

# DH-HAC-HFW2501TU-A

5MP Starlight HDCVI IR Bullet Camera



#### **System Overview**

Experience 5MP full HD video and the simplicity of using existing cabling infrastructure with HDCVI. The Pro series 5MP HDCVI camera features a compact design and offers a high quality image at a friendly price. It offers various motorized/fixed lens models with 120 dB true WDR and a multi-language OSD and HD/SD switchable output. Its structural flexibility and high cost-performance make the camera an ideal choice for SMB solutions.

#### **Functions**

#### 4 Signals over 1 Coaxial Cable

HDCVI technology supports 4 signals to be transmitted over 1 coaxial cable simultaneously, i.e. video, audio\*, data and power. Dual-way data transmission allows the HDCVI camera to interact with the XVR, such as sending control signal or triggering alarm. Moreover, HDCVI technology supports PoC for construction flexibility.

\* Audio input is available for some models of HDCVI cameras.

#### Long Distance Transmission

HDCVI technology guarantees real-time transmission at long distance without any loss. It supports up to 700 m for 5MP HD video via coaxial cable, and up to 300 m via UTP cable.\*

\*Actual results verified by real-scene testing in Dahua's test laboratory.

#### Simplicity

HDCVI technology inherits the born feature of simplicity from traditional analog surveillance system, making itself a best choice for investment protection. HDCVI system can seamlessly upgrade the traditional analog system without replacing existing coaxial cabling. The plug and play approach enables full HD video surveillance without the hassle of configuring a network.

#### Starlight

With the adoption of large sized high performance sensor, the camera is able to provide incomparable performance even under extreme lowlight environment. The starlight feature allows more details to be captured and accurate color to be recognized at night or in scenes with limited illumination.

- \* The parameters and datasheets below can only be applied to 2501-S2 series.
- · Max 25 fps@5MP (16:9 video output)
- · Starlight, 120 dB true WDR, 3D NR
- · CVI/CVBS/AHD/TVI switchable
- · 3.6 mm fixed lens (6 mm, 8 mm optional)
- · Built-in mic
- · Max. IR length 80 m, Smart IR
- · IP67, DC12V±30%



#### **Broadcast-quality Audio**

Audio information is used as supplementary evidence in video surveillance applications. The HDCVI camera supports audio signal transmission over coaxial cable. In addition, it adopts unique audio processing and transmission technology that best restores source audio and eliminates noise,

guaranteeing the quality and effectiveness of collected audio information.

#### Smart IR

The camera is designed with IR LED illumination for best lowlight performance. Smart IR is a technology to ensure brightness uniformity in B/W image under low illumination. Dahua unique Smart IR adjusts to the intensity of camera's infrared LEDs to compensate for the distance of an object, and prevents IR LEDs from overexposing images as the object comes closer to the camera.

#### Wide Dynamic Range

Embedded with industry leading wide dynamic range (WDR) technology, vivid pictures are achieved even in the most intense contrast lighting conditions. True WDR (120dB) optimizes both the bright and dark areas of ascene at the same time to provide usable video.

#### Advanced 3DNR

3DNR is noise reduction technology that detects and eliminates random noises by comparing two sequential frames. Dahua's advanced 3DNR technology allows remarkable noise reduction with little impact to sharpness,especially under limited lighting condition. Besides, the advanced 3DNR

effectively decreases the band width and saves the storage space.

#### Protection

The camera's outstanding reliability is unsurpassed due to its rugged design. The camera is protected against water and dust with IP67 ranking, making it suitable for indoor or outdoor environments.

With working temperature range of -40 °C to +60 °C (-40 °F to +140 °F), the camera is designed for extreme temperature environments. Supporting ±30% input voltage tolerance, this camera suits even the most unstable power supply conditions. Its 4KV lightning rating provides protection against the camera and its structure from the effects of lightning.

