ViRUNI

VN-H4MPWFD-IPC
High-end 4MP Vandal-proof WDR Fixed Dome Camera

Launched by VIRUNI Technology, is a series of AI products and solutions that adopt independent AI chip and deep learning algorithm. It focuses on human and vehicle with high accuracy, enabling users to fast act on defined targets. Based on VIRUNI's advanced technologies, provides intelligent, simple and inclusive products and solutions.

System Overview

With advanced deep learning algorithm, VIRUNI 2 Series network camera supports intelligent functions, such as perimeter protection and smart motion detection. With starlight technology, this series camera provides a better image effect in the condition of low illuminance.

Functions

SMD Plus
With intelligent algorithm, VIRUNI Smart Motion Detection technology can categorize the targets that trigger motion detection and filter the motion detection alarm triggered by non-concerned targets to realize effective and accurate alarm.

Smart H.265+ & Smart H.264+
With advanced scene-adaptive rate control algorithm, VIRUNI 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, VIRUNI 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.

- 4-MP 1/2.9" CMOS image sensor, low luminance, and high definition image.
- Outputs max. 4 MP (2688 × 1520)@20 fps, and supports 2560 × 1440@25/30 fps.
- H.265 codec, high compression rate, ultra-low bit rate.
- Built-in IR LED, and the max. illumination distance is 30 m.
- ROI, SMART H.264+/H.265+, flexible coding, applicable to various bandwidth and storage environments.
- Rotation mode, WDR, 3D NR, HLC, BLC, digital watermarking, applicable to various monitoring scenes.
- Intelligent monitoring: Intrusion, tripwire (the two functions support the classification and accurate detection of vehicle and human).
- Supports max. 256 G Micro SD card; built in MIC.
- 12 VDC/PoE power supply, easy for installation.
- IP67, IK10 protection.
- SMD Plus.

4Mp	SMD Plus	Smart Codec	Perimeter Protection	WDR	IP67&IK10

WDR
With advanced Wide Dynamic Range (WDR) technology, VIRUNI 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.

Cyber Security
VIRUNI 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 compromising the device.

Protection (IP67, 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 normally after soaking in 1 m deep water for 30 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 ±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	1/2.9" CMOS
Max. Resolution	2688 (H) × 1520 (V)
ROM	128 MB
RAM	128 MB
Scanning System	Progressive
Electronic Shutter Speed	Auto/Manual 1/3 s–1/100,000 s
Min. Illumination	0.006 lux@F1.6 (Color, 30 IRE) 0.0006 lux@F1.6 (B/W, 30 IRE) 0 lux (Illuminator on)
S/N Ratio	>56 dB
Illumination Distance	up to 30 m (98.43 ft) (IR LED)
Illuminator On/Off Control	Auto;Manual
Illuminator Number	3 (IR LED)
Pan/Tilt/Rotation Range	Pan: 0°–355° Tilt: 0°–65° Rotation: 0°–355°

Lens

Lens Type	Fixed-focal
Lens Mount	M12
Focal Length	2.8 mm; 3.6 mm
Max. Aperture	F1.6
Field of View	2.8 mm: H: 102°; V: 54°; D: 121° 3.6 mm: H: 84°; V: 42°; D: 101°
Iris Control	Fixed
Close Focus Distance	2.8 mm: 1.1 m (2.30 ft) 3.6 mm: 1.7 m (4.27 ft)

	Lens	Detect	Observe	Recognize	Identify
DORI Distance	2.8 mm	63.6 m (208.66 ft)	25.4 m (83.33 ft)	12.7 m (41.67 ft)	6.4 m (21.00 ft)
	3.6 mm	85.4 m (280.18 ft)	34.2 m (112.20 ft)	17.1 m (56.10 ft)	8.5 m (27.89 ft)

Intelligence

IVS (Perimeter Protection)	Intrusion, tripwire (the two functions support the classification and accurate detection of vehicle and human)
Smart 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	Main stream: 2688 × 1520@(1–20 fps)/2560 × 1440@(1–25/30 fps) Sub stream: 704 × 576@(1–25 fps)/704 × 480@(1–30 fps) *The values above are the max. frame rates of each stream; for multiple streams, the values will be subjected to the total encoding capacity.

