authentication and authorization, access control, trusted protection, encrypted transmission, and encrypted storage, which improve its security defense and data protection, and prevent malicious programs from invading the device.



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### Protection (IP68, IK10, wide voltage)

IP67: The camera passes a series of strict test on dust and soak. It has dust-proof function, and the enclosure can works normal after soaking in 2m deep water for 120minutes.

IK10: The enclosure can stand the punch more than 5 times from a 5 kg hammer falling from a height of 40 cm (Impact energy is 20J).

Wide voltage: The camera allows  $\pm 30\%$  input voltage tolerance (wide voltage range), and it is widely applied to outdoor environment with instable voltage.

### Technical Specification

#### Camera

|                            |   |
|----------------------------|---|
| Image Sensor               | 1/1.8" 8Megapixel progressive CMOS  |
| Max. Resolution            | 8192 (H) × 3840 (V)   |
| ROM                        | 4 GB  |
| RAM                        | 8 GB  |
| Scanning System            | Progressive   |
| Electronic Shutter Speed   | Auto/Manual 1/3 s–1/100,000 s   |
| Min. Illumination          | 0.005 Lux@F1.6 (Color,30IRE)<br>0.0005 Lux@F1.6 (B/W,30IRE)<br>0 Lux (Illuminator on) |
| S/N Ratio                  | >56 dB  |
| Illumination Distance      | 30 m (98.4 ft) (IR LED)   |
| Illuminator On/Off Control | Auto/Manual   |
| Illuminator Number         | 8 (IR LED)  |
| Pan/Tilt/Rotation Range    | Tilt: 0°–90°<br>Rotation: 0°–360°   |

#### Lens

|                      |                                 |                      |                     |                     |
|----------------------|---------------------------------|----------------------|---------------------|---------------------|
| Lens Type            | Fixed-focal                     |                      |                     |                     |
| Mount Type           | M12                             |                      |                     |                     |
| Focal Length         | 2.8 mm                          |                      |                     |                     |
| Max. Aperture        | F1.6                            |                      |                     |                     |
| Field of View        | Horizontal: 180°; vertical: 90° |                      |                     |                     |
| Iris Type            | Fixed                           |                      |                     |                     |
| Close Focus Distance | 1.8 m (5.9 ft)                  |                      |                     |                     |
| DORI Distance        | Detect                          | Observe              | Recognize           | Identify            |
|                      | 84.0 m<br>( 275.6 ft)           | 33.6 m<br>(110.2 ft) | 16.8 m<br>(55.1 ft) | 8.4 m<br>( 27.6 ft) |

### Professional, intelligent

|                            |  |
|----------------------------|--|
| Vehicle Density            | Vehicle density; parking upper limit; vehicle congestion alarm |
| IVS (Perimeter Protection) | Intrusion; tripwire  |
| Crowd Distribution Map     | Crowd map, global people counting; people counting in area     |

#### Video

|                   |  |
|-------------------|--|
| Video Compression | H.265; H.264; H.264H; H.264B; MJPEG (only supported by the sub stream) |
| Smart Codec       | Smart H.264+/Smart H.265+  |

|                          |   |
|--------------------------|---|
| Video Frame Rate         | Main stream: 8192 × 3840 (1–25/30 fps)<br>Sub stream: 1280 × 600 (1–25/30 fps)<br>Third stream: 2304 × 1080 (1–25/30 fps)   |
| Stream Capability        | 3 streams   |
| Resolution               | Splicing:<br>32M (8192 × 3840); 7680 × 3600; 7168 × 3360; 6720 × 3152; 5760 × 2700; 4800 × 2252; 4096 × 1920; 2880 × 1360; 2304 × 1080; 1280 × 600; 2408 × 960; 1520 × 712<br>Non-splicing:<br>4320 × 7680; 2880 × 5120; 2160 × 3840; 720 × 1280; 1080 × 1920 |
| Bit Rate Control         | CBR/VBR   |
| Video Bit Rate           | H.264: 96 kbps–65536 kbps<br>H.265: 38 kbps–55612 kbps  |
| Day/Night                | Auto (ICR)/Color/B/W  |
| BLC                      | Yes   |
| HLC                      | Yes   |
| WDR                      | DWDR  |
| White Balance            | Auto/natural/street lamp/outdoor/manual/regional custom   |
| Gain Control             | Auto/Manual   |
| Noise Reduction          | 3D NR   |
| Motion Detection         | OFF/ON (4 areas, rectangular)   |
| Region of Interest (RoI) | Yes (4 areas)   |
| Smart Illumination       | Yes   |
| Privacy Masking          | 4 areas   |

#### Audio

|                   |                               |
|-------------------|-------------------------------|
| Audio Compression | G.711A; G.711Mu; G.726; G.723 |
|-------------------|-------------------------------|

#### Alarm Event

|             |  |
|-------------|--|
| Alarm Event | No SD card; SD card full; SD card error; service life warning; network disconnection; IP conflict; illegal access; voltage detection; safety exception; motion detection; video tampering; scene changing; Input Abnormal detection; intensity change detection; external alarm; tripwire; intrusion; crowd density detection; traffic congestion; maximum vehicle |
|-------------|--|

#### Network

|                  |   |
|------------------|---|
| Network          | RJ-45 (10/100/1000 Base-T)  |
| SDK and API      | Yes   |
| Cyber Security   | Video encryption; firmware encryption; configuration encryption; Digest; WSSE; account lockout; security logs; IP/MAC filtering; generation and importing of X.509 certification; syslog; HTTPS; 802.1x; trusted boot; trusted execution; trusted upgrade |
| Protocol         | IIPv4; IPv6; HTTP; HTTPS; TCP; UDP; ARP; RTP; RTSP; RTCP; RTMP; SMTP; FTP; SFTP; DHCP; DNS; DDNS; QoS; UPnP; NTP; Multicast; ICMP; IGMP; NFS; SAMBA; PPPoE; 802.1x; SNMP; Bonjour   |
| Interoperability | ONVIF (Profile S/Profile G/Profile T); CGI; Milestone; Genetec; RTMP  |
| User/Host        | 20  |



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|                     |  |
|---------------------|--|
| Storage             | FTP; SFTP; Micro SD card (support max. 256 G); NAS |
| Browser             | IE10 and later                                     |
| Management Software | Smart PSS; DSS                                     |

#### Certification

|                |   |
|----------------|---|
| Certifications | CE-LVD: EN62368-1 ATEX (EN60079)<br>CE-EMC: Electromagnetic Compatibility Directive 2014/30/EU<br>FCC: 47 CFR FCC Part 15, Subpart B<br>UL/CUL: UL60950-1 CAN/CSA C22.2 No.60950-1-07 |
|----------------|---|

#### Port

|              |   |
|--------------|---|
| RS-485       | 1 (baud rate range: 1200 bps–115200 bps)    |
| Audio Input  | 1 channel (RCA port)                        |
| Audio Output | 1 channel (RCA port)                        |
| Alarm Input  | 2 channels in: 5mA 3V–5V DC                 |
| Alarm Output | 2 channels out: 1,000mA 30V DC/500mA 50V DC |

#### Power

|                   |  |
|-------------------|--|
| Power Supply      | 12V DC   |
| Power Consumption | Basic power consumption: 4.9W (12V DC); 6.4W(24V AC); 6.5W (PoE)<br>Max. power consumption (ICR + IR LED): 12.5W (12V DC);14.3W(24V AC); 14.9W (PoE) |

#### Environment

|                       |                                  |
|-----------------------|----------------------------------|
| Operating Temperature | –40°C to +60°C (–40°F to +140°F) |
| Operating Humidity    | ≤ 95%                            |
| Storage Temperature   | –40°C to +60°C (–40°F to +140°F) |
| Protection Grade      | IP68; IK10                       |

#### Structure

|              |                                     |
|--------------|-------------------------------------|
| Casing       | Stainless Steel 304 or 316 Material |
| Dimensions   | 298.3 mm × 172.5 mm × 120.5 mm      |
| Net Weight   | 11kg                                |
| Gross Weight | 13kg                                |

#### Accessories

##### Optional



Explosion Proof Hose



Explosion Proof Junction Box

#### Dimensions (mm [inch])



# KDQ-EX-VLM452812IR

4 × 5MP Ex-Proof Anti-Corrosion Multi-Sensor No-Splicing Panoramic Starlight WDR IR Dome Network Camera



Launched by Dahua Technology, Dahua WizMind is a full portfolio of solutions composed of project-oriented products including IPC, NVR, PTZ, XVR, Thermal and software platform which adopts industry-leading deep learning algorithms. Focusing on customer's requirements, WizMind provides precise, reliable and comprehensive AI solutions for verticals.

## Series Overview

The non-splicing camera can adjust each lens to realize 360° surveillance, which can be used in the scenes with multiple cameras, and is easy to install. Stereo vision camera has the functions such as deep detection and behavior analysis.

## Functions

### Smart H.265+ & Smart H.264+

With advanced scene-adaptive rate control algorithm, Dahua smart encoding technology realizes the higher encoding efficiency than H.265 and H.264, provides high-quality video, and reduces the cost of storage and transmission.

### Perimeter Protection

With deep learning algorithm, Dahua Perimeter Protection technology can recognize human and vehicle accurately. In restricted area (such as pedestrian area and vehicle area), the false alarms of intelligent detection based on target type (such as tripwire, intrusion, fast moving, parking detection, loitering detection and gathering detection) are largely reduced.

### Face Detection

Dahua Face Detection technology can detect the face in the image. With deep learning algorithm, the technology supports detecting, tracking, capturing and selecting the best face image, and then outputs face snapshot.

- 4 × 5MP 1/2.7" CMOS image sensor, low illuminance, high image definition
- 4-channel stream output, and each channel can output max. 5MP (2592 × 1944) @25/30 fps
- ROI, SMART H.264+/H.265+, flexible coding, applicable to various bandwidth and storage environments
- Support 4-channel 120 dB WDR
- The intelligent functions of 4 channels can be enabled at the same time
- Intelligent detection: Tripwire, intrusion, fast moving (the three functions support the classification and accurate detection of vehicle and human), abandoned object, missing object, loitering detection, people gathering, parking detection, and face detection
- FlexStream: The 4 channels of images can be viewed in a defined channel with 1 channel stream. That is, the multiple images can be displayed in 1 channel.
- Web5.0 interface design, which is friendly to users, and easy for operation
- Built-in efficient IR LED, and the max. illumination distance is 30 m
- Alarm: 3 in, 2 out; audio: 1 in, 1 out; 485; supports max. 256 G Micro SD card, 12V DC/POE power supply;
- Stainless Steel 304 or 316L Material.
- Ex-Proof, Corrosion Proof, Whether Proof, mainly designed for Potential Explosive Environment or high Corrosive Environment.
- Ex-Proof Sign: Ex d IIC T6 Gb/Ex tD A21 IP68 T80degree



### One IP Address for Multiple Streams

With one IP address, Dahua multi-sensor camera can display multiple images. The camera can do multi-image monitoring through software platform or NVR.

### Cyber Security

Dahua network cameras employ a series of security technologies, including security authentication and authorization, access control protocols, trusted protection, encrypted transmission and encrypted storage. These technologies improve the camera's defense against external cyber threats and prevent malicious programs from comprising the device.

### WDR

With advanced Wide Dynamic Range 120dB WDR technology, Dahua network camera provides clear details in the environment of strong brightness contrast. The bright and dark area can get clear video even in high brightness environment or with backlight shadow.



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## Protection (IP68, IK10, wide voltage)

IP67: The camera passes a series of strict test on dust and soak. It has dust-proof function, and the enclosure can work normal after soaking in 2 m deep water for 120 minutes.

IK10: The enclosure can stand the punch more than 5 times from a 5 kg hammer falling from a height of 40 cm (Impact energy is 20J).

Wide voltage: The camera allows  $\pm 30\%$  (for some power supplies) input voltage tolerance (wide voltage range), and it is widely applied to outdoor environment with instable voltage.

## Technical Specification

### Camera

|                            |   |
|----------------------------|---|
| Image Sensor               | 1/2.7"5Megapixel progressive CMOS   |
| Max. Resolution            | 2592 (H) × 1944 (V)   |
| ROM                        | 32 GB   |
| RAM                        | 4 GB  |
| Scanning System            | Progressive   |
| Electronic Shutter Speed   | Auto/Manual 1/3 s–1/100,000 s   |
| Min. Illumination          | 0.005 Lux@F1.7(Color,30IRE)<br>0.0005 Lux@F1.7(B/W,30IRE)<br>0 lux (Illuminator on) |
| S/N Ratio                  | > 56 dB   |
| Illumination Distance      | 30 m (98.4 ft) (IR LED)   |
| Illuminator On/Off Control | Auto/Manual   |
| Illuminator Number         | 8 (IR LED)  |
| Pan/Tilt/Rotation Range    | Pan: 0°–360°<br>Tilt: 0°–80°<br>Rotation: 0°–355°                                   |

### Lens

|                      |      |   |                      |                     |                   |
|----------------------|------|---|----------------------|---------------------|-------------------|
| Lens Type            |      | Motorized vari-focal  |                      |                     |                   |
| Mount Type           |      | φ14   |                      |                     |                   |
| Focal Length         |      | 2.8 mm–12 mm  |                      |                     |                   |
| Max. Aperture        |      | F1.7  |                      |                     |                   |
| Field of View        |      | Horizontal: 100°–36°<br>Vertical: 74°–27°<br>Diagonal: 133°–45° |                      |                     |                   |
| Iris Type            |      | Fixed   |                      |                     |                   |
| Close Focus Distance |      | 0.8 m (2.6 ft)  |                      |                     |                   |
| DORI Distance        | Lens | Detect  | Observe              | Recognize           | Identify          |
|                      | W    | 66 m<br>(216.5 ft)  | 26.4 m<br>(86.6 ft)  | 13.2 m<br>(43.3 ft) | 6.6 m<br>(21.7ft) |
|                      | T    | 140.4 m<br>(460.6 ft)   | 56.1 m<br>(184.1 ft) | 28 m<br>(91.9 ft)   | 14 m<br>(45.9 ft) |

### Smart Event

|     |                                  |
|-----|----------------------------------|
| IVS | Abandoned object; missing object |
|-----|----------------------------------|

## Professional, intelligent

|                            |  |
|----------------------------|--|
| IVS (Perimeter Protection) | Tripwire; intrusion; fast moving (the three functions support the classification and accurate detection of vehicle and human); loitering detection; people gathering; parking detection  |
| Face Detection             | Face detection; track; optimization; snapshot; report high quality picture; face enhancement; face exposure; face attribute extract, 6 attributes and 8 expressions: Gender, age, glasses, expressions (anger, calm, happiness, sadness, disgust, surprise, confusion and fear), mask, beard; face matting setting: face, single inch photo; three snapshot methods: real-time snapshot, optimization snapshot, quality priority; face angle filter; optimization time setting |
| Intelligent Search         | Work together with Smart NVR to perform refine intelligent search, event extraction and merging to event videos.   |

### Video

|                          |  |
|--------------------------|--|
| Video Compression        | H.265; H.264; H.264H; H.264B; MJPEG (only supported by the sub stream)   |
| Smart Codec              | Smart H.265+/Smart H.264+  |
| Video Frame Rate         | Single Stream:<br>Main stream: 5MP (1–25/30 fps)<br>Sub stream: D1 (1–25/30 fps)<br>Third stream: 2MP (1–25/30 fps)<br>FlexStream:<br>Main stream: 2MP (1–25/30 fps)<br>Sub stream: D1 (1–25/30 fps)<br>Third stream: 8MP (1–25/30 fps)                      |
| Stream Capability        | 3 streams  |
| Resolution               | Single Stream: 5M(2592×1944); 4M(2688×1520); 3M(2048×1536); 2M(1920×1080); 720P(1280×720); D1(704× 576/704×480); CIF(352×288/352×240)<br>FlexStream: 8M(3296×2472); 5M(2592×1944); 2M(1600×1200); 1.3M(1280×960); D1(704× 576/704×480); CIF(352×288/352×240) |
| Bit Rate Control         | CBR/VBR  |
| Video Bit Rate           | H.264: 3 kbps–19456 kbps<br>H.265: 3 kbps–19456 kbps   |
| Day/Night                | Auto (ICR)/Color/B/W   |
| BLC                      | Yes  |
| HLC                      | Yes  |
| WDR                      | 4 × 120 dB   |
| White Balance            | Auto/natural/street lamp/outdoor/manual/regional custom  |
| Gain Control             | Auto/Manual  |
| Noise Reduction          | 3D NR  |
| Motion Detection         | OFF/ON (4 areas, rectangular)  |
| Region of Interest (RoI) | Yes (4 areas)  |
| Smart Illumination       | Yes  |
| Image Rotation           | 0°/90°/180°/270° (Support 90°/270° with 1080p resolution and lower)  |
| Mirror                   | Yes  |
| Privacy Masking          | 4 areas  |



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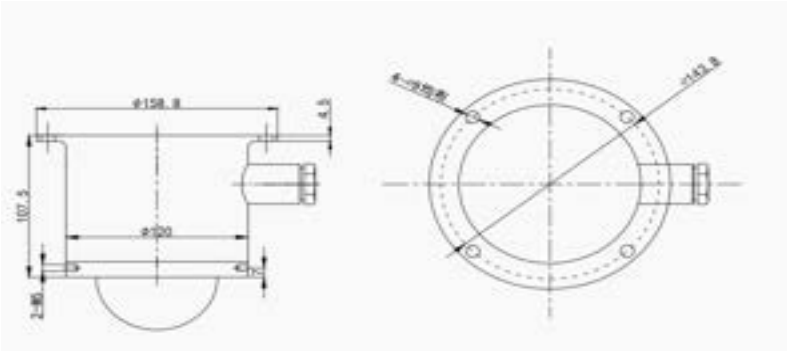
|                      |  |                  |                                      |
|----------------------|--|------------------|--------------------------------------|
| <b>Audio</b>         |  | <b>Structure</b> |                                      |
| Audio Compression    | G.711a; G.711Mu; PCM; G.726; G.723   | Casing           | Stainless Steel 304 or 316L material |
| <b>Alarm</b>         |  | Dimensions       | 286.1 mm × 111.3 mm (11.3" × 4.4")   |
| Alarm Event          | No SD card; SD card full; SD card error; network disconnection; IP conflict; illegal access; motion detection; video tampering; intrusion; tripwire; fast moving; abandoned object; missing object; loitering detection; people gathering; parking detection; scene changing; audio detection; voltage detection; defocus detection; external alarm; face detection; safety exception; voltage detection | Net Weight       | 7 kg                                 |
| <b>Network</b>       |  | Gross Weight     | 8 kg                                 |
| Network              | RJ-45 (10/100/1000 Base-T)   |                  |                                      |
| SDK and API          | Yes  |                  |                                      |
| Cyber Security       | Video encryption; firmware encryption; configuration encryption; Digest; WSSE; account lockout; security logs; IP/MAC filtering; generation and importing of X.509 certification; syslog; HTTPS; 802.1x; trusted boot; trusted execution; trusted upgrade  |                  |                                      |
| Protocol             | IPv4; IPv6; HTTP; TCP; UDP; ARP; RTP; RTSP; RTCP; RTMP; SMTP; FTP; SFTP; DHCP; DNS; DDNS; QoS; UPnP; NTP; Multicast; ICMP; IGMP; NFS; SAMBA; PPPoE; SNMP   |                  |                                      |
| Interoperability     | ONVIF(Profile S/Profile G/Profile T); CGI; Milestone; Genetec; RTMP; P2P   |                  |                                      |
| Storage              | FTP; SFTP; Micro SD card (support max. 256 G); NAS   |                  |                                      |
| Browser              | IE: IE9 and later<br>Chrome: 41.0 and later<br>No-plugin version: Safari and edge  |                  |                                      |
| Management Software  | Smart PSS; DSS   |                  |                                      |
| Mobile Phone         | IOS; Android   |                  |                                      |
| <b>Certification</b> |  |                  |                                      |
| Certification        | CE-LVD: EN62368-1 ATEx (EN60079)<br>CE-EMC: Electromagnetic Compatibility Directive 2014/30/EU<br>FCC: 47 CFR FCC Part 15, Subpart B<br>UL/CUL: UL60950-1 CAN/CSA C22.2 No.60950-1-07  |                  |                                      |
| <b>Port</b>          |  |                  |                                      |
| RS-485               | 1 (baud rate range: 1200 bps–115200 bps)   |                  |                                      |
| Audio Input          | 1 channel (RCA port)   |                  |                                      |
| Audio Output         | 1 channel (RCA port)   |                  |                                      |
| Alarm Input          | 3 channel in: 5mA 3V–5V DC   |                  |                                      |
| Alarm Output         | 2 channel out: 300mA 12V DC  |                  |                                      |
| <b>Power</b>         |  |                  |                                      |
| Power Supply         | 12V DC/POE( 802.3at )  |                  |                                      |
| Power Consumption    | Basic power consumption: 8.1W (12V DC); 9W (PoE)<br>Max. power consumption (ICR + IR intensity): 21.5W (12V DC); 22.2W (POE+)  |                  |                                      |
| <b>Environment</b>   |  |                  |                                      |
| Operating Conditions | –40°C to +60°C/Less than 95% RH  |                  |                                      |
| Storage Conditions   | –40°C to +60°C   |                  |                                      |
| Protection Grade     | IP68; IK10   |                  |                                      |

## Accessories

### Optional



## Dimensions (mm [inch])



Notes: the dimensions may change without notice.



