

# VKD MS 2161 10

2MP 16x Starlight IR PTZ Lite Network Camera



- 1/2.8" 2Megapixel STARVIS™ CMOS
- Powerful 16x optical zoom
- IR distance up to 100m
- Max. 25/30 fps@1080P
- IP66
- H.265



Featuring powerful optical zoom and accurate pan/tilt/zoom performance, the camera provides a wide monitoring range and great detail. The camera delivers 1080p resolution at 25/30 fps. The camera is equipped with smooth control, high quality image, and good protection, meeting compact size demands of video surveillance applications.

## Functions

### Starlight Technology

For challenging low-light applications, Dahua's Starlight Ultra-low Light Technology offers best-in-class light sensitivity, capturing color details in low light down to 0.005 Lux. The camera uses a set of optical features to balance light throughout the scene, resulting in clear images in dark environments.

### PFA Technology

PFA technology has innovatively introduced new methods of judgment to ensure the accuracy and predictability of the direction of subject distance adjustment. The result is a set of advanced focusing algorithms. PFA ensures clarity of the image throughout the process of zooming and shortens focus time. The realization of PFA technology substantially improves user experience and increases product value.

### Environmental

Dahua cameras operate in extreme temperature environments, rated for use in temperatures from -40 °C to +70 °C (-40 °F to +158 °F) with 95% humidity. Subjected to rigorous dust and water immersion tests and certified to the IP66 Ingress Protection rating make it suitable for demanding outdoor applications.

### Wide Dynamic Range

The camera achieves vivid images, even in the most intense contrast lighting conditions, using industry-leading wide dynamic range (WDR) technology. For applications with both bright and low lighting conditions that change quickly, True WDR (120 dB) optimizes both the bright and dark areas of a scene at the same time to provide usable video.

### Smart H.265+

Smart H.265+ is the optimized implementation of the H.265 codec that uses a scene-adaptive encoding strategy, dynamic GOP, dynamic ROI, flexible multi-frame reference structure and intelligent noise reduction to deliver high-quality video without straining the network. Smart H.265+ technology reduces bit rate and storage requirements by up to 70% when compared to standard H.265 video compression.

### Protection

The camera allows for 6KV lightning rating, which provides effective protection for both the camera and its structure against lightning.

### Interoperability

The camera conforms to the ONVIF (Open Network Video Interface Forum) specifications, ensuring interoperability between network video products regardless of manufacturers.

## Technical Specification

### Camera

Image Sensor	1/2.8" CMOS
Pixel	2MP
Max. Resolution	1920 (H) × 1080 (V)
ROM	128 MB
RAM	256 MB
Electronic Shutter Speed	1/1 s–1/30000 s
Scanning System	Progressive
Min. Illumination	Color: 0.05 Lux@F1.5 B/W: 0.005 Lux@F1.5 0Lux (IR or laser on)
Illumination Distance	100 m (328.08 ft)
Illuminator On/Off Control	Zoom Prio/Manual/SmartIR/Off
Illuminator Number	4

### Lens

Focal Length	5 mm–80 mm			
Max. Aperture	F1.5–F2.7			
Field of View	H: 57.7°–4.5°; V: 32.7°–2.6°; D: 65.2°–5.2°			
Optical Zoom	16x			
Focus Control	Auto/Semi-Auto/Manual			
Close Focus Distance	0.1 m–0.5 m (0.33 ft–1.64 ft)			
Iris Control	Auto/Manual			
DORI Distance	Detect	Observe	Recognize	Identify
	1343 m (4406.17 ft)	530 m (1738.85 ft)	268 m (879.27 ft)	134 m (439.63 ft)

### PTZ

Pan/Tilt Range	Pan: 0°–360°; Tilt: -15°–+90°
Manual Control Speed	Pan: 0.1°/s–200°/s; Tilt: 0.1°/s–120°/s
Preset Speed	Pan: 240°/s; Tilt: 200°/s
Presets	300
Tour	8 (up to 32 presets per tour)
Pattern	5
Scan	5
Speed Adjustment	Support
Power-off Memory	Support
Idle Motion	Preset/Tour/Pattern/Scanning
Protocol	DH-SIPelco-P/D (auto recognition)