Stream Capability	2 streams
Resolution	4M (2688 × 1520/2560 × 1440); 3M (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 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	Manual;Auto
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 2688 × 1520 resolution and lower)
Mirror	Yes
Privacy Masking	4 areas

Audio

Built-in MIC	Yes
Audio Compression	G.711a; G.711Mu; G.726; PCM

Alarm

Alarm Event	No SD card; SD card full; SD card error; network disconnection; IP conflict; illegal access; motion detection; video tampering; tripwire; intrusion; audio detection; voltage detection; SMD; security exception;

Network

Network Port	RJ-45 (10/100 Base-T)
SDK and API	Yes
Network Protocol	IPv4; IPv6; HTTP; TCP; UDP; ARP; RTP; RTSP; RTCP; RTMP; SMTP; FTP; SFTP; DHCP; DNS; DDNS; NTP; Multicast; ICMP; IGMP
Interoperability	ONVIF (Profile S/Profile G); CGI; P2P
User/Host	6 (Total bandwidth: 36 M)
Storage	FTP;SFTP; Micro SD card (support max. 256 GB)
Browser	IE; Chrome; Firefox
Management Software	DSS; DMSS
Mobile Client	iOS; Android

Cyber Security	Video encryption;Firmware encryption;Configuration encryption;Digest;WSSE;Account lockout;Security logs;IP/MAC filtering;Generation and importing of X.509 ce rtification; syslog;HTTPS;802.1x;Trusted boot;Trusted execution;Trusted upgrade

Power

Power Supply	12 VDC/PoE
Power Consumption	Basic: 2.3 W (12 VDC); 2.9 W (PoE) Max. (ICR + H.265 + WDR + max. Illumination + intelligence on): 5 W (12 VDC); 6 W (PoE)

Environment

Operating Temperature	−40 °C to +60 °C (−40 °F to +140 °F)
Operating Humidity	≤95%
Protection	IP67; IK10

Structure

Casing Material	Metal
Product Dimensions	81.0 mm × Φ109.9 mm (3.19"× Φ4.33")
Net Weight	0.34 kg (0.75 lb)
Gross Weight	0.49 kg (1.08 lb)

Ordering Information

Type	Model	Description
4MP Camera	VN-H4MPWFD-IPC	High-end 4MP Vandal-proof WDR Fixed Dome Camera
Accessories (Optional)	VNA146	Junction Box
	VNB213W	Wall Mount Bracket
	VNA119	Mount Adapter
	VNB230C	Ceiling Mount Bracket
	VNA162-E	Pole Mount Bracket
	VNA160	Pole Mount Bracket
	VNB315W	Wall Mount Bracket
	VNA161	Corner Mount Bracket
	VNM331D	12 VDC 1 A Power Adapter
	VNM910-E	Integrated Mount Tester
	VNTF-P110	MicroSD Memory Card

Accessories

Optional:

VNA146
Junction
Box

VNB213W
Wall Mount
Bracket

VNA119
Mount
Adapter

VNB230C
Ceiling Mount
Bracket

VNA162-E
Pole Mount
Bracket

VNA160
Pole Mount
Bracket

VNB315W
Wall Mount
Bracket

VNA161
Corner Mount
Bracket

VNM331D
12 VDC 1A
Power Adapter

VNM910-E
Integrated `
Mount Tester

VNTF-P110
MicroSD
Memory Card

Dimensions (mm[inch])

41.0 [1.61]

81.0 [3.19]

Ø109.9 [Ø4.33]

Ø98.2 [Ø3.87]

3-Ø4.7 [Ø0.19]