The equipment shall be marked with the following symbols:



II 2G Ex db op is IIC T6 Gb/ II 2D Ex tb op is IIIC T80°C Db IP68/IP66

- 2-Megapixel 1/2.8" Progressive Scan CMOS, maximum resolution up to 1920 × 1080, clear and delicate images
- 30X optical zoom, fast and accurate focusing
- Support ultra-low illumination, 0.002 lux @ F1.2 (AGC ON) color, 0.0002 lux @ F1.2 (AGC ON), black and white
- Support wide dynamic, 3D digital noise reduction, strong light suppression and other functions
- Support H.265/H.264 efficient compression algorithm, greatly reducing the bit rate
- Full-featured: heartbeat, PTZ control, user management
- Intelligent wiper function, the wiper adopts automobile wiper blade, which has good weather resistance and easy replacement.
- IR-Cut Removable (ICR) Filter for Day/Night switching
- High-efficiency infrared/white light array lamp, low thermal energy, low power consumption, infrared distance up to 100 meters
- 360° rotation in the horizontal direction, -90° to 0° in the vertical direction, no monitoring blind zone, Rotation speed: 0.1-45°/s adjustable.

## Product Description

The camera series 2MP explosion-proof anti-corrosion PTZ camera is fully-developed and specially designed for use in flammable and explosive hazardous areas that has iia, iib, iic flammable gas, and the ignition temperature group is zone 1 and zone 2 of the t1-t6 group. The flammable gas or the explosive mixture formed by steam and air is also applicable to the ignition temperature group. It is a place containing a combustible dust mixture in Zones 20, 21, and 22 of the t1-t6 group. Such as: petroleum, chemical, mine, military, medicine, oil depot, ship, drilling platform, gas station, fireworks production, grain processing and storage.

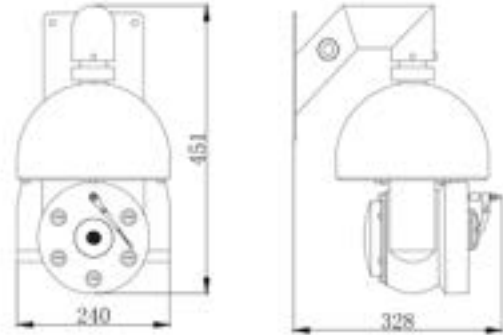
The system uses 304/316L stainless steel to ensure its good explosion-proof performance in hazardous areas. It has an absolute operating temperature range of -40°F~140°F (-40°C~60°C). This camera is properly sealed to prevent the intake of flammable dust and ensure strong corrosion-resistant capabilities. Also widely used for offshore maritime environment.



## Technical Specifications

|  |   |
|--|---|
| Model                                      | KDO-EX -PTZ2030IRW01  |
| Vandal Resistance                          | IK10  |
| Protection Level                           | IP68  |
| <b>Camera</b>                              |   |
| Image Sensor                               | 1/2.8" Progressive Scan CMOS  |
| Signal System                              | PAL/NTSC  |
| Minimum Illumination                       | Color: 0.002 lux @ F1.2 (AGC ON);<br>B/W: 0.0002 lux @ F1.2 (AGC ON)                                      |
| Day/Night Functionality                    | ICR   |
| Scanning System                            | Progressive Scan  |
| Shutter                                    | 1/6~1/8000s   |
| Day/Night Switch                           | ICR   |
| WDR  | 120dB   |
| OSD  | Customized OSD with custom effects for multiple content styles  |
| Motion Detection                           | Support   |
| Privacy Mask                               | Support   |
| Statistical Analysis                       | Traffic Statistics  |
| Intelligent Functions                      | Cross-line detection, illegal parking, automatic tracking, face detection, license plate recognition etc  |
| <b>Lens</b>                                |   |
| Optical Zoom                               | 30x   |
| Aperture/Focal Length                      | F1.5~ F3.0, f=4.5~ 135mm  |
| <b>Menu Control</b>                        |   |
| Exposure Mode                              | Auto/Manual   |
| Focus Mode                                 | Auto/Manual   |
| <b>Video</b>                               |   |
| Video Compression Standard                 | H.265/H.264/MJPEG   |
| Encoding Capability                        | 1080p&30fps   |
| Audio Compression Standard                 | N/A   |
| <b>Network Features</b>                    |   |
| Supporting Protocol                        | L2TP, IPv4, IGMP, ICMP, ARP, TCP, UDP, DHCP, PPPoE, RTP, RTSP, DNS, DDNS, NTP, FTP, UPnP, HTTP, SNMP, SIP |
| General Function                           | Password protection, heartbeat, multi-user access control   |
| <b>Interface</b>                           |   |
| Audio Port                                 | N/A   |
| Ethernet Port                              | 1 RJ45 10m/100m self-adaptive Ethernet port   |
| Alarm Port                                 | N/A   |
| Access Protocol                            | ONVIF   |
| USB Interface                              | N/A   |
| Power Cables                               | 3PCs  |
| <b>General Specification</b>               |   |
| Infrared Distance                          | 100m  |
| Storage Function                           | N/A   |
| Rotation Angel                             | Horizontal: 0°-360°<br>Vertical: -90°-0°  |
| Temperature Range                          | -40°C ~ 60°C  |
| Relative Humidity                          | 0 -- 95%  |
| Product Material                           | 316L or 304 Stainless steel   |
| Power Supply                               | AC 85V ~ 260V or DC24V 3A   |
| Dimensions                                 | 331*291*377mm (length * width * height)   |
| Inlet Hole Specification                   | 1 Entry hole G3/4"  |
| Installation Method                        | Wall or column platform installation  |
| Weight                                     | ≤ 21Kg  |
| <b>Product Certifications and Approval</b> |   |
| Product Certifications                     | CE, ATEX, FCC   |

## Dimensions



Unit: mm

## Accessories



Hose



Junction box

# 2MP 30X Explosion Proof Anti-Corrosion WDR PTZ Dome Camera

KDQ-EX-PTZ203002



## Product characteristics

### Optical properties

Automatic day and night conversion (ICR)

30x optical zoom, autofocus

120 dB Optical width dynamics

### Coding characteristics

1080P image format is supported and the picture is clearer

Advanced H.265 coding algorithm, coding compression efficiency is higher

Three-bit stream package capability to meet the real-time and storage flow requirements of different bandwidth and frame rate

Built-in auto-focusing algorithm with fast speed, accurate focus and other characteristics

Customize OSD, provide custom effects of multiple content styles



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## Network characteristics

Network adaptive, packet loss environment provides effective monitoring

Dual iSCSI data block direct storage (with platform use)

Onvif 、GB/T28181 support

## Quality Camera module structure

Support for electronic compass, automatic azimuth calibration

## Structure Design

IP68 Ingress Protection

Stainless Steel 304 or 316L Casing .

Ex-Proof Design for hazardous potential explosive sites .

## Application Environment:

KDQ series HD 2MP explosion-proof integrated IP PTZ camera is fully-developed and specially designed for use in flammable and explosive hazardous areas that has iia, iib, iic flammable gas, and the ignition temperature group is zone 1 and zone 2 of the t1-t6 group. The flammable gas or the explosive mixture formed by steam and air is also applicable to the ignition temperature group. It is a place containing a combustible dust mixture in Zones 20, 21, and 22 of the t1-t6 group. Such as: petroleum, chemical, mine, military, medicine, oil depot, ship, drilling platform, gas station, fireworks production, grain processing and storage.

The system uses 304/316L stainless steel to ensure its good explosion-proof performance in hazardous areas. It has an absolute operating temperature range of -40°F~140°F (-40°C~60°C). This camera is properly sealed to prevent the intake of flammable dust and ensure strong corrosion-resistant capabilities. Also widely used for marine safe environment .

## Product specifications

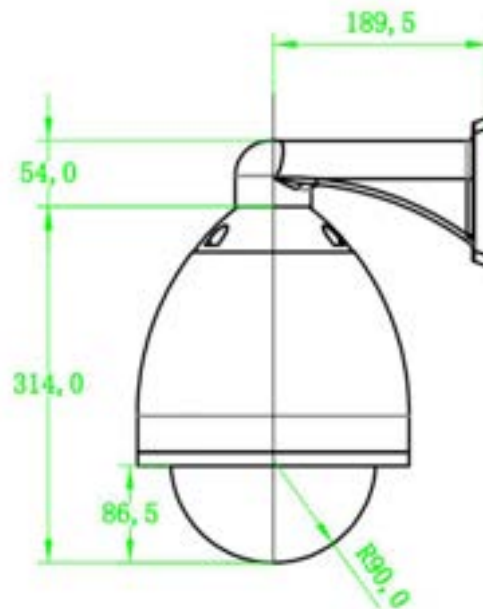
| Camera              | Description  |
|---------------------|--|
| Imaging devices     | 1/2.8 inch Progressive Scan CMOS image sensor        |
| Focal length/change | Range of focal length :4.5~13.5 mm ,30X optical zoom |
| Zoom mode           | Electric zoom, autofocus                             |
| aperture            | Automatic/manual, aperture range: F1.5~F3.0          |



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|                                |  |
|--------------------------------|--|
| Shutter                        | Auto/manual, shutter range :1/6~1/100000 s   |
| Wide dynamic range             | 120 dB   |
| Minimum illumination           | 0.002 lux (F1.5, AGCON, colour)<br>0.0002 lux (F1.5, AGCN, black and white)  |
| Day and night switching        | Automatic infrared filter switching color to black   |
| <b>Video</b>                   | <b>Description</b>   |
| Code Protocol                  | H.265、H.264、MJPEG  |
| Code format                    | 1080P (1920*1080) Maximum 30 frames/sec  |
| Video streaming                | Three-code stream  |
| OSD                            | Time OSD, Custom OSD   |
| Privacy Cover                  | Support  |
| <b>Storage</b>                 | <b>Description</b>   |
| Front-end storage              | Support for Micro SD storage, up to 128 GB   |
| Back-end storage               | Dual iSCSI data block direct storage (with platform use)   |
| <b>Intelligent</b>             | <b>Description</b>   |
| Behavioral testing             | Movement detection, cross-border detection, area intrusion, entry area, departure area, hovering detection, rapid movement, personnel gathering, parking detection, residual detection, moving items detection |
| Abnormal detection             | Occlusion detection, abnormal sound  |
| Intelligent Identification     | Face detection   |
| Statistical analysis           | Passenger flow statistics  |
| <b>Network</b>                 | <b>Description</b>   |
| Agreement                      | L2TP、IPv4、IGMP、ICMP、ARP、TCP、UDP、DHCP、PPPoE、RTP、RTSP、DNS、DDNS、NTP、FTP、UPnP、HTTP、SNMP、SIP、802.1X etc   |
| Compatibility                  | ONVIF2.4、GB/T28181(Compatible with New National Standard)  |
| <b>Pan&amp;Tilt</b>            |  |
| Horizontal range               | 0°~360° continuous rotation  |
| Vertical range                 | 0°~90° Automatically flipped 180° and continuously monitored   |
| <b>General characteristics</b> | <b>Description</b>   |
| Power consumption              | AC24V /AC85V -250V /AC110V/AC220V /DC12V/PoE<br>Notes:if with DC12V and PoE , the cable can not exceed 10meters  |
| Size                           | Ø 230 x 437 mm   |
| Weight                         | 12kg   |
| Working environment            | -40℃~60℃   |
| Ex Mark                        | Ex d IIC T6 Gb/Ex tD A21 IP68 T80℃   |
| Ingress Protection             | IP68   |
| Casing Material                | Stainless Steel 304 or 316L  |
| Certificates                   | CE FCC ATEX  |

## Dimensions



## Optional Accessories



Ex-Proof Hose



Ex-Proof Junction Box

# 2MP 12X Explosion Proof Anti-Corrosion Mini PTZ IR Dome Camera KDOQ-EX-PTZ2012IR04



## Key Features

- Max. 2Megapixel (1920 x 1080) resolution@25fps(50HZ/60HZ)
- 5.0 ~ 60mm (12x) optical zoom lens ,1/2.8 sony 307 cmos ,IR Range up to 40meters
- Support RTSP&Onvif (Medio2 version) ,Compatible with many third-party NVRs and CMS .
- H.265+, H.265/H.264 IP/Network IR PTZ Camera ,pan:0-355°/Tilt:0-90°,moving speed @40°/s.
- Support Multiply web browsers :IE /Firefox/Chrome/Safari etc .
- P2P Cloud service ,Free PC client Software and smartphone APP,support Alarm snapshot to email and FTP ,Day/night ,AWB ,MWB,BLC,HLC ,2D/3D-DNR,Shutter , IR-CUT ,D-WDR,Mirror,rotate ,Motion detection etc functions .
- Audio in /out (RCA optional )alarm out .DC12V or PoE Power .
- Made of Stainless Steel 316L for maritime environment ,IP68 ingress protection .
- Support UTC&RS-485 Control function .
- Made of Stainless Steel 304 or 316L material,Ex-proof,corrosion Proof,waterproof,used for potential explosive sites and high corrosive sites.
- ExMark:EXMark:ExIICT6Gb/ExtDA21IP68/67/66T80℃

## Application Environment

The Stainless Cameras not only be designed to use in flammable and explosive hazardous areas that has iia, iib, iic flammable gas, and the ignition temperature group is zone 1 and zone 2 of the t1-t6 group. The flammable gas or the explosive mixture formed by steam and air is also applicable to the ignition temperature group. It is a place containing a combustible dust mixture in Zones 20, 21, and 22 of the t1-t6 group. Such as: petroleum, chemical, mine, military, medicine, oil depot, drilling platform, gas station, fireworks production, grain processing and storage etc .but also can be used for offshore ,Ship ,Vessel ,Marine Safe environment etc



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## Camera

|                           |   |
|---------------------------|---|
| Image Sensor:             | 1/2.8" 2MP Progressive Scan CMOS              |
| Signal System:            | PAL/NTSC                                      |
| Min. Illumination:        | Color: 0.05lux @(F1.2, AGC ON), 0 lux with IR |
| Shutter Time:             | 1/25 s to 1/100,000 s                         |
| Lens:                     | 5-60mm Motor Lens                             |
| Day&Night:                | IR cut filter with auto switch                |
| Image Enhancement:        | BLC/3D DNR/D-WDR                              |
| Motion Detection          | Support                                       |
| Privacy Protection        | Support(4 Self-customized Areas)              |
| Water-Proof:              | IP68  |
| Illumination for Infrared |   |
| Switching:                | 0.5~3Lux                                      |
| Infrared Wavelength:      | 850nm   |
| Minimum Illumination:     | 0 Lux(IR ON)                                  |
| IR Range:                 | 2PCS LEDS , up to 60m IR                      |
| Pan                       | 0-355°@40°/s                                  |
| Tilt                      | 0-90°@40°/s                                   |

## Compression Standard

|                    |                                   |
|--------------------|-----------------------------------|
| Video Compression: | H.265+/H.265/H.264/MJPEG          |
| Video Bit Rate:    | 32Kbps~12Mbps(CBR/VBR Selectable) |
| Audio Compression: | G.711U                            |
| Dual Streams:      | Yes                               |
| Triple Streams:    | No                                |

## Image

|                              |  |
|------------------------------|--|
| Max. Image Resolution:       | 1920*1080(2MP)   |
| Frame Rate:                  | 50/60Hz: Max.: 1920*1080/1280*960/1280*720@25fps   |
| Sub Stream:                  | 50Hz/60Hz: Max. (704*576/640*360/352*288)@25fps  |
| Third Stream(Mobile Stream): |  |
| Image Settings:              | Rotate Mode, Saturation, Brightness, Contrast, Sharpness adjustable via client software, web browser or Smartphone App |
| Day/Night Switch:            | Auto/Day/Night/Scheduled   |

## Network

|                    |  |
|--------------------|--|
| Network Protocols: | HTTP, TCP/IP, IPv4, UPNP, RTSP, UDP, SMTP, NTP, DHCP, DNS, IP Filter, PPPoE, DDNS, IP Search(Support P6S IP camera, DVR, NVS and etc.) |
|--------------------|--|



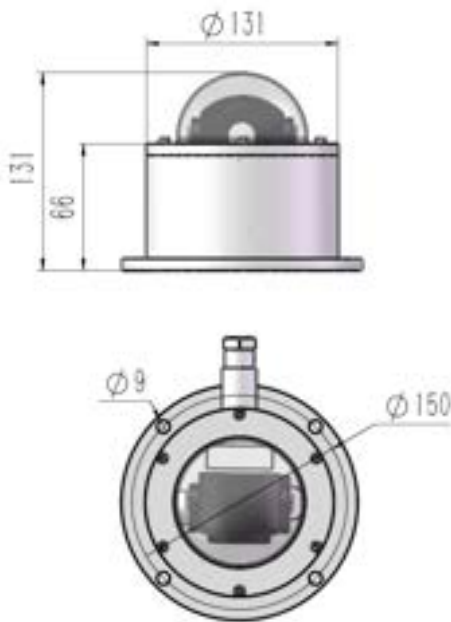
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|                          |  |
|--------------------------|--|
| General Function:        | Anti-Flicker, heartbeat, mirror, password protection,<br>privacy mask, Watermark |
| System Compatibility:    | ONVIF Medio2/P6S   |
| On-line Viewing          | Max. Support 6 Users Simultaneously  |
| Communication Interface: | Interface  |
| RCA Audio Interface:     | 1 RJ45 10M / 100M Ethernet Interface   |
| DC Power Plug:           | RCA Audio input/output Interface (Optional)<br>DC Power Femate Interface         |

## General

|                       |  |
|-----------------------|--|
| Operating Conditions: | -40 °C ~ 60 °C   |
| Power Supply:         | Humidity 95% or less (non-condensing)<br>12 V DC $\pm$ 10%/PoE(Optional)                   |
| Power Consumption:    | 12 VDC $\pm$ 10%, Max Power Comsumption Less than 15W<br>(When the infrared lamps turn on) |
| Housing Material      | Stainless Steel 316L   |
| Weight:               | 4KG  |

Outside Dimensions:



Optional Accessories :



Ex-Proof Hose



Ex-Proof Anti-Corroiosn Junction Box



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## KDQ-EX-VL2040FL8205IR

2MP 40X Optical zoom 8PCs Fixed Lens Ex-Proof Anti-Corrosion IR Starlight  
360degree Panoramic PTZ Dome Camera



- Panoramic camera: Eight 1/1.8" 2 Megapixel progressive scan CMOS
- PTZ camera: One 1/1.8" 4 Megapixel progressive scan CMOS
- Support 360-degree panoramic view
- Starlight technology
- Support Smart H265+/H264+ encoding
- Day/Night (ICR); 3D NR; AWB; AGC; BLC
- IR distance up to 400 m
- Ex-Proof Sign: Ex d IIC T6 Gb/Ex tD A21 IP68 T80degree
- IP68 Ingress Protection .
- Stainless Steel 304 or 316L Material .
- Ex-Proof ,Corrosion Proof ,Whether Proof ,designed for Potential Explosive Environment or high Corrosive Environment .