## General Intelligence

Event Trigger	Motion detection, video tampering, scene changing, network disconnection, IP address conflict, illegal access, and storage anomaly.
IVS	Tripwire, intrusion, object abandoned/missing

### Video

Compression	H.265; H.264 Baseline Profile; H.264 Main Profile; H.264 High Profile
Streaming Capability	3 streams
Resolution	1080P (1920 × 1080); 960P (1280 × 960); 720P (1280 × 720)
Frame Rate	Main stream: 1080P/720P (1–25/30 fps) Sub stream 1: D1/CIF (1–25/30 fps) Sub stream 2: 720P/D1/CIF (1–25/30 fps)
Bit Rate Control	Variable/Constant
Bit Rate	H.264: 1792 Kbps–8192 Kbps H.265: 768 Kbps–4608 Kbps
Day/Night	Auto (ICR)/Color/B/W
BLC	Support
WDR	DWDR
HLC	Support
White Balance	Auto/Indoor/Outdoor/Tracking/Manual/Sodium lamp/Natural/Street lamp
Gain Control	Auto/Manual
Noise Reduction	2D/3D
Motion Detection	Support
Region of Interest (RoI)	Support
Image Stabilization (EIS)	Electronic
Defog	Electronic
Digital Zoom	16x
Flip	180°
Privacy Masking	Up to 24 areas

### Audio

Compression	G.711a; G.711Mu; G.726; AAC; G7221; G726; G729; MP2L2
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### Network

Ethernet	RJ-45 (10/100Base-T)
Protocol	IPv4; IPv6; HTTP; HTTPS; 802.1x; Qos; FTP; SMTP; UPnP; SNMP; DNS; DDNS; NTP; RTSP; RTP; TCP; UDP; IGMP; ICMP; DHCP; PPPoE; ARP; SNMPv1/v2c/v3(MIB-2); RTCP; RTMP
Interoperability	ONVIF Profile S&G; CGI
Streaming Method	Unicast/Multicast
User/Host	20 (total bandwidth 48 MB)

Storage	FTP; Micro SD card (256 GB); NAS
Browser	IE7 and later versions Chrome 42 and earlier versions Firefox 52 and earlier versions Safari
Management Software	Smart PSS; DSS; DMSS; Easy4ip; IVSS
Mobile Phone	IOS, Android

### Certification

Certifications	CE: EN55032/EN55024/EN50130-4 FCC: Part15 subpartB,ANSI C63.4-2014 UL: UL62368-1+CAN/CSA C22.2, No. 62368-1
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### Port

Audio Input	1 (LINE IN; bare wire)
Audio Output	1 (LINE OUT; bare wire)
Alarm I/O	2/1

### Power

Power Supply	DC 12V/5A ± 10%
Power Consumption	6.1W 17W (IR light on)

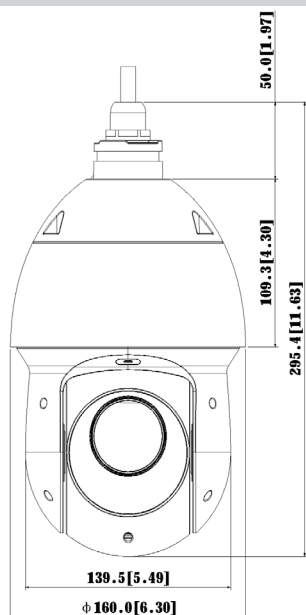
### Environment

Operating Temperature	-40°C to +70°C (-40°F to +158°F)
Operating Humidity	≤ 95%RH
Protection	IP66; TVS 6000V lightning protection; surge protection

### Structure

Dimensions	295 mm × Φ160 mm (11.61" × Φ6.30")
Net Weight	3.0 kg (6.61 lb)
Gross Weight	4.4 kg (9.70 lb)

### Dimensions (mm[inch])



### Accessories

#### Included:



Wall Mount Bracket

#### Optional:



DC12V/5A  
Power Supply



SFS11AF  
Mount Adapter



SFS00AP  
Pole Mount Bracket



SFS00AC  
Corner Mount  
Bracket



SFP00C  
Ceiling Mount  
Bracket

Wall Mount	Ceiling Mount	Pole Mount(Vertical)
Pole Mount(Horizontal)	Corner Mount	

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