# Pro Series | DH-HAC-HFW2501TU-A

### **Technical Specification**

## Camera

$\begin{split} &   1/2.7 \ inch \ CMOS \\ \hline Max. Resolution & 2880 (H) \times 162 (V) \\ \hline Max. Resolution & 2880 (H) \times 162 (V) \\ \hline Pixel & SMP \\ \hline Scanning System & Progressive & O.001 Lux/F1.4 SJORE, OLU # CONS & STSC: 1/4 s-1/100,000 s & STSC: 1/4 s-1$	Camera					
NP Note Note Note Note Note Note Note Note	Image Sensor		1/2.7 inch CMOS			
ProgressiveProgressiveProgressiveProgressiveProgressiveProgressiveProgressiveProgressiveS/N Ratio0.001 Lux/F1.6, 30IRE, OLux IR onS/N RatioO.001 Lux/F1.6, 30IRE, OLux IR onImage: Signal of Colspan="2">Signal of Colspan="2">Sign	Max. Resolution		2880 (H) × 1620 (V)			
IPAL: 1/3 s-1/100,000 s NTSC: 1/4 s-1/100,000 sS/N Ratio0.001 Lux/F1.6, 30IRE, 0Lux IR onMin. Illumination>65 dBIllumination Distance80 m (262.47 ft)Illuminator On/Off ControlAuto / ManualIlluminator On/Off Control4Pan/Tilt/Rotation RangePan: 0°-360° Tilt: 0°-90° Rotation: 0°-360°LensFixed-focalLens TypeFixed-focalMount Type61.6Mount Type51.6Ficel Length3.6 mm: 109° × 92° × 48° (diagonal × hrizontal × vertical) 8 mm: 48*43*24* (diagonal × hrizontal × vertical) 8 mm: 48*143*24* (diagonal × hrizontal × vertical) 8 mm: 48.11 th)IdentifyDORI DORI DDRI DDRI DDRI DDRI DDRI 0 mmLensSom 80 m32 m 48 mIdentifyBORN 12 mm80 m80 m48 m24 m12 m	Pixel		5MP			
Electronic Shutter SpeedNTSC: $1/4 \text{ s} = 1/100,000 \text{ s}$ S/N Ratio0.001 Lux/F1.6, 30IRE, 0Lux IR onMin. Illumination> 65 dBIllumination Distance80 m (262.47 ft)Illuminator On/Off ControlAuto / ManualIlluminator No/Off ControlAuto / ManualIlluminator No/Off Control4Pan/Tilt/Rotator RangePan: 0°-360°Rotation: 0°-360°Tilt: 0°-90° Rotation: 0°-360°LensFixed-focalLens TypeFixed-focalMount TypeM12Focal Length3.6 mm; 6 mm; 8 mmMax. ApertureF1.6Si form: 109° × 92° × 48° (diagonal x horizontal x vertical) 6 mm; 65° × 57° × 30°Field of ViewF1.6Field of ViewS.6 mm: 109° × 92° × 48° (diagonal x horizontal x vertical) 8 mm: 48°×43°×24° (diagonal x horizontal x vertical) 8 mm: 4.3 m (10.2 ft) 8 mm: 4.3 m (10.5 oft)Identify (26.2 ft)DORI DORI Distance3.6 mm80 m (262.5 ft)32 m (16 m (25.5 ft)Identify (26.2 ft)	Scanning System		Progressive			
Min. Illumination       > 65 dB         Illumination Distance       80 m (262.47 ft)         Illuminator On/Off Control       Auto / Manual         Illuminator On/Off Control       Auto / Manual         Illuminator Number       4         Pan/Tilt/Rotation Range       Pan: 0°-360° Tilt: 0°-90° Rotation: 0°-360°       Second Second         Lens       Pan       Fixed-focal       Second       Second         Mount Type       M12       Second       Secon	Electronic Shutter Speed					
Note of the second se	S/N Ratio		0.001 Lux/F1.6, 30IRE, 0Lux IR on			
Interaction of the function o	Min. Illumination		> 65 dB			
Illuminator Number4Pan/Tilt/Rotation RangePan: 0°-360° Tilt: 0°-90° Rotation: 0°-360°LensLens TypeFixed-focalMount TypeM12Focal Length3.6 mm; 6 mm; 8 mmFocal Length3.6 mm; 109° × 92° × 48° (diagonal × horizontal × vertical) 6 mm; 48°×43° × 24° (diagonal × horizontal × vertical) 8 mm: 48°×43° × 24° (diagonal × horizontal × vertical) 8 mm: 48°×43° × 24° (diagonal × horizontal × vertical) 	Illumination Distance		80 m (262.47 ft)			
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Tilt: 0°-90° Rotation: 0°-360°LensLens TypeFixed-focalMount TypeM12Mount TypeM12Focal Length3.6 mm; 6 mm; 8 mmMax. ApertureF1.6Signal a form: 109° × 92° × 48° (diagonal × horizontal × vertical) 6 mm: 65° × 57° × 30° (diagonal × horizontal × vertical) 8 mm: 48°×43° × 24° (diagonal × horizontal × vertical) 8 mm: 41 tiltMathematical × vertical) 8 mm: 41 tiltDORI DORI DistanceLensDetectObserveRecognizeIdentify 8 m (26.2 ft)DORI Distance3.6 mm80 m48 m24 m12 m	Illuminator Number		4			