Launched by Dahua Technology, Dahua WizMind is a full portfolio of solutions composed of project-oriented products including IPC, NVR, PTZ, XVR, Thermal and software platform which adopts industry-leading deep learning algorithms. Focusing on customer's requirements, WizMind provides precise, reliable and comprehensive AI solutions for verticals.

### Series Overview

Starlight panoramic HD network camera, with all-in-one design, provides a 360°panorama and region of interest details at the same time. The panoramic network combines 8 sensors working in tandem to realize 360°panoramic surveillance; all-in-one module and high-speed PTZ camera provides the function of quick position details. In addition, with video analytic algorithm and multi-target track algorithm, the camera can automatically or manually detect tripwire and intrusion of multiple targets in detection area, output alarm signal, and then link PTZ for smart tracking. With these excellent features, the camera can meet higher security requirements.

### Functions

#### True Day/Night

A day/night mechanical IR cut filter makes this camera ideal for applications with fluctuating lighting conditions, delivering color images during the day and automatically switching to monochrome as the scene darkens.

#### Starlight Technology

Featured with Dahua Starlight Technology, the camera is ideal for applications with challenging light conditions. Its low light performance delivers usable video with minimal ambient light. Even in extreme low light conditions, Starlight Technology is capable of delivering color images in nearly complete darkness.

#### Crowd map

With deep learning algorithm, Dahua Crowd Map technology can detect the crowd density on the image, and display it on heat map; it can detect people quantity and density in selected area and set threshold. When the number or density is larger or smaller than the threshold, it triggers linkage.

#### Tripwire detection and intrusion detection

With advanced CNN algorithm, the detection distance, and the accuracy rate and timely rate of linkage track are much improved.

#### Smart 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.

#### Cyber Security

Dahua network camera is equipped with a series of key security technologies, such as security authentication and authorization, access control, trusted protection, encrypted transmission, and encrypted storage, which improve its security defense and data protection, and prevent malicious programs from invading the device.



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## Technical Specification

### Camera

|                            |   |
|----------------------------|---|
| Image Sensor               | Panoramic camera: 1/1.8"2Megapixel progressive CMOS<br>PTZ camera: 1/1.8"4Megapixel progressive CMOS                                  |
| Max. Resolution            | Panoramic camera: 8192 (H) × 1800 (V)<br>PTZ camera: 2560 (H) × 1440 (V)  |
| ROM                        | Panoramic camera: 4 GB<br>PTZ camera: 32 GB   |
| RAM                        | Panoramic camera: 8 GB<br>PTZ camera: 4 GB  |
| Scanning System            | Progressive   |
| Electronic Shutter Speed   | Panoramic camera: Auto/Manual 1/3 s–1/100,000 s<br>PTZ camera: Auto/Manual 1/1 s–1/300,000 s  |
| Min. Illumination          | Panoramic network camera:<br>0.001 Lux (Color); 0.0002 Lux (B/W)<br>PTZ camera:<br>0.001 Lux (Color); 0.0001 Lux (B/W); 0 Lux (IR on) |
| S/N Ratio                  | Panoramic camera: 56 dB<br>PTZ camera: 53.6 dB  |
| Illumination Distance      | PTZ camera: ≥ 400 m (1312.3 ft) (IR LED)  |
| Illuminator On/Off Control | Auto/Manual   |
| Illuminator Number         | PTZ camera: 7 (IR LED)  |

### Lens

|                      |                  |   |                      |                     |                    |
|----------------------|------------------|---|----------------------|---------------------|--------------------|
| Lens Type            |                  | Panoramic camera: Fixed-focal<br>PTZ camera: Motorized vari-focal   |                      |                     |                    |
| Mount Type           |                  | Panoramic camera: M12<br>PTZ camera: Module   |                      |                     |                    |
| Focal Length         |                  | Panoramic camera: 5 mm<br>PTZ camera: 5.6 mm-223 mm, 40x optical zoom   |                      |                     |                    |
| Max. Aperture        |                  | Panoramic camera: F2.0<br>PTZ camera: F1.3  |                      |                     |                    |
| Field of View        |                  | Panoramic camera:<br>Horizontal: 360°<br>Vertical: 84°<br>PTZ camera:<br>Horizontal: 2.27°–61.40°<br>Vertical: 1.30°–35.99°<br>Diagonal: 2.62°–68.18° |                      |                     |                    |
| Iris Type            |                  | Panoramic camera: Fixed<br>PTZ camera: Auto   |                      |                     |                    |
| Close Focus Distance |                  | Panoramic camera: 1.2 m (3.9 ft)<br>PTZ camera: 0.5 m (1.6 ft)  |                      |                     |                    |
| DORI distance        |                  | Detect  | Observe              | Recognize           | Identify           |
|                      | Panoramic camera | 53.3 m (174.9 ft)   | 21.3 m (69.9 ft)     | 10.7 m (35.1 ft)    | 5.3 m (17.4 ft)    |
|                      | PTZ camera       | 2873.1 m (9426.2 ft)  | 1149.2 m (3770.3 ft) | 574.6 m (1885.2 ft) | 287.3 m (942.6 ft) |

### Smart event

|     |                     |
|-----|---------------------|
| IVS | Intrusion, tripwire |
|-----|---------------------|

### Professional, Intelligent

|                        |  |
|------------------------|--|
| Crowd Distribution Map | Crowd distribution map; global people counting; people counting in area; crowd density abnormality snapshot      |
| Intelligent Search     | Work together with Smart NVR to perform refine intelligent search, event extraction and merging to event videos. |

## Video

|                                      |   |
|--------------------------------------|---|
| Video Compression                    | H.265; H.264; H.264H; H.264B; MJPEG (only supported by sub stream)  |
| Smart Codec                          | Smart H.265+/ Smart H.264+  |
| Video Frame Rate                     | Panoramic camera:<br>Main stream: 8192 × 1800 @1–25/30 fps;<br>sub stream 1: 3840 × 832 @1–25/30 fps;<br>sub stream 2: 4800 × 3840 @1–25/30 fps<br>PTZ camera:<br>Main stream: 2560 × 1440 @1–25/30 fps;<br>sub stream 1: 704 × 480 @1–25/30 fps;<br>sub stream 2: 1920 × 1080 @1–25/30 fps |
| Stream Capability                    | 3 streams   |
| Resolution                           | Panoramic camera:<br>8192 × 1800; 7680 × 1680; 5760 × 1264; 4800 × 3840;<br>4096 × 900; 3840 × 832; 3200 × 2560; 2560 × 560; 2048 × 452; 1600 × 1280<br>PTZ camera:<br>2560 × 1440; 2048 × 1536; 1920 × 1080; 1280 × 960;<br>1280 × 720; 704 × 576; 704 × 480; 352 × 288; 352 × 240         |
| Bit Rate Control                     | Panoramic camera: CBR/VBR<br>PTZ camera: CBR/VBR  |
| Video Bit Rate                       | Panoramic camera:<br>H.264: 512 kbps–42995 kbps<br>H.265: 256 kbps–26216 kbps<br>PTZ camera:<br>H.264: 184 kbps–15104 kbps<br>H.265: 110 kbps–9216 Kbps   |
| Day/Night                            | Auto (ICR)/Color/B/W  |
| BLC                                  | Yes   |
| HLC                                  | Yes   |
| WDR                                  | Panoramic camera:<br>True WDR:120 dB<br>PTZ camera: WDR (120 dB )   |
| Scene Self-adaptation (SSA)          | Yes   |
| White Balance                        | Panoramic camera:<br>Auto/Natural/Street lamp/Outdoor/Manual/Regional custom<br>PTZ camera:<br>Auto/Indoor/Outdoor/Tracking/Manual/Sodium lamp/ Natural/Street lamp   |
| Gain Control                         | Auto/Manual   |
| Noise Reduction                      | 3D NR   |
| Motion Detection                     | OFF/ON (4 areas)  |
| Region of Interest (RoI)             | Panoramic camera: Yes (4 areas)<br>PTZ camera: Yes (4 areas)  |
| Electronic Image Stabilization (EIS) | PTZ camera: Yes   |
| Smart Illumination                   | PTZ camera: Yes   |
| Defog                                | PTZ camera: Yes   |
| Privacy Masking                      | Panoramic camera: 4 areas<br>PTZ camera: 8 areas  |

## Audio

|                   |  |
|-------------------|--|
| Audio Compression | G.711A; G.711Mu; G.726   |
| Alarm             | Alarm Event No SD card; SD card full; SD card error; network disconnection; IP conflict; illegal access; motion detection; video tampering; intrusion; tripwire; scene changing; audio detection and external alarm. |



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|                     |   |
|---------------------|---|
| <b>Network</b>      |   |
| SDK and API         | Yes   |
| Network             | RJ-45 (10/100/1000 Base-T)  |
| Protocol            | HTTP; TCP; ARP; RTSP; RTP; UDP; RTCP; SMTP; FTP; DHCP; DNS; DDNS; PPPOE; IPv4/v6; SNMP; QoS; UPnP; NTP  |
| Cyber Security      | Video encryption; firmware encryption; configuration encryption; Digest; WSSE; account lockout; security logs; IP/MAC filtering; generation and importing of X.509 certification; syslog; HTTPS; 802.1x; trusted boot; trusted execution; trusted upgrade |
| Interoperability    | ONVIF (Profile G/T/S); CGI  |
| User/Host           | 20 (Total bandwidth: 800 M)   |
| Storage             | FTP; SFTP; Micro SD card (support max. 512 G); NAS  |
| Browser             | IE: IE7 and earlier<br>Chrome: 42 and earlier<br>Firefox: 52 and earlier<br>Safari: 11 and earlier  |
| Management Software | EVS; NVR; M70; DSS; Milestone; Genetec  |
| Mobile Phone        | IOS; Android  |

### PTZ Dome

|                      |   |
|----------------------|---|
| Pan Range            | Pan: 0° to 360° endless<br>Tilt: -12° to 90°, auto flip 180 |
| Manual Control Speed | Pan: 0.1°/s~240°/s<br>Tilt: 0.1°/s~100°/s                   |
| Remote Lens Reset    | Yes   |
| Remote PTZ Reset     | Yes   |
| Preset               | 300   |
| Tour                 | 8 (up to 32 presets per tour)                               |
| Pattern              | 5 patterns  |
| Scan                 | 5 auto scans  |
| Power-off Memory     | Yes   |
| Idle Motion          | Preset/Pattern/Tour/Scan                                    |
| Time Task            | Yes   |
| 3D Positioning       | Yes   |
| PTZ Limit            | Yes   |
| Position Display     | Yes   |
| Information Display  | Yes   |
| Time Display         | Yes   |

### Certifications

|               |   |
|---------------|---|
| Certification | CE-LVD:EN62368-1 ATEX (EN60079)<br>CE-EMC:Electromagnetic Compatibility Directive 2014/30/EU<br>FCC:47 CFR FCC Part 15, Subpart B<br>UL/CUL:UL60950-1 CAN/CSA C22.2 No.60950-1-07 |
|---------------|---|

### Port

|              |                       |
|--------------|-----------------------|
| Audio Input  | 2 channels (terminal) |
| Audio Output | 2 channels (terminal) |

|              |                              |
|--------------|------------------------------|
| Alarm Input  | 7 channels in: 5mA 3V~5V DC  |
| Alarm Output | 3 channels out: 300mA 12V DC |

### Power

|                   |   |
|-------------------|---|
| Power Supply      | 36V DC  |
| Power Consumption | Basic power consumption: 58.7WW<br>Max. power consumption (WDR + H.265 + IR LED intensity): 84.4W |

### Environment

|                      |  |
|----------------------|--|
| Operating Conditions | -40°C to +70°C (-40°F to 158°F)  |
| Operating Humidity   | ≤95%   |
| Storage Conditions   | 5°C~40°C (41°F~104°F) (The temperature difference of each day is within 15°C /59°F.) |
| Protection Grade     | IP68   |

### Structure

|              |                                      |
|--------------|--------------------------------------|
| Casing       | Stainless Steel 304 or 316L material |
| Dimensions   | Φ387 mm × 420 mm                     |
| Net Weight   | 45 kg                                |
| Gross Weight | 50kg                                 |

### Accessories



Ex-Proof Hose



Ex-Proof Junction Box

Dimensions (mm[inch])



Notes:may change without notice.



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The equipment shall be marked with the following:



II 2 G D

Ex db IIC T6 Gb

Ex tb IIIC T80°C Db

Ta= -40°C ≤ Tamb ≤ +60°C

- 2-Megapixel 1/2.8" Progressive Scan CMOS, maximum resolution up to 1920 × 1080, clear and delicate images
- 4 X optical zoom, fast and accurate focusing
- Support ultra-low illumination, 0.002 lux @ F1.2 (AGC ON) color, 0.0002 lux @ F1.2 (AGC ON), black and white
- Support wide dynamic, 3D digital noise reduction, strong light suppression and other functions
- Support H.265/H.264 efficient compression algorithm, greatly reducing the bit rate
- Full-featured: heartbeat, PTZ control, alarm, audio, user management
- Intelligent wiper function, the wiper adopts automobile wiper blade, which has good weather resistance and easy replacement.
- IR-Cut Removable (ICR) Filter for Day/Night switching
- High-efficiency infrared/white light array lamp, low thermal energy, low power consumption, infrared distance up to 150 meters
- 360° continuous rotation in the horizontal direction, -90° to +90° in the vertical direction, no monitoring blind zone, Rotation speed: 0.1-4.5 °/s adjustable.

## Product Description

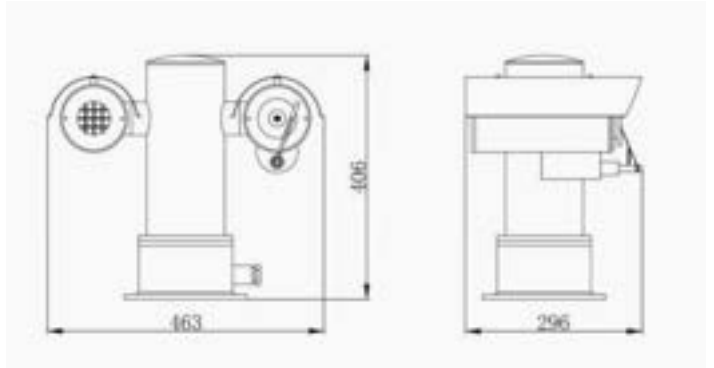
KDY-EX series HD 2MP explosion-proof integrated IP PTZ camera is fully-developed and specially designed for use in flammable and explosive hazardous areas that has IIA, IIB, IIC flammable gas, and the ignition temperature group is zone 1 and zone 2 of the T1-T6 group. The flammable gas or the explosive mixture formed by steam and air is also applicable to the ignition temperature group. It is a place containing a combustible dust mixture in Zones 20, 21, and 22 of the T1-T6 group. Such as: petroleum, chemical, mine, military, medicine, oil depot, ship, drilling platform, gas station, fireworks production, grain processing and storage.

The system uses 304/316L stainless steel to ensure its good explosion-proof performance in hazardous areas. It has an absolute operating temperature range of -40°F~140°F (-40°C~60°C). This camera is properly sealed to prevent the intake of flammable dust and ensure strong corrosion-resistant capabilities. Also widely used for marine environment.

## Technical Specifications

|  |   |
|--|---|
| Model                                      | KDY-EX -PTZ2044IRW01  |
| Vandal Resistance                          | IK10  |
| Protection Level                           | IP68  |
| <b>Camera</b>                              |   |
| Image Sensor                               | 1/2.8" Progressive Scan CMOS  |
| Signal System                              | PAL/NTSC  |
| Minimum Illumination                       | Color: 0.002 lux @ F1.2 (AGC ON);<br>B/W: 0.0002 lux @ F1.2 (AGC ON)  |
| Day/Night Functionality                    | ICR   |
| Scanning System                            | Progressive Scan  |
| Shutter                                    | 1/6~1/8000s   |
| Day/Night Switch                           | ICR   |
| WDR  | 120dB   |
| OSD  | Customized OSD with custom effects for multiple content styles  |
| Motion Detection                           | Support   |
| Privacy Mask                               | Support   |
| Statistical Analysis                       | Traffic Statistics  |
| Intelligent Functions                      | Cross-line detection, intrusion alarm, illegal parking, automatic tracking, face detection, license plate recognition |
| <b>Lens</b>                                |   |
| Optical Zoom                               | 44x   |
| Aperture/Focal Length                      | F1.2~ F3.5, f=5.0~ 220mm  |
| <b>Menu Control</b>                        |   |
| Exposure Mode                              | Auto/Manual   |
| Focus Mode                                 | Auto/Manual   |
| <b>Video/Audio</b>                         |   |
| Video Compression Standard                 | H.265/H.264/MJPEG   |
| Encoding Capability                        | 1080p@60fps   |
| Audio Compression Standard                 | G.711a, G.711u, AAC   |
| <b>Network Features</b>                    |   |
| Supporting Protocol                        | L2TP, IPv4, IGMP, ICMP, ARP, TCP, UDP, DHCP, PPPoE, RTP, RTSP, DNS, DDNS, NTP, FTP, UPnP, HTTP, SNMP, SIP             |
| General Function                           | Password protection, heartbeat, multi-user access control   |
| <b>Interface</b>                           |   |
| Audio Port                                 | Optional  |
| Ethernet Port                              | 1 RJ45 10m/100m self-adaptive Ethernet port   |
| Alarm Port                                 | Optional  |
| Access Protocol                            | ONVIF   |
| RS485Interface                             | 1 RS485 interface   |
| <b>General Specification</b>               |   |
| Infrared Distance                          | 150m  |
| Storage Function                           | optional  |
| Rotation Angel                             | Horizontal: 0°-360°<br>Vertical: -90°~+90°  |
| Temperature Range                          | -40°C ~ 60°C  |
| Relative Humidity                          | 0 -- 95%  |
| Product Material                           | 316L or 304 Stainless steel   |
| Power Supply                               | AC 85V ~ 260V or DC24V 3A   |
| Dimensions                                 | 436*296*406mm (length * width * height)   |
| Inlet Hole Specification                   | 1 Entry hole G3/4"  |
| Installation Method                        | Wall or column platform installation  |
| Weight                                     | ≤ 26Kg  |
| <b>Product Certifications and Approval</b> |   |
| Product Certifications                     | CE, ATEX, FCC   |

## Dimensions



Unit: mm

## Accessories



Stainless Steel Bracket



Ex-Proof Hose



Ex-Proof Junction Box



The equipment shall be marked with the following:



II 2 G D

Ex db IIC T6 Gb

Ex tb IIIC T80°C Db

Ta= -40°C ≤ Tamb ≤ +60°C

- 2-Megapixel 1/2.8" Progressive Scan CMOS, maximum resolution up to 1920 × 1080, clear and delicate images
- 3.0 X optical zoom, fast and accurate focusing
- Support ultra-low illumination, 0.002 lux @ F1.2 (AGC ON) color, 0.0002 lux @ F1.2 (AGC ON), black and white
- Support wide dynamic, 3D digital noise reduction, strong light suppression and other functions
- Support H.265/H.264 efficient compression algorithm, greatly reducing the bit rate
- Intelligent wiper function, the wiper adopts automobile wiper blade, which has good weather resistance and easy replacement.
- IR-Cut Removable (ICR) Filter for Day/Night switching  
High-efficiency infrared/white light array lamp, low thermal energy, low power consumption, infrared distance up to 100m
- 360° continuous rotation in the horizontal direction, -90° to +90° in the vertical direction, no monitoring blind zone, Rotation speed : 0.1- 4.5 °/s adjustable .

## Product Description

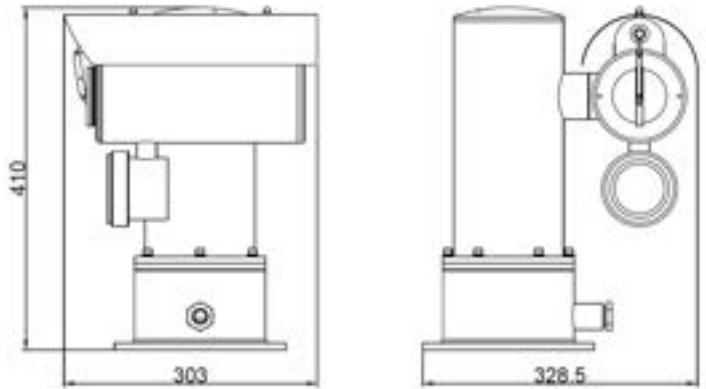
KDY-EX series HD 2MP explosion-proof Anti-corrosion PTZ camera is fully-developed and specially designed for use in flammable and explosive hazardous areas that has IIA, IIB, IIC flammable gas, and the ignition temperature group is zone 1 and zone 2 of the T1-T6 group. The flammable gas or the explosive mixture formed by steam and air is also applicable to the ignition temperature group. It is a place containing a combustible dust mixture in Zones 20, 21, and 22 of the T1-T6 group. Such as: petroleum, chemical, mine, military, medicine, oil depot, ship, drilling platform, gas station, fireworks production, grain processing and storage. It is also applied in marine environment or high corrosive environment due to its good corrosion proof performance such as offshore, Vessels, port terminal, Chemical industries etc .

The system uses 304/316L stainless steel to ensure its good explosion-proof performance in hazardous areas. It has an absolute operating temperature range of -40°F~140°F (-40°C~60°C). This camera is properly sealed to prevent the intake of flammable dust and ensure strong corrosion-resistant capabilities. Also widely used for marine environment.

## Technical Specifications

|  |   |
|--|---|
| Model                                      | KDY-EX -PTZUVIPVF2030IR02   |
| Vandal Resistance                          | IK10  |
| Protection Level                           | IP68  |
| <b>Camera</b>                              |   |
| Image Sensor                               | 1/2.8" Progressive Scan CMOS  |
| Signal System                              | PAL/NTSC  |
| Minimum Illumination                       | Color: 0.002 lux @ F1.2 (AGC ON);<br>B/W: 0.0002 lux @ F1.2 (AGC ON)  |
| Day/Night Functionality                    | ICR   |
| Scanning System                            | Progressive Scan  |
| Shutter                                    | 1/6~1/8000s   |
| Day/Night Switch                           | ICR   |
| WDR  | 120dB   |
| OSD  | Customized OSD with custom effects for multiple content styles  |
| Motion Detection                           | Support   |
| Privacy Mask                               | Support   |
| Statistical Analysis                       | Traffic Statistics  |
| Intelligent Functions                      | Cross-line detection, intrusion alarm, illegal parking, automatic tracking, face detection, license plate recognition |
| <b>Lens</b>                                |   |
| Optical Zoom                               | 30x   |
| Aperture/Focal Length                      | F1.6~F4.4, f=4.5~135mm  |
| <b>Menu Control</b>                        |   |
| Exposure Mode                              | Auto/Manual   |
| Focus Mode                                 | Auto/Manual   |
| <b>Video/Audio</b>                         |   |
| Video Compression Standard                 | H.265/H.264/MJPEG   |
| Encoding Capability                        | 1080p@60fps   |
| Audio Compression Standard                 | G.711a, G.711u, AAC   |
| <b>Network Features</b>                    |   |
| Supporting Protocol                        | L2TP, IPv4, IGMP, ICMP, ARP, TCP, UDP, DHCP, PPPoE, RTP, RTSP, DNS, DDNS, NTP, FTP, UPnP, HTTP, SNMP, SIP             |
| General Function                           | Password protection, heartbeat, multi-user access control   |
| <b>Interface</b>                           |   |
| Audio Port                                 | Optional  |
| Ethernet Port                              | 1 RJ45 10m/100m self-adaptive Ethernet port   |
| Alarm Port                                 | Optional  |
| Access Protocol                            | ONVIF   |
| RS485Interface                             | 1 RS485 interface   |
| <b>General Specification</b>               |   |
| Infrared Distance                          | 100m  |
| Storage Function                           | optional  |
| Rotation Angel                             | Horizontal: 0°-360°<br>Vertical: -90°~+90°  |
| Temperature Range                          | -40°C ~ 60°C  |
| Relative Humidity                          | 0 -- 95%  |
| Product Material                           | 316L or 304 Stainless steel   |
| Power Supply                               | AC 85V ~ 260V or DC24V 3A   |
| Dimensions                                 | 331*291*377mm (length * width * height)   |
| Inlet Hole Specification                   | 1 Entry hole G3/4"  |
| Installation Method                        | Wall or column platform installation  |
| Weight                                     | ≤ 21Kg  |
| <b>Product Certifications and Approval</b> |   |
| Product Certifications                     | CE, ATEX, FCC   |

## Dimensions



(Assembly Dimension)

Unit: mm

## Accessories



Stainless Steel Bracket



Ex-Proof Hose



Ex-Proof Junction Box





Visible Camera

Thermal Camera

The equipment shall be marked with the following:



II 2 G D

Ex db IIC T6 Gb

Ex tb IIIC T80°C Db

Ta= -40°C ≤ Tamb ≤ +60°C

- **2-Megapixel 1/2.8" Progressive Scan CMOS, maximum resolution up to 1920 × 1080, clear and delicate images**
- **44X optical zoom, fast and accurate focusing**
- **Support ultra-low illumination, 0.002 lux @ F1.2 (AGC ON) color, 0.0002 lux @ F1.2 (AGC ON), black and white**
- **Support wide dynamic, 3D digital noise reduction, strong light suppression and other functions**
- **Support H.265/H.264 efficient compression algorithm, greatly reducing the bit rate**
- **Full-featured: heartbeat, PTZ control, alarm, audio, user management**
- **Intelligent wiper function, the wiper adopts automobile wiper blade, which has good weather resistance and easy replacement.**
- Thermal Camera Built-in video compression coding ,easy for network transmission Powerful IDE image detail enhancement algorithm.Intelligent high-temperature pre-alarming with various adjustable grades ,higher detection efficiency ,less misinformation .Embedded intelligent analysis supports motion detection ,line crossing detection ,regional entry /exit detection ,and intelligent PTZ tracking .Professional photoelectrical zooming technology .AGC (automatic gain stability ) ,3D noise reduction ,IDE.Double serial communication RS232 /RS485.
- **360° continuous rotation in the horizontal direction, -90° to +90° in the vertical direction, no monitoring blind zone , Rotation speed :0.1- 40°/s adjustable .**

## Product Description

The series HD 2MP explosion-proof anti-corrosion PTZ Dual light thermal camera is fully-developed and specially designed for use in flammable and explosive hazardous areas that has iia, iib, iic flammable gas, and the ignition temperature group is zone 1 and zone 2 of the t1-t6 group. The flammable gas or the explosive mixture formed by steam and air is also applicable to the ignition temperature group. It is a place containing a combustible dust mixture in Zones 20, 21, and 22 of the t1-t6 group. Such as: petroleum, chemical, mine, military, medicine, oil depot, ship, drilling platform, gas station, fireworks production, grain processing and storage.Also widely used for maritime environment.

Built-in both visible camera and thermal camera which make it applicable in scenarios of zero visibility and strong light source interference .

The system uses 304/316L stainless steel to ensure its good explosion-proof performance in hazardous areas. It has an absolute operating temperature range of -40°F~140°F (-40°C~60°C). This camera is properly sealed to prevent the intake of flammable dust and ensure strong corrosion-resistant capabilities.

## Technical Specifications of Visible Camera

|  |   |
|--|---|
| Model                                      |   |
| Vandal Resistance                          | IK10  |
| Protection Level                           | IP68  |
| <b>Visible Camera</b>                      |   |
| Image Sensor                               | 1/2.8" Progressive Scan CMOS  |
| Signal System                              | PAL/NTSC  |
| Minimum Illumination                       | Color: 0.002 lux @ F1.2 (AGC ON);<br>B/W: 0.0002 lux @ F1.2 (AGC ON)                                      |
| Day/Night Functionality                    | ICR   |
| Scanning System                            | Progressive Scan  |
| Shutter                                    | 1/6~1/8000s   |
| Day/Night Switch                           | ICR   |
| WDR  | 120dB   |
| OSD  | Customized OSD with custom effects for multiple content styles  |
| Motion Detection                           | Support   |
| Privacy Mask                               | Support   |
| Statistical Analysis                       | Traffic Statistics  |
| Intelligent Functions                      | Cross-line detection, illegal parking, automatic tracking, face detection, license plate recognition      |
| <b>Lens</b>                                |   |
| Optical Zoom                               | 44X   |
| Aperture/Focal Length                      | F1.2 ~ F3.5, f=5 ~ 220mm  |
| <b>Menu Control</b>                        |   |
| Exposure Mode                              | Auto/Manual   |
| Focus Mode                                 | Auto/Manual   |
| <b>Video/Audio</b>                         |   |
| Video Compression Standard                 | H.265/H.264/MJPEG   |
| Encoding Capability                        | 1080p@60fps   |
| Audio Compression Standard                 | G.711a, G.711u, AAC   |
| <b>Network Features</b>                    |   |
| Supporting Protocol                        | L2TP, IPv4, IGMP, ICMP, ARP, TCP, UDP, DHCP, PPPoE, RTP, RTSP, DNS, DDNS, NTP, FTP, UPnP, HTTP, SNMP, SIP |
| General Function                           | Password protection, heartbeat, multi-user access control   |
| <b>Interface</b>                           |   |
| Audio Port                                 | 1 Input, 1 output Optional  |
| Ethernet Port                              | 1 RJ45 10m/100m self-adaptive Ethernet port   |
| Alarm Port                                 | 1 Alarm input, 1 Alarm output Optional  |
| Access Protocol                            | ONVIF   |
| Power Cables                               | 3   |
| RS232 Interface                            | 1 RS232 interface   |
| <b>General Specification</b>               |   |
| Infrared Distance                          | 150m  |
| Storage Function                           | Optional  |
| Rotation Angel                             | Horizontal: 0°-360°<br>Vertical: -90°~+90°  |
| Temperature Range                          | -40°C ~ 60°C  |
| Relative Humidity                          | 0 ~ 95%   |
| Product Material                           | 316L or 304 Stainless steel   |
| Power Supply                               | AC 85V ~ 260V or DC24V 3A   |
| Dimensions                                 | 449*303*445mm (length * width * height)   |
| Inlet Hole Specification                   | 1 Entry hole M25"   |
| Installation Method                        | Wall or column platform installation  |
| Weight                                     | ≤ 26Kg  |
| <b>Product Certifications and Approval</b> |   |
| Product Certifications                     | CE, ATEX, FCC   |

## Technical specifications of thermal camera

| Characteristics/performance                | ThermEye3-T  | ThermEye6-T          |
|--|--|----------------------|
| Infrared thermal imaging parameters        |  |                      |
| Type of detector                           | Non-cooled microthermometer  |                      |
| Resolution/pixel spacing                   | 384*288/17um   | 640,480/17um         |
| Sensitivity                                | <60 mk@300mk   | <60 mk@300mk         |
| Frame frequency                            | 25Hz   |                      |
| Response band                              | 8-14um   |                      |
| Optical properties                         |  |                      |
| Focal Point                                | Fixed lens 9 / 15/ 19/ 25 /35/ 40/ 50/ 75/ 100/150 mm optional                                     |                      |
| Focus                                      | Manual/automatic (electric lens supports auto-focusing)  |                      |
| Image processing                           |  |                      |
| Network image resolution                   | 720 x 576  | 640 x 480            |
| Analog image resolution                    | 720 x 576  | 640 x 480            |
| Frame stream image frame rate              | 25 fps · 720x576 25  | 25 fps · 640x 480 25 |
| Frame rate of sub-stream image             | 25 fps · 352x 288 25   | 25 fps · 352x 288 25 |
| Thermal Image Mode                         | HDR( wide dynamic) mode, sea and sky mode, heaven and earth mode                                   |                      |
| Image enhancement                          | IDE( image detail enhancement)   |                      |
| Palettes                                   | 9 color palette options (including iron red, rainbow, black and white, etc.), custom color palette |                      |
| Network                                    |  |                      |
| Network protocol                           | TCP/IP, ICMP, HTTP, DHCP, DNS, RTP, RTSP, IGMP, 802.1X, ONVIF (Profile S)                          |                      |
| Video compression standard                 | H.264  |                      |
| Number of video links                      | Up to 10 at the same time  |                      |
| Number of users                            | Up to 10 users   |                      |
| Radiation Temperature Measurement Function |  |                      |
| Object Temperature Measurement Function    | -20℃ →+120℃, 0℃ →+300(customizable)  |                      |
| Accuracy of temperature measurement        | ±5℃ or 5% of readings  |                      |
| Temperature measurement method             | Support global, point, line, rectangle and other temperature measurement methods                   |                      |

## Accessories



Bracket

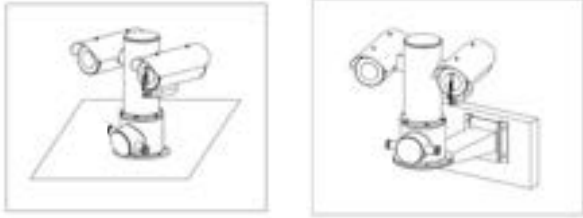


Ex-Proof hose

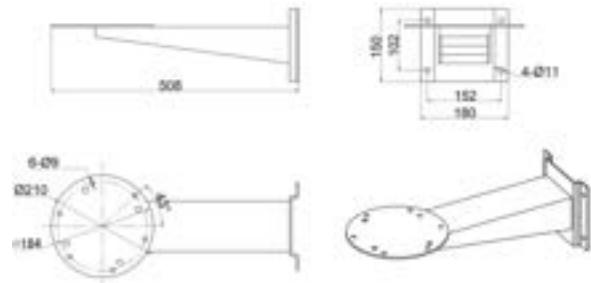


Ex-Proof Junction Box

## Mounting

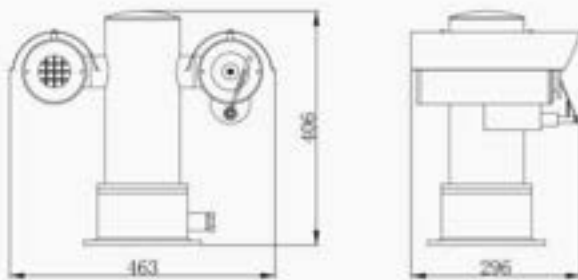


## Mounts Dimensions



Unit: mm

## Dimensions



# 2MP 44X Explosion Proof Anti-Corrosion PTZ IR Camera with washer

## KDY-EX-PTZ2044IRW01P



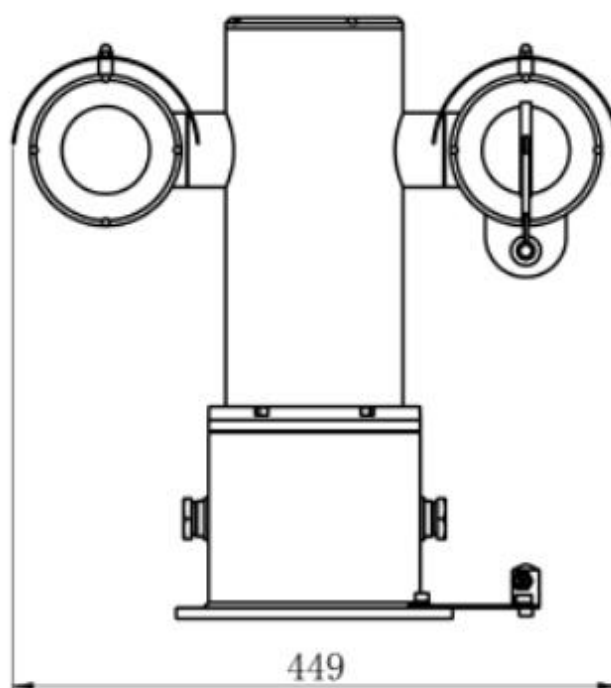
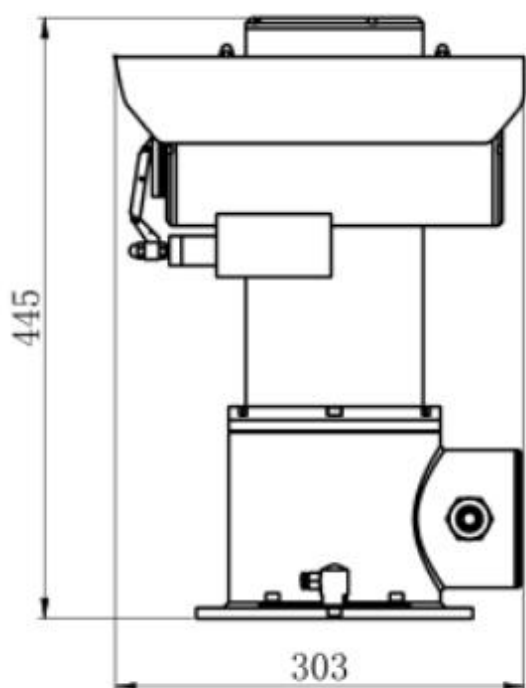
### Functional characteristics

- Made of Stainless steel 316L or 304 ,Mainly used for potential explosive environment .
- intelligent wiper spray system device, support automatic water spray, automatic cleaning window, automatic rotary reset, high finish window.
- image sensor with high performance 2 million pixels 1/2.8 inch 2 million pixels scanned line by line
- have 44 x optical zoom, focal range :5~220 mm,44 x optical magnification
- advanced H.265 coding algorithm, coding compression efficiency is higher
- three-stream package capability to meet different bandwidth and frame rate of real-time flow, storage flow requirements
- 300 presets, power-off memory, automatic cruise and other functions
- using long-range laser light, low thermal energy, low power consumption, IR distance up to 200 meters
- horizontal direction 0°~360 continuous rotation, vertical direction 0°~180°, no monitoring blind area
- turbine worm drive structure design, precision stepper motor drive, sensitive response, smooth operation.
- built-in semiconductor temperature control module to achieve automatic heating and heat dissipation functions

### Technical parameters

| Product model      |   |
|--------------------|---|
| Ingress Protection | IP68  |
| Imaging devices    | 1/2.8 inch Line-by-line scanning of 2 million pixels CMOS image sensors |

|                                   |  |
|-----------------------------------|--|
| focal length/variance             | Range of focal length :5~220 mm,44 times optical variation   |
| Zoom mode                         | Electric zoom, auto focus  |
| aperture                          | Automatic/manual, maximum aperture: F1.2~F3.5  |
| Shutter                           | Automatic/manual shutter range :1~1/100000 s   |
| Wide dynamic range                | 120 dB   |
| Minimum illumination              | 0.002 lux (F1.2, AGCON, colour)<br>0.0002 lux (F1.2, AGCON, black and white)   |
| Code Protocol                     | H.265、 H.264、 MJPEG  |
| Coding system                     | 1080P(1920*1080) Maximum 60 frames/s   |
| Video streaming                   | Three-code stream  |
| OSD                               | Time OSD, Custom OSD   |
| Motion detection                  | Support  |
| Privacy cover                     | Support  |
| Front-end storage                 | Support Micro SD storage, maximum 256 GB   |
| Back-end storage                  | Dual iSCSI data block direct storage (with platform use)   |
| Conduct testing                   | Cross-border detection, regional intrusion, entry into the area, departure from the area, hovering detection, rapid movement, personnel gathering, parking detection, items left behind, items moved |
| Abnormal detection                | Motion detection, sound detection  |
| Intelligent identification        | Face detection, license plate recognition  |
| Statistical analysis              | Passenger flow statistics  |
| Automatic tracking                | Automatic tracking   |
| Light supplementation             | Laser light  |
| Complementary distance            | 500 m  |
| Range of rotation                 | Horizontal :360° Continuous rotation vertical :±90°  |
| Key speed                         | Level :0.1°/ S ~40°/ s, Vertical :0.1°/40/0.1 P/   |
| Application Programming Interface | Open API, support standard protocol (Onvif、 CGI、 GB/T28181) for software integration, support for UTV SDK and third party management platform access   |
| Audio interface                   | 1 in 1   |
| Alarm interface                   | 1 in 1   |
| Temperature range                 | -40°C~+60°C  |
| Power supply mode                 | AC85V ~260 V/DC24V 3A( optional)   |
| Water tank capacity               | 10L  |
| Product Material                  | 316L stainless steel (chemical, acid-base and other strong corrosive environment use)  |
| Outlet Hole Specification         | 2 G3/4" outlet holes   |
| Installation                      | Multiple installation options optional depending on the application environment  |
| Product weight                    | ≤34 kg   |
| Certificates                      |  |



## Smart washer spray device



### Functional characteristics

- 316L Stainless Steel For All-Weather Use
- Oversized ,10 L Water Storage
- Low Energy Consumption
- Water Spray Automatic Closure , Saving Water Resources
- Simple And Generous Appearance
- Compact,Easy To Install.

### Technical parameters

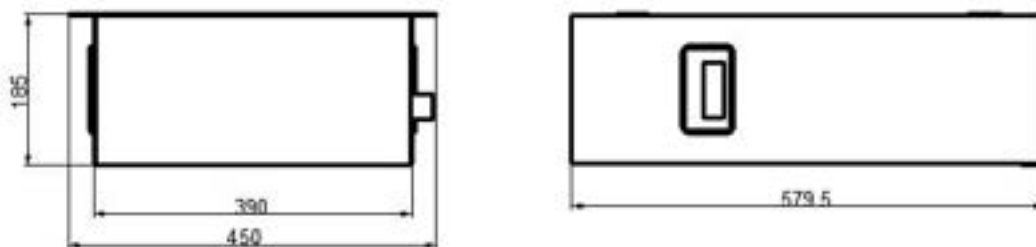
|                  |                           |
|------------------|---------------------------|
| Product Name     | Smart washer spray device |
| Protection level | IP68                      |



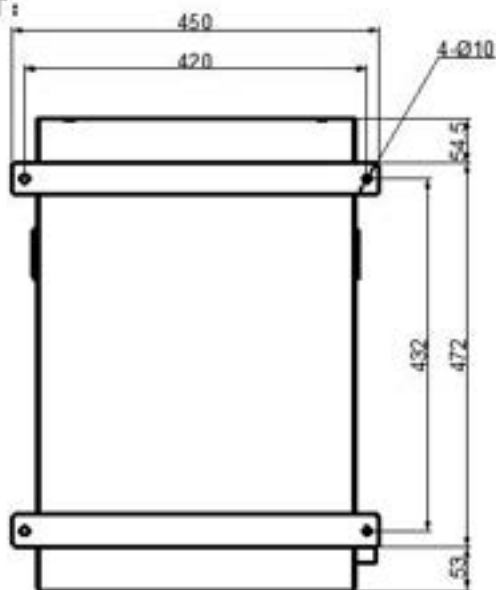
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|                        |   |
|------------------------|---|
| Water storage capacity | 10L                                     |
| Spraying               | Water pipe direct linkage outlet nozzle |
| Water spray signal     | Camera linkage                          |
| Water shutoff signal   | Automatic shutdown                      |
| Rated power            | 24W                                     |
| Power supply mode      | DC12V                                   |
| Connecting pipes       | Standard 10m                            |
| Installation           | Wall mounted                            |
| Product weight         | ≤10 KG                                  |
| Product size           | 579.5*450*185 mm.                       |

## Outside Dimension:



安装尺寸:



## Product connection diagram:

Wiring diagram of smart wiper spray device



## Internal composition diagram of intelligent wiper spray device:



## Connecting water pipe:

## Physical images





## Technical parameters

|                        |                                      |
|------------------------|--------------------------------------|
| Product Name           | PU hose                              |
| Product Color          | Blue                                 |
| Product specifications | 8 mm*10M                             |
| Connection mode        | Fast joint connection at both ends   |
| Purpose                | Connect water pump and outlet nozzle |

## Outlet nozzle:

## Physical images



## Technical parameters

|                  |                                      |
|------------------|--------------------------------------|
| Product Name     | All stainless steel spray joint      |
| Product Color    | Stainless steel natural color        |
| Product Material | 304 stainless steel                  |
| Water spray      | Water                                |
| Connection mode  | Fast joint connection                |
| Purpose          | Water spray connected to water pipes |

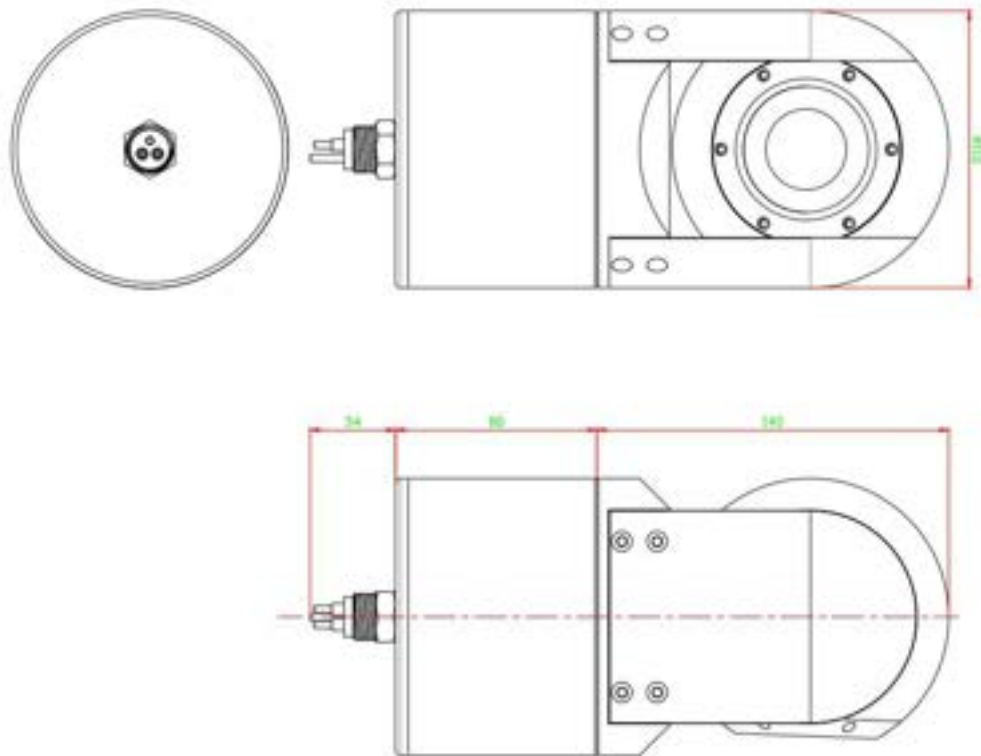
# 2MP 20X Underwater HD Network PTZ Dome Camera KDOQ-UDC-D120



## Characteristics

- \*20 times Optical variable , high performance sensor, resolution up to 1920\*1080
- \* Continuous rotation of 360° in horizontal direction, Vertical direction -5°-90°,No surveillance blind spots
- \* SDK open, Support a variety of network protocols and networking
- \*Products can be customized

## Dimension



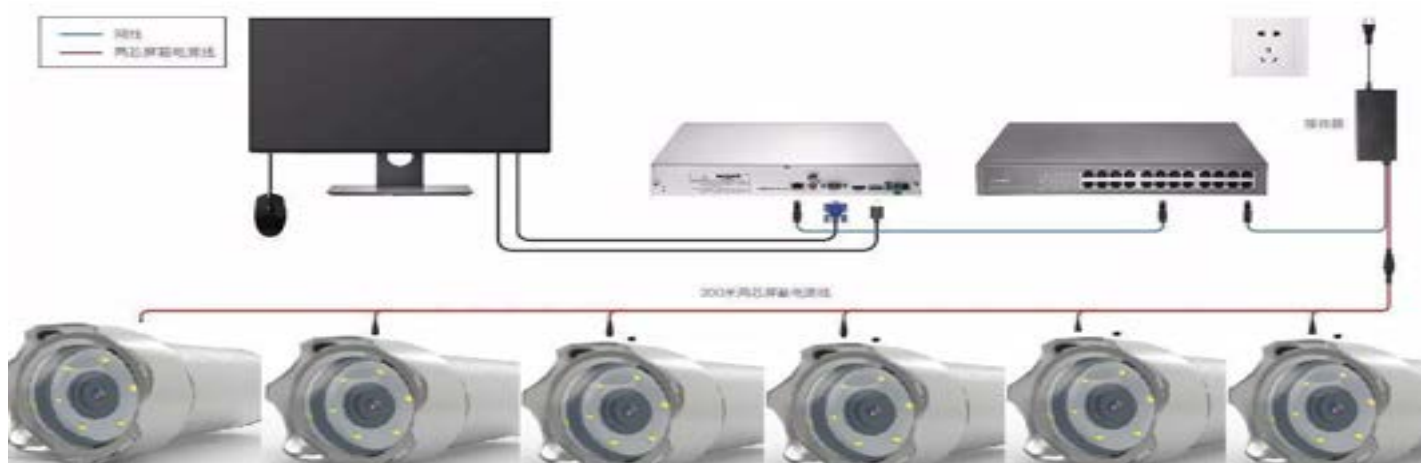
## PLC network reception



## Main Parameter

|                        |   |
|------------------------|---|
| Name                   | Underwater HD network Dome Camera (2 Mega pixels)   |
| Model                  | KDQ-UDC-D120  |
| <b>Main Parameters</b> |   |
| Image sensor           | 1/2.8"SONY CCD  |
| Signal types           | Network signal  |
| Resolution             | 2 Mega pixels   |
| Minimum illumination   | Colour: 0.05Lux@(F1.4, AGC ON)<br>Black and white : 0.01Lux @(F1.4AGC ON)   |
| Video processing       | H.264/MJPEG   |
| Network interface      | RJ45 networking interface, support 10M/100M network data  |
| Focused mode           | Automatic/semi-automatic/manual   |
| Day & night mode       | Automatic ICR filter color turns black  |
| compatibility          | Support ONVIF platforms such as Haikang, CMS and UC2,<br>and support mainstream NVR ONVIF                                       |
| <b>Lens</b>            |   |
| Lens                   | 4.7-94mm, 20 times optical  |
| Focal length           | 20 times Optical variable   |
| <b>Function</b>        |   |
| Function               | It supports the memory function of power off state and automatically returns to the cradle head and lens state before power off |
|                        | Precision motor drive, sensitive reaction, smooth operation, accuracy deviation less than 0.1 degree, no image jitter           |
|                        | Provide a complete SDK development kit  |
| <b>Specification</b>   |   |
| Housing materials      | Stainless steel 316L  |
| Waterproof level       | 0-300m  |
| Power supply           | 48VDC   |
| Working temperature    | -10℃ ~ 50℃  |
| Size                   | Φ120*220 (not including 34mm connector)   |
| Weight                 | Camera 7.5KG  |
| <b>Spare parts</b>     |   |
| Package                | Cables, adapters, warranty cards, certifications, suppression reports   |
| Support customization  | Depth   |
|                        | Sensor (temperature、 pressure...)   |
|                        | Control display terminal  |

## Camera connection diagram



## Product display

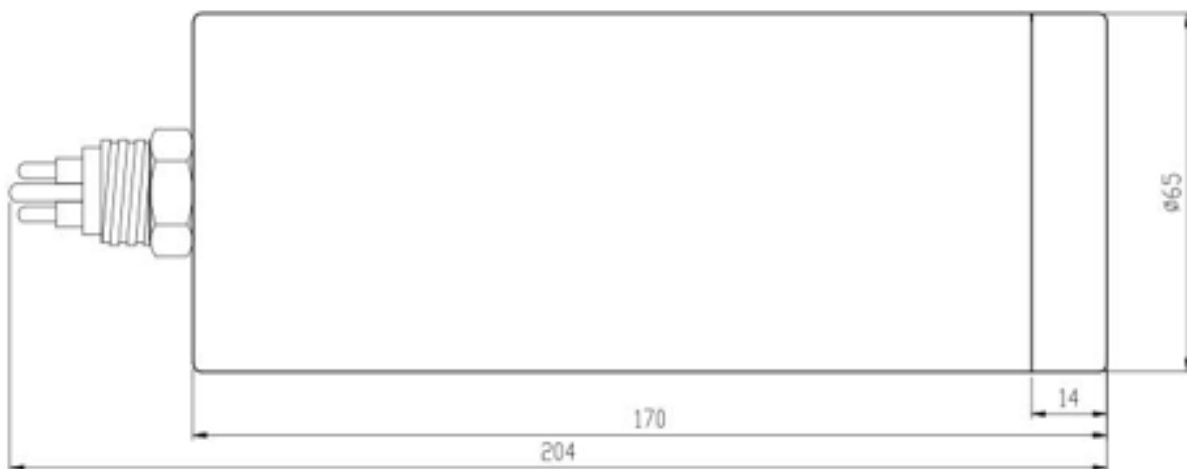


# 300Meters 2MP 10X Under water Bullet Vari-focal HD Camera KDH-UDC-IF2010X



## Product Feature

1. Shell Compressive Standard Depth 300m
2. High Resolution 2 Mega pixel
3. 10X Zoom
4. Minimum Illumination 0.001Lux@F1.2
5. IP camera, ONVIF Compliant
6. Power And Data Transfer By 2 Wires Up To 600m



## Main Specifications:

|                                   |  |
|-----------------------------------|--|
| Model                             | KDH-UDC-SZ10X  |
| Signal type                       | Network  |
| Pixel                             | 2 mega (1080 10x zoom H265)<br>Optional:<br>3 mega (3 MP 10x zoom)<br>5 mega (5 MP 10x zoom)   |
| Sensor                            | HI3516EV100+1/2.8" Sony 307 sensor<br>Optional:<br>3 mega (HI3516EV200+1/2.7" SC 3235 sensor)<br>5 mega (HI3516EV300+1/2 8" Sony 335 sensor) |
| Video standard                    | PAL/NTSC   |
| Video processing                  | H265/H264 video coding, support dual stream, AVI format, support code stream 0.1M-6Mbps adjustable, support frame rate adjustable            |
| Lens                              | 10x optical zoom, standard 4.9~47 mm automatic zoom lens   |
| Min. illumination                 | Color: 0.01Lux@F1.2, B/W: 0.001Lux@F1.2  |
| Video output                      | 2 mega H265/H264 1080P (1920*1080P)<br>Optional:<br>3 mega H265/H264 (2048*1536)<br>5 mega H265/H264 (2592*1944)                             |
| Network connect method            | Support wireless network connection, one-click WPS function, hot spot direct connection function   |
| Mobile computer direct connection | Support self-generated AP hotspot, wireless connection, no need for wireless router  |
| Hardware function                 | Support one-button reset function, support AP mode for point-to-point viewing  |
| Audio function                    | Audio input and output function  |
| Wireless wifi function            | Support, no wifi module  |
| IF card                           | Support, Card recording (up to 128G)   |
| PT                                | 1 RS485 interface, support PELCO (P) and other PTZ lens control protocols  |

|                          |   |
|--------------------------|---|
| ONVIF RTSP protocol      | Support   |
| Network port function    | Support RJ45 network cable connection   |
| Signal interface         | 1 pcs photoresistor interface, 1 pcs IR-CUT drive interface, supporting the linkage of the photoresistor input signal and IR-CUT infrared lamp  |
| Lightning protection     | Power supply lightning protection, meet the national standards GB/T17626.5, international standard IEC61000-4-5.  |
| Business functions       | Support WEB configuration, support OSD, support real-time video transmission, support motion detection alarm center reminder and screen pop-up linkage, support JPEG capture, support unified client remote monitoring software                     |
| Mobile phone monitoring  | Support mobile phone monitoring (Android / Iphone) mobile phone software name camhi   |
| Power                    | DC 12V  |
| Dimension (camera mould) | 38*38 mm  |
| Description              | Need to cooperate with mobile phone client, support WPS technology to connect to watch video with one click, bid farewell to the limitations and inconvenience of traditional "wired", enjoy the space and convenience of new technology "wireless" |
| Star level               | Because the illuminance is 0.0001 in the case of low light, it usually refers to the light source in the low light environment, which can display a much clearer image than the ordinary camera, and the night vision is clearer.                   |
| Sizes                    | 65mm(D)x170mm(L) excluding connector  |
| Connector                | MCBH-2-M SS   |
| Storage environment      | (-20°C ~+70°C/20 % to 95 % RH)  |
| Working environment      | (-10°C ~ +60°C/20 % to 80 % RH)   |
| Working death            | 0-300 m (customized can be max to 6000 m)   |



## PLC Network Receiver

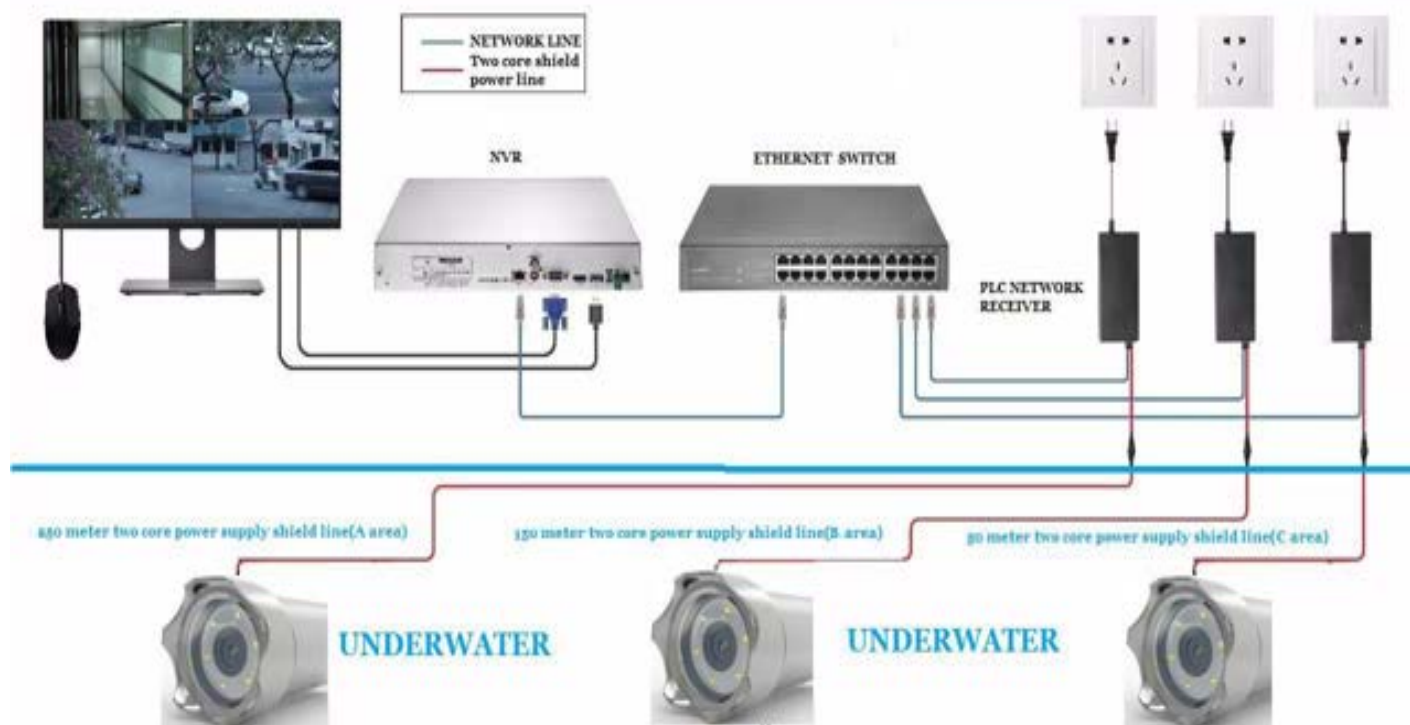


|                       |                                    |
|-----------------------|------------------------------------|
| Item                  | PLC NETWORKR RECEIVER              |
| Power input           | AC85V-245V 50/60HZ                 |
| Power output          | DC48V                              |
| Max current           | 1.2A                               |
| Max capacity          | 220W                               |
| Speed                 | 200Mbps                            |
| Max distance          | 600M                               |
| Network port          | 1*RJ45                             |
| Standard              | IEEE802.11a IEEE802.3u IEEE802.3ab |
| Compatibility         | 200Mbps 300Mbps                    |
| Cable required        | >2*0.5 <sup>2</sup>                |
| Shell material        | ABS                                |
| Operating temperature | -20℃-40℃                           |
| Operating humidity    | 10%-90%RH                          |
| Operating requency    | 1.8-30MHZ                          |
| Dimension             | 125*60*40mm                        |



## Connecting

### WIRING DIAGRAM



---

## Product Show



## Packing List

1. Camera
2. 10m cable
3. PLC Receiver

# 2MP 20X High Temperature CCTV Camera

## KDT01(02)



KDT01 high-temperature water-cooled Camera which is made of double-layer stainless steel tubes and cast aluminum end caps. The circulating water achieves cooling effect through the cooling interlayer, and compressed air can be introduced into the front cover to form an air curtain to play a dustproof role. The water-cooled housing has good anti-corrosion and anti-dust ability, and can be used in environments with high temperature and dusty corrosive gases.

- ◆ Ambient temperature of water-cooled shield: 0℃~+300℃
- ◆ Compressed air temperature: ≤40℃; circulating water temperature: ≤35℃
- ◆ Pressure: 0.1~0.2Mpa
- ◆ Flow: 0.1~0.2m<sup>3</sup>/min
- ◆ The protection capacity of the water-cooled shield reaches the IP66 standard

### Mechanical

|                   |                     |
|-------------------|---------------------|
| Housing           | Stainless steel 304 |
| IP                | IP66                |
| Cable thread hole | G3/4                |

### Electrical

|         |                             |
|---------|-----------------------------|
| Voltage | DC12V or PoE or AC100V-240V |
| Power   | 15W                         |

### Ambient

|             |                |                         |
|-------------|----------------|-------------------------|
|             | KDT02          | KDT02                   |
| Cooling way | Compressed air | Circulate running water |

|                                   |  |                     |
|-----------------------------------|--|---------------------|
| Temperate resist                  | -25 to +150 °C                           | 0 to +250 °C        |
| Cooling media pressure            | Air flow: 0.4-1.0L/S,<br>less than 35 °C | 2800 liter per hour |
| air output at the front of window | Support                                  | Support             |

#### Camera

|                   |  |
|-------------------|--|
| Image Sensor      | 1/2.8" progress scan CMOS                          |
| Effective pixel   | 2MP  |
| Min. Illumination | Color 0.01Lux B/W: 0.005Lux                        |
| Day&night         | Auto/ Color/ BW                                    |
| Optical zoom      | 20X,5.4-108MM                                      |
| Effective Pixels  | 1920*1080  |
| Angle of View     | Horizontal 50.2-2.9 (wide -tele) Vertical 37.9-2.1 |
| MOD               | 10mm~1500mm(wide -tele)                            |

#### General

|                    |                     |
|--------------------|---------------------|
| Size               | 356*138*158mm       |
| Housing inner size | 260*75*75mm (L*W*H) |
| Weight             | 5kg                 |
| Mounted            | wall, pole          |
| Wall bracket       | Stainless Steel     |

# 10km Long Range 4MP 35x Optical Zoom 640x512 25-75mm Motorized Lens 12um IVS Thermal PTZ Camera

KDY-PTZ4035N-6T2575



- Thermal + Optical Bi-spectrum Heavy Load High Precision Network PTZ Camera
- 640x512 Detector with 25-75mm Motorized Lens Network Thermal Imaging Camera Module
- 4Mp 6~210mm 35x Optical Zoom Starlight Network Zoom Camera Module

## Features

- > Thermal: 12μm 640×512
- > Thermal lens: 25-75mm motor lens
- > Visible: 1/1.8" 4MP CMOS
- > Visible lens: 6~210mm, 35x optical zoom
- > Support tripwire/intrusion/abandon detection
- > Support up to 18 color palettes
- > 7/2 alarm in/out, 1/1 audio in/out, 1 analog video
- > Micro SD Card, IP66
- > Support Fire Detect

## Specification

| Model Number   | KDY-PTZ4035N-6T75           | KDY-PTZ4035N-6T2575 |
|----------------|-----------------------------|---------------------|
| Thermal Module |                             |                     |
| Detector Type  | VOx, uncooled FPA detectors |                     |

|                        |  |  |
|------------------------|--|--|
| Max Resolution         | 640x512  |  |
| Pixel Pitch            | 12μm   |  |
| Spectral Range         | 8~14μm   |  |
| NETD                   | ≤50mk (@25℃, F#1.0, 25Hz)  |  |
| Focal Length           | 75mm   | 25~75mm  |
| Field of View          | 5.9°×4.7°  | 5.9°×4.7°~17.6°×14.1°  |
| F#                     | F1.0   | F0.95~F1.2   |
| Spatial Resolution     | 0.16mrad   | 0.16~0.48mrad  |
| Focus                  | Auto Focus   | Auto Focus   |
| Color Palette          | 18 modes selectable such as Whitehot, Blackhot, Iron, Rainbow.         |  |
| Optical Module         |  |  |
| Image Sensor           | 1/1.8” 4MP CMOS  |  |
| Resolution             | 2560×1440  |  |
| Focal Length           | 6~210mm, 35x optical zoom  |  |
| F#                     | F1.5~F4.8  |  |
| Focus Mode             | Auto/Manual/One-shot auto  |  |
| FOV                    | Horizontal: 66°~2.12°  |  |
| Min. Illumination      | Color: 0.004Lux/F1.5, B/W: 0.0004Lux/F1.5                              |  |
| WDR                    | Support  |  |
| Day/Night              | Manual/Auto  |  |
| Noise Reduction        | 3D NR  |  |
| Network                |  |  |
| Network Protocols      | TCP, UDP, ICMP, RTP, RTSP, DHCP, PPPOE, UPNP, DDNS, ONVIF, 802.1x, FTP |  |
| Interoperability       | ONVIF, SDK   |  |
| Simultaneous Live View | Up to 20 channels  |  |
| User Management        | Up to 20 users, 3 levels: Administrator, Operator and User             |  |
| Browser                | IE8+, multiple languages   |  |
| Video & Audio          |  |  |
| Main Stream            | Visual   | 50Hz: 25fps (2592×1520, 1920×1080, 1280×720)<br>60Hz: 30fps (2592×1520, 1920×1080, 1280×720) |
|                        | Thermal  | 50Hz: 25fps (704×576)<br>60Hz: 30fps (704×480)   |
| Sub Stream             | Visual   | 50Hz: 25fps (1920×1080, 1280×720, 704×576)<br>60Hz: 30fps (1920×1080, 1280×720, 704×480)     |
|                        | Thermal  | 50Hz: 25fps (704×576)<br>60Hz: 30fps (704×480)   |
| Video Compression      | H.264/H.265/MJPEG  |  |
| Audio Compression      | G.711A/G.711Mu/PCM/AAC/MPEG2-Layer2                                    |  |
| Picture Compression    | JPEG   |  |
| Smart Features         |  |  |

|                         |   |
|-------------------------|---|
| Fire Detection          | Yes   |
| Zoom Linkage            | Yes   |
| Smart Record            | Alarm trigger recording, disconnection trigger recording (continue transmission after connection)                                     |
| Smart Alarm             | Support alarm trigger of network disconnection, IP address conflict, full memory, memory error, illegal access and abnormal detection |
| Smart Detection         | Support smart video analysis such as line intrusion, cross-border, and region intrusion   |
| Alarm Linkage           | Recording/Capture/Sending mail/PTZ linkage/Alarm output   |
| <b>PTZ</b>              |   |
| Pan Range               | Pan: 360° Continuous Rotate   |
| Pan Speed               | Configurable, 0.1°~100°/s   |
| Tilt Range              | Tilt: -90°~+40°   |
| Tilt Speed              | Configurable, 0.1°~60°/s  |
| Preset Accuracy         | ±0.02°  |
| Presets                 | 256   |
| Patrol Scan             | 8, up to 255 presets per patrol   |
| Pattern Scan            | 4   |
| Linear Scan             | 4   |
| Panorama Scan           | 1   |
| 3D Positioning          | Yes   |
| Power Off Memory        | Yes   |
| Speed Setup             | Speed adaptation to focal length  |
| Position Setup          | Support, configurable in horizontal /vertical   |
| Privacy Mask            | Yes   |
| Park                    | Preset/Pattern Scan/Patrol Scan/Linear Scan/Panorama Scan   |
| Scheduled Task          | Preset/Pattern Scan/Patrol Scan/ Linear Scan/Panorama Scan  |
| Anti-burn               | Yes   |
| Remote Power-off Reboot | Yes   |
| <b>Interface</b>        |   |
| Network Interface       | 1 RJ45, 10M/100M Self-adaptive Ethernet interface   |
| Audio                   | 1 in, 1 out   |
| Analog Video            | 1.0V[p-p]/75Ω, PAL or NTSC, BNC head  |
| Alarm In                | 7 channels  |
| Alarm Out               | 2 channels  |
| Storage                 | Support Micro SD card (Max. 256G), hot SWAP   |
| RS485                   | 1, support Pelco-D protocol   |
| <b>General</b>          |   |
| Operating Conditions    | -40℃~+70℃, <95% RH  |

|                   |  |
|-------------------|--|
| Protection Level  | IP66, TVS 6000V Lightning Protection, Surge Protection and Voltage Transient Protection, Conform to GB/T17626.5 Grade-4 Standard |
| Power Supply      | AC24V  |
| Power Consumption | Max. 75W   |
| Dimensions        | 250mm×472mm×360mm (W×H×L)  |
| Weight            | Approx. 14kg   |

### DRI Distance

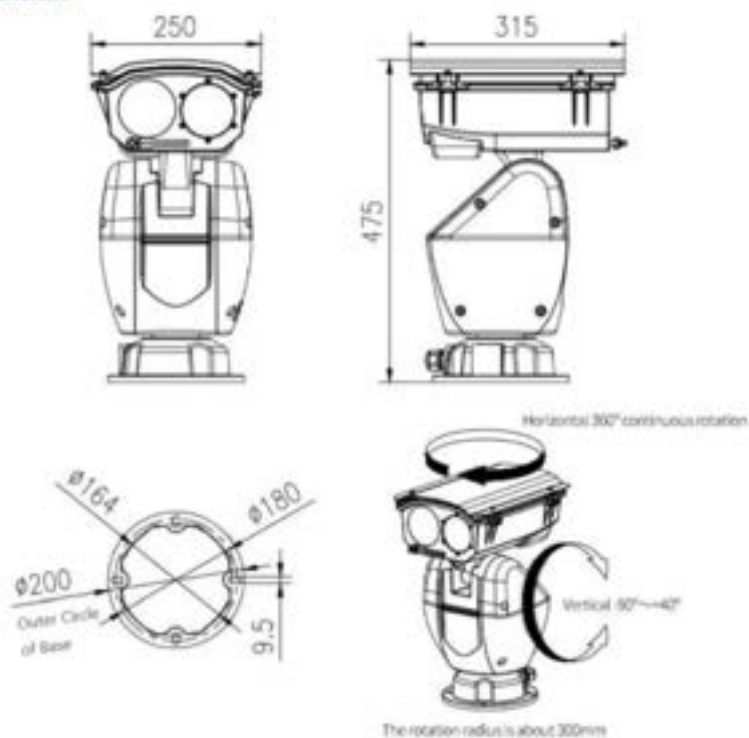
Target: Human size is 1.8m×0.5m (Critical size is 0.75m), Vehicle size is 1.4m×4.0m (Critical size is 2.3m).

The target detection, recognition and identification distances are calculated according to Johnson's Criteria.

The recommended distances of Detection, Recognition and Identification are as follows:

| Lens | Detect         |                | Recognize     |              | Identify      |              |
|------|----------------|----------------|---------------|--------------|---------------|--------------|
|      | Vehicle        | Human          | Vehicle       | Human        | Vehicle       | Human        |
| 25mm | 3194m(10479ft) | 1042m(3419ft)  | 799m(2621ft)  | 260m(853ft)  | 399m(1309ft)  | 130m(427ft)  |
| 75mm | 9583m(31440ft) | 3125m(10253ft) | 2396m(7861ft) | 781m(2562ft) | 1198m(3930ft) | 391m(1283ft) |

### Dimensions





## 17.3Inch Stainless Steel Explosion Proof LCD Display Monitor



### Product features:

17.3 inch 16:9 widescreen, 1920\*1080 high-definition resolution, 350cd/m<sup>2</sup> brightness (optional outdoor sunlight 1000cd/m<sup>2</sup> high brightness), A+ perfect wide temperature industrial-grade LCD display;

Support power-on boot, all-weather uninterrupted operation, backlight life of up to 50,000 hours;

The whole machine is designed in accordance with the IP66 waterproof and dustproof rating, and the interface sockets are all CNLINKO brand aviation plugs; the shell is made of SUS304 or SS316L material, which is more durable, corrosion-resistant and resistant to shock and vibration;

Adopt Taiwan EETI solution + industrial-grade resistive touch screen, with good stability, high accuracy and not afraid of dust, water vapor, oil, etc., adapt to various harsh environments (optional non-touch/capacitive touch);

DC 12V power supply to meet industrial field applications (DC 24V/DC 9-36V wide voltage is optional);

The panel (optional back shell) has OSD film buttons to help users adjust the LCD screen to the best use state as an option;

Support various installation methods, wall-mounted installation or desktop installation;

Operating system: support Windows system, Linux system, Android system, etc.

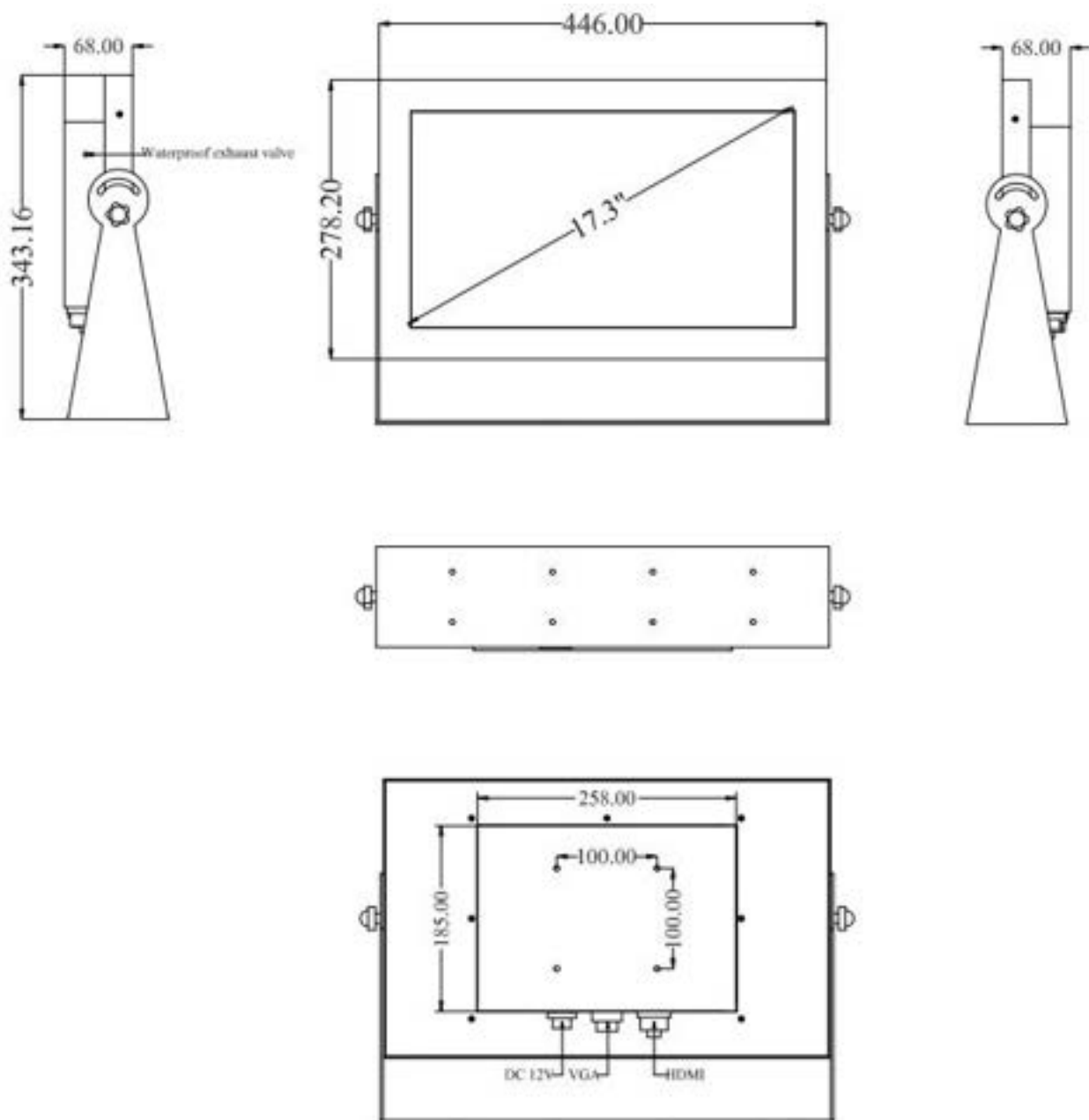
### Technical datasheet

|                       |                     |  |
|-----------------------|---------------------|--|
| Structural parameters | Special performance | Rugged and durable, resistant to corrosion and wear, salt spray, shock and vibration         |
|                       | Material color      | The whole machine is made of SUS304 or SUS316L, stainless steel color (black can be sprayed) |
|                       | Ex Mark             | Ex mark : Ex d IIC T6 Gb /Ex tD A21 IP68 T80 °C  |
|                       | Design Features     | The whole machine is IP67 dustproof and waterproof, power on, SUS304 or                      |

|   |                        |   |
|---|------------------------|---|
|   |                        | SUS316L Enclosure   |
|   | Menu button            | The panel has OSD film buttons, which can adjust the LCD screen to the best use state         |
| Display parameters                      | Size                   | 17.3 inch 16:9 LCD display  |
|   | Resolution             | 1920*1080   |
|   | Brightness             | 350cd/m2 (optional 1000cd/m2 visible brightness under sunlight)                               |
|   | Contrast/Viewing Angle | Contrast ratio; 600:1 (Typ.); viewing angle; 80/80/60/80 (Typ.) (CR≥10) (left/right/up/down)  |
| Touch parameter                         | Touch type             | EETI solution + industrial resistive touch screen (optional full-fit capacitive touch screen) |
|   | Material hardness      | ITO glass; hardness>=3H   |
|   | Click life             | >=5 million times   |
|   | Touch strength         | <=45g~250g  |
| Interface parameters<br>(Aviation plug) | Display interface      | VGA * 1, HDMI*1 (DVI, BNC optional)   |
|   | Other interfaces       | DC IN fastened power terminal (aviation plug), USB touch interface (aviation plug)            |
| Environmental parameters                | Operating temperature  | -20°C~70°C  |
|   | storage temperature    | -20°C~70°C  |
|   | Relative humidity      | 10~90%, no condensation   |
| Dimensions                              | physical dimension     | 446.0*278.2*68mm  |
|   | Installation size      | 100*100mm (VESA bracket wall-mounted installation)  |
| Power support                           | DC power supply        | DC 12V power input (DC 24V/DC 9-36V)  |
| Installation method                     |                        | VESA bracket/cantilever installation (customized bracket)                                     |
| Shipping accessories                    | Standard               | 12V waterproof power supply + touch cable + touch drive CD + touch pen + VGA cable            |
| Warranty                                |                        | 12 months (longer warranty time optional) warranty  |
| Outer packaging size / gross weight     |                        | 55.5*46*21.5cm/ 15-20kg   |

#### Images &Dimensions :





# Network Video Recorder

## NVR304-X Series



### Key Features

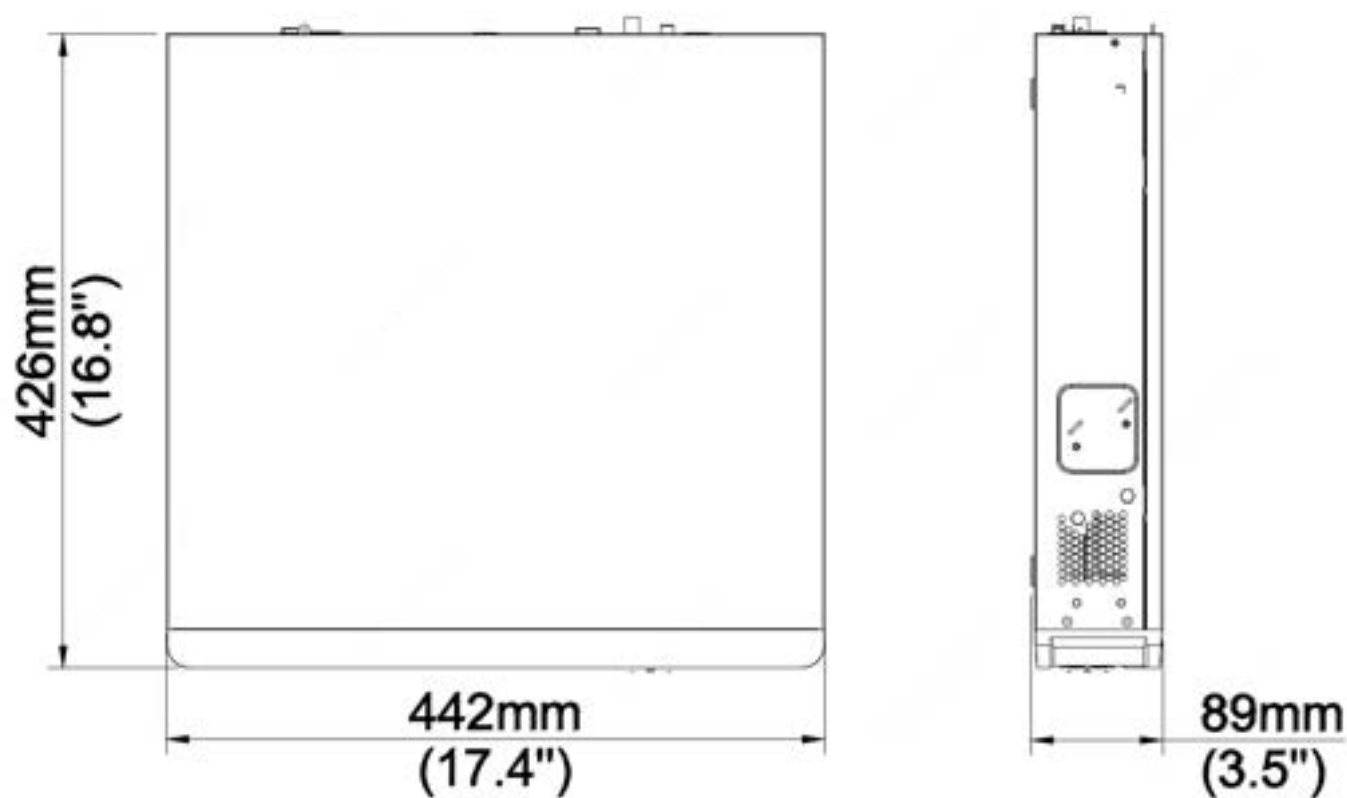
- Support Ultra 265/H.265/H.264 video formats
- 16/32-channel input
- Supports mainstream cameras of ONVIF conformance(Profile S, Profile G, Profile T ) and RTSP protocols
- Support 2-ch HDMI, 1-ch VGA. HDMI1 and HDMI2 up to 4K (3840x2160) resolution
- HDMI1, HDMI2, VGA independent outputs provided
- Up to 12 Megapixels resolution recording
- Support RAID 1, 5
- 4 SATA HDDs, Up to 10TB for each HDD
- Various fisheye dewarping modes for live view and playback for both web interface and GUI
- ANR technology to enhance the storage reliability when the network is disconnected
- Support cloud upgrade

## Specifications

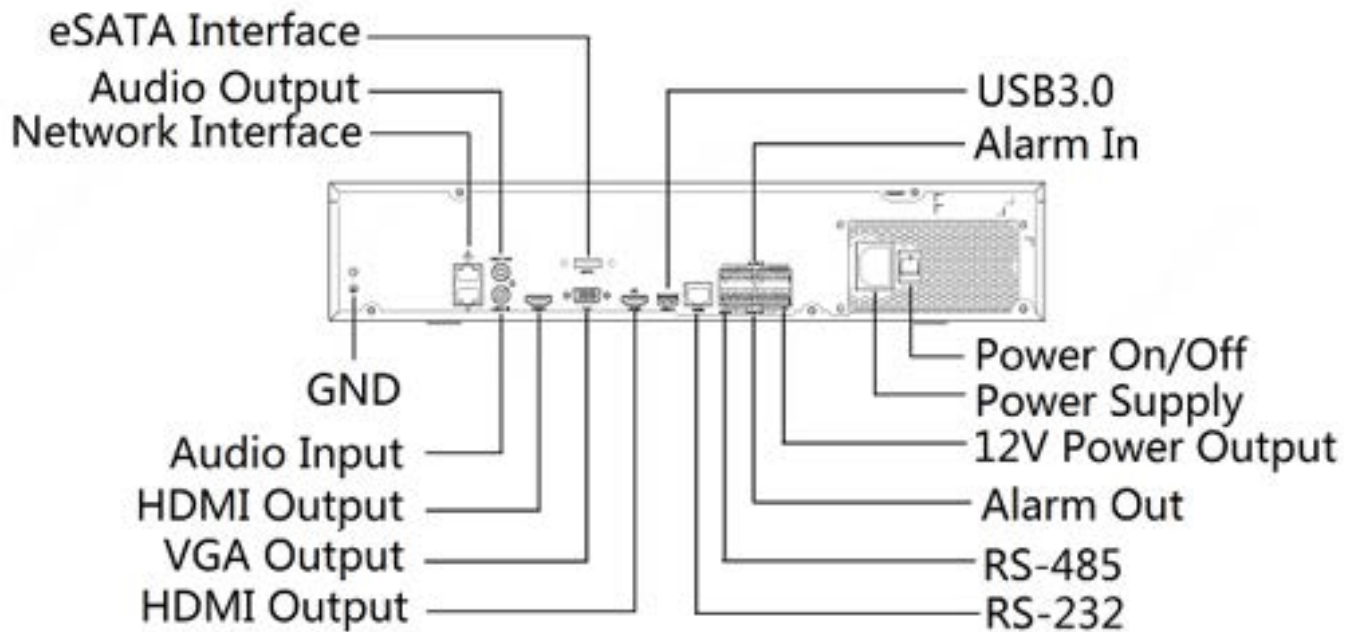
| Model                       | NVR304-16X  |  | NVR304-32X  |  |
|-----------------------------|---|--|---|--|
| Video/Audio Input           |   |  |   |  |
| IP Video Input              | 16-ch   |  | 32-ch   |  |
| Two-way Audio Input         | 1-ch, RCA   |  |   |  |
| Network                     |   |  |   |  |
| Incoming Bandwidth          | 384Mbps   |  |   |  |
| Outgoing Bandwidth          | 384Mbps   |  |   |  |
| Remote Users                | 128   |  |   |  |
| Protocols                   | TCP/IP, P2P, UPnP, NTP, DHCP, PPPoE, HTTP, HTTPS, DNS, DDNS, SNMP, SMTP, NFS  |  |   |  |
| Browser                     | IE(IE10/11) for Windows<br>Firefox (version 52.0 and above) for Windows<br>Chrome(version 45 and above) for Windows<br>Edge(version 79 and above) for Windows   |  |   |  |
| Video/Audio Output          |   |  |   |  |
| HDMI/VGA Output             | VGA:<br>1920x1080p/60Hz, 1920x1080p/50Hz, 1600x1200/60Hz, 1280x1024/60Hz, 1280x720/60Hz, 1024x768/60Hz<br>HDMI1/HDMI2(HDMI audio output is not supported):<br>4K (3840x2160)/30Hz, 1920x1080p/60Hz, 1920x1080p/50Hz, 1600x1200/60Hz, 1280x1024/60Hz, 1280x720/60Hz, 1024x768/60Hz |  |   |  |
| Recording Resolution        | 12MP/8MP/6MP/5MP/4MP/3MP/1080p/960p/720p/D1/2CIF/CIF  |  |   |  |
| Audio Output                | 1-ch, RCA   |  |   |  |
| Audio Compression           | G.711A, G.711U  |  |   |  |
| Synchronous Playback        | 16-ch   |  |   |  |
| Liveview display            | 1/4/6/8/9/16  |  | 1/4/6/8/9/16/25/36  |  |
| Corridor Mode Screen        | 3/4/5/7/9/10/12/16  |  | 3/4/5/7/9/10/12/16/32   |  |
| Snapshot                    |   |  |   |  |
| FTP/Schedule/Event Snapshot | 16-ch snapshot, up to 4K resolution   |  | 32-ch snapshot, up to 4K resolution   |  |
| Decoding                    |   |  |   |  |
| Decoding format             | Ultra 265, H.265, H.264   |  |   |  |
| Live view/Playback          | 12MP/8MP/6MP/5MP/4MP/3MP/1080p/960p/720p/D1/2CIF/CIF  |  |   |  |
| Capability                  | 2 x 12MP@30, 4 x 4K@30, 8 x 4MP@30, 9 x 4MP@25, 16 x 1080p@30   |  | 2 x 12MP@30, 4 x 4K@30, 8 x 4MP@30, 9 x 4MP@25, 16 x 1080p@30, 32 x 960p@25 |  |
| Hard Disk                   |   |  |   |  |
| SATA                        | 4 SATA interfaces   |  |   |  |
| Capacity                    | up to 10TB for each HDD   |  |   |  |
| eSATA                       | 1 eSATA interface   |  |   |  |
| Disk Group                  | Support   |  |   |  |
| Disk Array                  |   |  |   |  |
| Array Type                  | RAID 1, 5   |  |   |  |
| General Alarm               |   |  |   |  |

|                           |   |
|---------------------------|---|
| General Alarm             | Motion, Tampering, Human Body Detection, Video Loss, Alarm input, Audio Detection   |
| Alert Alarm               | IP Conflict, Network Disconnected, Disk offline , Disk Abnormal, Illegal Access, Hard disk space low, Hard disk full, Recording/Snapshot Abnormal |
| <b>External Interface</b> |   |
| Network Interface         | 2 RJ45 10M/100M/1000M self-adaptive Ethernet Interfaces   |
| USB Interface             | Front panel: 2 x USB2.0<br>Rear panel: 1 x USB3.0   |
| RS232                     | 1   |
| RS485                     | 1   |
| Alarm In                  | 16-ch   |
| Alarm Out                 | 4-ch  |
| <b>General</b>            |   |
| Power Supply              | 100~240 VAC<br>Power Consumption: ≤ 25 W (without HDD)  |
| Working Environment       | -10°C~+ 55°C (+14°F~+131°F), Humidity ≤ 90% RH (non-condensing)   |
| Dimensions (W×D×H)        | 442mm ×426mm× 89mm (17.4" × 16.8"× 3.5")  |
| Weight (without HDD)      | ≤ 5.7Kg (12.57lb)   |
| <b>Certification</b>      |   |
| Certification             | UL<br>CE<br>FCC<br>RoHS<br>WEEE   |

## Dimensions



## Rear Panel





# 24 Gigabit PoE Ports Managed Ethernet Switch UTP7524GE-POE-4GF

24GE PoE+4\*GF(SFP),Fast -Ring ,802.3af/at,full Gigabit,L2 Managed 6KV Lightning P



- Provides 24 \*Gigabit PoE RJ45 ports, 4\* Gigabit uplink SFP ports;
- Provides web-based layer protection and PoE management by simple operation;
- Supports high-speed data forwarding, very suitable for large flow of video data forwarding in security surveillance;
- Supports Fast-Ring;
- Supports temperature-controlled fan;
- Quick Installation, simple operation, convenient for wall/desk/rack installation.

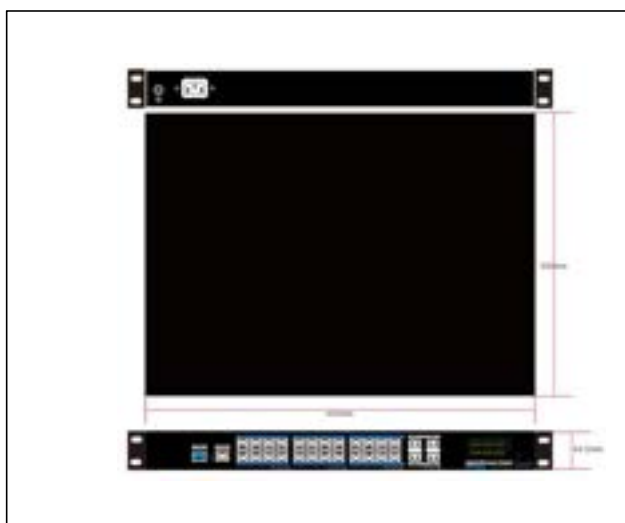


## Introduction

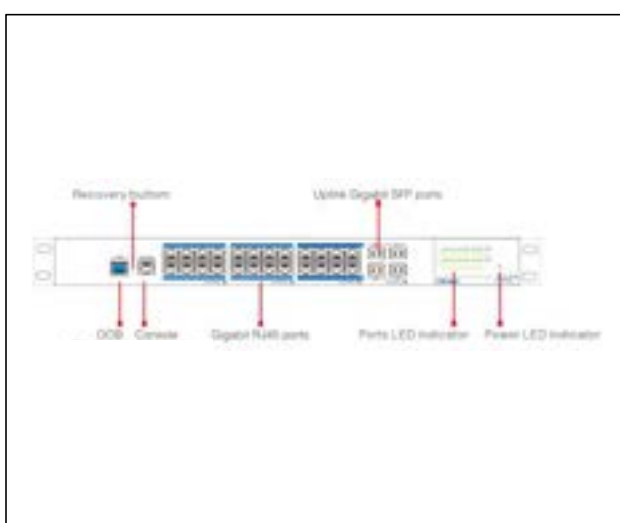
The UTP7524GE-POE-4GF is a L2 managed PoE switch, which provides 24\* Gigabit PoE downlink ports , 4\* Gigabit SFP uplink ports. The switch comply with IEEE 802.3 af/at (PoE+), the total PoE power budget can be up to 390W which is adequate to power supply for HD IP camera and Gigabit wireless access point, makes it an ideal choice for HD security surveillance network and high-speed wireless network construction projects.

It supports abundant L2 functions such as PoE management, 802.1Q VLAN, DHCP snooping, 802.1x Authentication, Dual IPv4/IPv6 stack, IGMP Snooping, STP/RSTP , Link Aggregation (Dynamic and Static), ACL, Port mirroring, SNMP v1/v2/v3, etc. It also supports multiple configuration modes, such as Web, CLI and SNMP, and multiple access methods, including HTTP, HTTPS, Telnet and SSH V2. Due to the advanced L2 functions such as ACL and MAC binding VLAN function, the switch and compliant devices can be protected against broadcast storms, which guarantee a safe operation. Quality of Service (QoS) ensures stable and smooth data transmission.

## Physical Features



## Interface drawing



## Specification

### Hardware Features :

| Item                   | UTP7524GE-POE-4GF  |
|------------------------|--|
| Copper Ports           | 24* 10/100/1000Base-T PoE RJ45(Auto-MDI/MDI-X)   |
| SFP Ports              | 4*1000 Base-X SFP(Mini-GBIC)   |
| Console Port           | 1*RJ45-R232 serial port(115200, 8, N, 1)   |
| OoB Port               | 1*10/100Base-TX RJ45(only used to Web management)<br>default IP:192.168.1.200 name:admin password:admin)                     |
| Init button            | Short press:restart;<br>>5s Press: restore factory settings.   |
| Network Standard       | IEEE802.3 , IEEE802.3u, IEEE802.3ab, IEEE802.3Z, IEEE802.3X, IEEE 802.1Q IEEE 802.1p IEEE 802.3ad , IEEE 802.1D, IEEE 802.1X |
| Exchange Capacity      | 56Gbps / non-blocking  |
| Packet Forwarding Rate | 41.7Mpps   |
| Operation Method       | Store and Forward  |
| Buffer Memory          | 12Mbit   |
| MAC Address Table      | 16k MAC address table with auto learning function  |
| Jumbo Frame            | 10k bytes  |
| PoE Standard           | IEEE802.3af 15.4W, IEEE802.3at 30W   |
| PSE Type               | End-span   |
| Power Pin Assignment   | 1/2(+), 3/6(-)   |
| Power Supply           | Internal power adapter<br>AC 100-240V 50/60Hz  |
| Power Consumption      | <420W (PoE consumption)<br>PoE budget: 390W  |
| Lightning protection   | 6kV<br>Execute : IEC61000-4-5  |
| ESD                    | 6kV: Contact discharge<br>8kV: Air discharge<br>Execute: IEC61000-4-2  |
| Work temperature       | -10~50°C   |
| Storage temperature    | -40~85°C   |
| Humidity               | 5%~95%(Non-condensation)   |
| Dimension ( L×W×H )    | 442mm×320mm×44.5mm   |
| Weight                 | 4.35kg   |
| Certificates           | CE, FCC, ROHS  |

# Specification

## Software Features :

| Item                 |                 | UTP7524GE-POE-4GF  |                                       |
|----------------------|-----------------|--|---------------------------------------|
| Interface Management |                 | Support port isolation   |                                       |
|                      |                 | Support port rate settings   |                                       |
|                      |                 | Support port storm suppression                                     |                                       |
|                      |                 | Support IEEE802.3x flow control                                    |                                       |
|                      |                 | Support port traffic statistics                                    |                                       |
|                      |                 | Support auto negotiation   |                                       |
|                      | Logic Interface | Loopback detection   |                                       |
| VLAN                 |                 | VLAN Partition   | VLAN based on port, VLAN based on MAC |
|                      |                 |  | Private VLAN, multicast VLAN          |
|                      |                 | VLAN Communication   | VLAN intercommunication               |
|                      |                 |  | VLAN isolation                        |
|                      |                 | VLAN Port Type   | Access, Trunk, GVRP, QinQ             |
| MAC                  |                 | Static MAC   |                                       |
|                      |                 | MAC Black hole   |                                       |
|                      |                 | Dynamic MAC  | MAC address aging configuration       |
|                      |                 |  | MAC address learning limit            |
|                      |                 | Multicast MAC  | Static Multicast MAC address          |
| Link Aggregation     |                 | Dynamic Aggregation  |                                       |
|                      |                 | Static Aggregation   |                                       |
| Loopback Protection  |                 | STP/RSTP, ERPS v1, v2 ( G.8032 ) , y.1731 CCM                      |                                       |
| IP Features          |                 | IP address : Classful IP address, classless IP address             |                                       |
|                      |                 | IPv6 address configuration   |                                       |
| DHCP                 |                 | Host DHCP service  | DHCP pool                             |
|                      |                 | DHCP relay   | DHCP snooping option 82               |
| IGMP Features        |                 | IGMP snooping  |                                       |
|                      |                 | GMRP   |                                       |
| QoS                  |                 | Support 802.1p CoS/DSCP priority                                   |                                       |
|                      |                 | Support 8-Level priority management for switching                  |                                       |
|                      |                 | Support WRR, PQ, DRR, WFQ, ACL based on ports and queues           |                                       |
| PoE Management       |                 | Support total power consumption control                            |                                       |
|                      |                 | Support PoE ON/OFF   |                                       |
|                      |                 | Support single port 30W max. Power change and port output priority |                                       |

|                                |            |  |
|--------------------------------|------------|--|
| Safety Character               | 802.1x     | IEEE 802.1X Port/MAC based authentication, Radius  |
|                                |            | Support MAC address auto-learning, aging& filter   |
|                                |            | Support port isolation, port speed-limited   |
|                                | ACL        | Basic ACL, advanced ACL  |
|                                | System Log | Local system log management<br>Remote System Log Management  |
|                                | Mirroring  | Port mirroring   |
| System Management& Maintenance |            | Support WEB-based management, including HTTP and HTTPS<br>Support CLI-based management<br>Configuration through Telnet, SSH V2 |
|                                |            | Tracert v4   |
|                                |            | SNMPv1/v2/v3 management<br>SNMP Trap   |
|                                |            | Support TFTP-client  |
|                                |            | NTP/SNTP   |
|                                |            | Link layer discovery protocol (LLDP)   |
| IPv6                           |            | Dual IPv4/IPv6 stack   |
|                                |            | Ping IPv6, WEB IPv6  |
|                                |            | ICMPv6   |
|                                |            | DHCPv6 snooping, DHCPv6 client   |
|                                |            | IPv6 ACL, IPv6 SSH   |

## Package List

| Designation       | Quantity |
|-------------------|----------|
| UTP7524GE-POE-4GF | 1        |
| AC Power Line     | 1        |
| Accessories       | 1        |
| User Manual       | 1        |

## Related Products

| Designation  | Model            |
|--|------------------|
| 24 Ports Gigabit PoE & 4*10Gigabit Managed Ethernet Switch | UTP7624GE-PoE-L3 |
| 24 Gigabit Ports & 4*10Gigabit Managed Ethernet Switch     | UTP7624E-L3      |



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# Mini Sub-PC



## Product Highlight

- 2 Intel i211 Gigabit RJ45 LAN and 6 COM(2 COM can change to RS485/422 from BIOS).
- Support VGA + HDMI dual display output synchronously.
- One embedded SIM card slot onboard for 3G/4G Wi-Fi.
- Full Aluminum Alloy Silver color shell for heat dissipation, Exquisite production craft on outside design.
- Fanless system without cooling fan, fit for industrial grade field, work as long as 24 hours.
- Low consumption TDP only 15W and can be mounted on the wall.
- Support AWAL, Wake On LAN, RTC functions.

|                          |  |
|--------------------------|--|
| CPU                      | Onboard Intel Core i5-6360u , 2.0GHz max3.1GHz,Intel Iris Grahphics540,TDP 15W   |
| TDP                      | 15W  |
| Motherboard              | 14.5 x 14.7 cm   |
| BIOS                     | American Megatrends Inc. 5.6.5   |
| Chipset                  | Intel Sunrise Point-LP, Intel Skylake-U  |
| Memory                   | 2 x SO-DIMM DDR3L Slot, Support 4GB/8GB/16GB<br>DDR3L 1333/1600, LPDDR3 1333/1600  |
| OS                       | Windows 7/Windows 8/Windows 10/Linux   |
| PXE                      | YES  |
| Audio                    | Intel Skylake HDMI @ Intel Sunrise Point-LP PCH - High Definition Audio Controller<br>Realtek ALC662 @ Intel Sunrise Point-LP PCH - High Definition Audio Controller |
| Network                  | 2 x Onboard Intel i211 Gigabit Network Connection<br>10/100Mbps/1000Mbps BaseT LAN   |
| Video                    | Intel(R) Iris(R) Graphics 540  |
| <b>Input/output port</b> |  |
| Switch                   | 1 x Power On/Off Switch  |
| Power                    | 1 x 12V DC In  |

|  |  |
|--|--|
| LED                                    | 2 x LED  |
| USB                                    | 4 x USB2.0, 4 x USB3.0   |
| Display                                | 1 x VGA, 1 x HDMI  |
| LAN                                    | 2 x RJ45 Intel Giga LAN  |
| COM                                    | 6 x COM RS232(3 line) ports, COM1 COM2 can change to RS485/422 from BIOS                       |
| SIM                                    | 1 x embedded SIM card slot onboard   |
| GPIO                                   | 1 x GPIO   |
| Audio                                  | 1 x MIC, 1 x SPK   |
| <b>Storage</b>                         |  |
| MSATA                                  | 1 x M-SATA3.0 slot for MSATA SSD, support 6Gb/s  |
| SATA                                   | 1 x SATA3.0 slot for SATA HDD or SSD, support 6Gb/s  |
| <b>Wi-Fi</b>                           |  |
| Module                                 | 1 x mini PCIE-half port for Wi-Fi/Bluetooth module<br>1 x mini PCIE-full port for 3G/4G module |
| Antenna                                | 2 x inner RF cables and 2 x external antennas  |
| <b>Power and Working Environment</b>   |  |
| Input                                  | DC100-240V AC/50-60Hz  |
| Output                                 | DC +12V~+19V, recommend 12V/5A   |
| Operating Temperature                  | -20/+75 Centigrade   |
| Storage Temperature                    | -40/+80 Centigrade   |
| Relative Humidity                      | 0%~90% (non-condensing)  |
| <b>Product Dimension &amp; Details</b> |  |
| Size                                   | 213*255*66mm   |
| Weight                                 | Net 1.6kg, Gross 2.5kg   |
| Shell                                  | Silver color aluminum alloy(any customized color for bulk order)                               |
| Mounting                               | 4 Mounting holes on case   |
| Cooling Mode                           | Fanless  |
| Functions                              | AWAL, Wake On LAN, RTC   |
| <b>Package Content</b>                 |  |
| Standard                               | 1xMini PC, 1xPower Adapter, 1xPower Cord, 1xScrews Bag   |
| Optional                               | Wi-Fi antennas, 1xHDMI cable, 1xUser Manual, 1xLong Screws Bag                                 |

**Dimensions :**



# Long Distance PoE Extenders

## EX101LDP-T/R

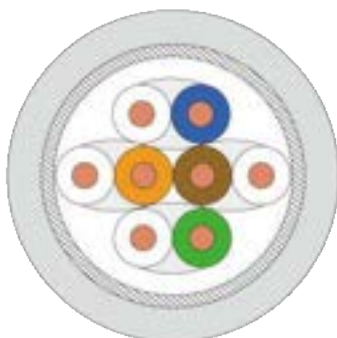


| Model                          | EX101LDP-T/R   |
|--------------------------------|--|
| Product                        | <b>1 in 1 out ultra long distance Poe network extender</b>   |
| Supporting instructions        | <b>LD long-distance ports need to be used with LD PoE switches or in pairs</b>   |
| Fixed port                     | 1*10 / 100M RJ45 Poe power receiving input port<br>1*10 / 100M RJ45 LD Poe power supply output ports   |
| Poe In port                    | Support ieee802.3af/at Poe in MAX 30W; (optional Poe + / BT , MAX65W)<br>Support 40-57v passive Poe in   |
| PoE Pin                        | 1245+ 3678-  |
| Poe extender distance          | Poe in+ Poe out<br>100M type, max distance 150+150 meters, max power out 16W<br>10M type, max distance 250+250 meters, max power out 13W<br>LD 100M type, max distance 150+500 meters, max power out 12W<br>LD 10M type, max distance 250+800 meters, max power out 6W |
| Supporting power supply        | 1: default configuration is no power<br>2: Optional 12V 0.5A power as network extender<br>3: Optional 52V 0.6A power can be used as a single port Poe switch   |
| Watt                           | Power Consumption: ≤0.5W   |
| DC Input                       | As Network Extender: DC12V MAX 0.5A<br>As PoE Network Extender : DC37-57V MAX 0.6A   |
| LED Indicator                  | Llinkr: Lan network on llink<br>Speed: lan speed 100M  |
| Network Protocol               | Supports IEEE 802.3az-2010 (EEE)<br>100Base-TX IEEE 802.3u Compliant<br>10Base-T IEEE 802.3 Compliant<br>IEEE 802.3af/at   |
| Transmission Mode              | Direct forwarding (full wirespeed)   |
| Operating Temperature/Humidity | -10 ~ +55°C; 5% ~ 90% RH Non coagulation   |
| Storage Temperature/Humidity   | -40 ~ +75°C; 5% ~ 95% RH Non coagulation   |
| Product size (L*W*H)           | 112mm*41mm*26mm  |
| N.W/G.W (kg)                   | 0.15kg(1 pairs)  |
| Installation                   | Desktop, wall mounted  |
| Lightning protection level     | 3KV 8/20us;<br>IP30  |
| Certificate                    | CE mark, commercial; CE/LVD EN60950;<br>FCC Part 15 Class B; RoHS;   |
| Warranty                       | Whole device for 1 year(Accessories not included)  |



# Shipboard Data Communication CAT6A Cable

## Type: CAT6A solid S/FTP SHF1 cable



### Application

High performance Ethernet cable for shipboard and offshore installations. Apply to general wiring system, Including 10/100/1000 Base-T, 10G, ATM & Token Ring. This range of screened cables is designed to support Cat 6A Link and Channel performance. With internationally defined Physical and Electrical performance up to 500MHz

### Construction

|                       |   |
|-----------------------|---|
| Conductor:            | Solid Bare Copper, AWG 23(Ø0.56mm, 0.246mm <sup>2</sup> )                     |
| Insulation:           | Foam Polyethylene(Ø1.32mm)  |
| No. of pair :         | 4   |
| Insulation Color:     | White Blue /Blue, White Orange /Orange White Green /Green, White Brown /Brown |
| Individual screen:    | Per pair 100% Al-/polyester tape  |
| Overall screen        | Tinned copper braid   |
| Outer Sheath:         | SHF1  |
| Outer Sheath color:   | Grey or per request   |
| Outer Diameter(nom.): | 8.3 mm  |

### Electrical characteristic (@20℃)

|  |                    |
|--|--------------------|
| Conductor DC resistance:                           | 95 Ohm/km          |
| Velocity factor:                                   | 74%                |
| Conductor resistance unbalance within pair:        | ≤2%                |
| Conductor resistance unbalance between pair:       | ≤4%                |
| insulation resistance :                            | ≥5000 MΩ.m         |
| Capacitance unbalance to earth at 800Hz or 1000Hz: | ≤160 pF/100m       |
| Dielectric strength(conductor/conductor) :         | 1.0KV d.c for 1min |
| Dielectric strength(conductor/screen) :            | 1.0KV d.c for 1min |
| Transfer Impedance:                                | Grade I            |



| <b>Transmission Frequency(MHz)</b> | 1    | 4    | 10   | 16   | 20   | 31.25 | 62.5 | 100  | 200  | 250  | 400  | 500  |
|------------------------------------|------|------|------|------|------|-------|------|------|------|------|------|------|
| <b>Attenuation</b> dB/100m         | 2.1  | 3.8  | 5.9  | 7.5  | 8.4  | 10.5  | 15.0 | 19.1 | 27.6 | 31.1 | 40.1 | 45.3 |
| <b>Return Loss</b> dB/100m         | 20   | 23   | 25   | 25   | 25   | 23.6  | 21.5 | 20.1 | 18.0 | 17.3 | 17.3 | 17.3 |
| <b>NEXT</b> dB/100m                | 75.3 | 66.3 | 60.3 | 57.2 | 55.8 | 52.9  | 48.4 | 45.3 | 40.8 | 39.3 | 36.3 | 34.8 |
| <b>PSNEXT</b> dB/100m              | 72.3 | 63.3 | 57.3 | 54.2 | 52.8 | 49.9  | 45.4 | 42.3 | 37.8 | 36.3 | 33.3 | 31.8 |
| <b>ELFEXT</b> dB/100m              | 68   | 56   | 48   | 43.9 | 42   | 38.1  | 32.1 | 28   | 22   | 20   | 16   | 14   |
| <b>PSELFEXT</b> dB/100m            | 65   | 53   | 45   | 40.9 | 39   | 35.1  | 29.1 | 25   | 19   | 17   | 13   | 11   |
| <b>Delay</b> ns/100m               | 570  | 552  | 545  | 543  | 542  | 540   | 539  | 538  | 537  | 536  | 536  | 536  |
| <b>Skew</b> ns/100m                | ≤45  |      |      |      |      |       |      |      |      |      |      |      |

## Standards

BS EN 50288-4, TIA-568.2-D, UL Subject 444 , IEC 61156-5 , ISO/IEC11801, IEC61156-6.

## Environmental properties and Fire Performances

|                 |  |
|-----------------|--|
| Halogen free    | IEC 60754-1&2  |
| Smoke-density   | IEC 61034-1&2  |
| Flame retardant | IEC 60332-3-22 and IEC 60332-1-2   |
| Oil resistant   | Mineral oils IRM 902 (IEC 60811-2-1) 70 °C/4hours or 23 °C /7days<br>Diesel- IRM 903(IEC 60811-2-1) 70 °C/4hours or 23 °C /7days |

## Mechanical Characteristics

|                                       |               |
|---------------------------------------|---------------|
| Temperature (operation)               | -40 to +85 °C |
| Temperature (installation)            | -15 to +50 °C |
| Minimum bending radius (operation)    | 10 x O.D.     |
| Minimum bending radius (installation) | 20 x O.D.     |
| Nominal weight                        | 75 kg/km      |

## Marking

ZTC TEXEL CAT6A S/FTP 4 x 2 x 0,246mm<sup>2</sup> AWG 23 solid IEC30662-3-22 SHF1 DNV & ABS <BATCH NO.> <Meter Marking>

## Product Code

66J56-008



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# CAT6 UTP 4P 4\*2\*0.56 Hight Speed Cable

Weather Proof OUTDOOR CAT6 UTP 4P 4\*2\*0.56

---

**Model:** ***AXT6-SFT2 OUTDOOR***



## **Features:**

- Complies with Category 5E UL444, ANSI/TIA/EIA 568B & ISO/IEC 11801 standard.
- Supports transmission of digital and analogue voice, data and video signal.
- Rated Temperature: -30° to +75°
- Water Proof ,Weather Proof ,Corrosion Proof ,stretching resistance

## **Application:**

- 100 Base T (IEEE 802.3)
- Fast Ethernet (IEEE 802.3u)
- 100vg-AnyLAN (IEEE 802.12)
- Token Ring (IEEE 802.5)
- TP-PMD (ANSI X3T9.5)
- 100 Mbps CDDI
- ATM 155 Mbps

## Cable Construction:

|                               |           |  |
|-------------------------------|-----------|--|
| <b>Inner conductor</b>        | Material  | Bare Copper  |
|                               | Diameter  | OD: 7.0±0.2mm  |
| <b>Insulation(Dielectric)</b> | Material  | Color-coded PE (Polyethylene)  |
|                               | Thickness | ≥ 0.18mm   |
|                               | Diameter  | 1.05 ± 0.03mm  |
| <b>Inner sheath</b>           | Material  | New PVC  |
|                               | Color     | Gray   |
| <b>Outer Jacket</b>           | Material  | New PE   |
|                               | Color     | Black  |
|                               | N/A       | Pair 1 : Blue, White / Blue<br>Pair 2 : Orange, White / Orange<br>Pair 3 : Green, White / Green<br>Pair 4 : Brown, White / Brown |
| <b>Twisted pair</b>           |           |  |