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Mount Type       M12         Focal Length       3.6 mm; 6 mm; 8 mm         Max. Aperture       F1.6         Sigma S	Lens					
Focal Length3.6 mm; 6 mm; 8 mmMax. ApertureF1.6Max. ApertureF1.6Field of View $3.6 \text{ mm}: 109^{\circ} \times 92^{\circ} \times 48^{\circ}$ (diagonal × horizontal × vertical) 8 mm: $45^{\circ} \times 75^{\circ} \times 30^{\circ}$ (diagonal × horizontal × vertical) 8 mm: $48^{\circ} \times 43^{\circ} \times 24^{\circ}$ (diagonal × horizontal × vertical) 8 mm: $48^{\circ} \times 43^{\circ} \times 24^{\circ}$ (diagonal × horizontal × vertical) 8 mm: $48^{\circ} \times 43^{\circ} \times 24^{\circ}$ (diagonal × horizontal × vertical) 8 mm: $48^{\circ} \times 43^{\circ} \times 24^{\circ}$ (diagonal × horizontal × vertical) 8 mm: $43^{\circ} \times 24^{\circ}$ (diagonal × horizontal × vertical) 8 mm: $43^{\circ} \times 14^{\circ}$ (10.2 ft) 8 mm: $4.3 \text{ m}$ (14.1 ft)Interpret DORI DistanceLensDetectObserveRecognizeIdentify (26.2 ft) (26.2 ft)DORI Distance $3.6 \text{ mm}$ $80 \text{ m}$ $32 \text{ m}$ (105.0 ft) $16 \text{ m}$ (25.2 ft) $8 \text{ m}$ (26.2 ft) $6 \text{ mm}$ $80 \text{ m}$ $48 \text{ m}$ $24 \text{ m}$ $12 \text{ m}$	Lens Type		Fixed-focal			
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Image: Second S	Focal Length		3.6 mm; 6 mm; 8 mm			
	Max. Aperture		F1.6			
Lens         Detect         Observe         Recognize         Identify           B mm         3.6 mm         1.6 m         5.2 ft)         16 m         16 m           DORI         Distance         3.6 mm         80 m         32 m         16 m         8 m           6 mm         80 m         48 m         24 m         12 m	Field of View		(diagonal × horizontal × vertical) 6 mm: 65° × 57° × 30° (diagonal × horizontal × vertical) 8 mm: 48°×43°×24°			
Close Focus Distance         6 mm: 3.1 m (10.2 ft) 8 mm: 4.3 m (14.1 ft)           Lens         Detect         Observe         Recognize         Identify           DORI Distance         3.6 mm         80 m (262.5 ft)         32 m (105.0 ft)         16 m (52.5 ft)         8 m (26.2 ft)           6 mm         80 m         48 m         24 m         12 m	Iris Type		Fixed iris			
DORI         3.6 mm         80 m         32 m         16 m         8 m           Distance         6 mm         80 m         48 m         24 m         12 m	Close Focus Distance		6 mm: 3.1 m (10.2 ft)			
Both         3.6 mm         (262.5 ft)         (105.0 ft)         (52.5 ft)         (26.2 ft)           Distance         6 mm         80 m         48 m         24 m         12 m		Lens	Detect	Observe	Recognize	Identify
6 mm		3.6 mm				
		6 mm				
8 mm 150.4 m 60.2 m 30.1 m 15 m (493.4 ft) (197.5 ft) (98.8 ft) (49.2 ft)		8 mm				

Day/Night	Auto switch by ICR				
BLC	BLC/HLC/WDR/HLC-Pro				
WDR	120 dB				
White Balance	Auto / Manual				
Gain Control	Auto / Manual				
Noise Reduction	2D NR/3D NR				
Smart IR	Yes				
Mirror	Off/On				
Privacy Masking	Off/On (8 areas, rectangle)				
Certifications					
Certifications	CE (EN55032:2015, EN 61000-3-2:2014, EN 61000-3-3:2013, EN55024:2010+A1:2015, EN 55035:2017, EN50130-4:2011+A1:2014, EN 62368- 1:2014+A11:2017) FCC (CFR 47 FCC Part 15 subpartB, ANSI C63.4-2014) UL (UL60950-1+CAN/CSA C22.2 No.60950-1)				
Port					
Audio Interface	One channel built-in mic				
Video Output	Video output choices of CVI/TVI/AHD/CVBS by one BNC port (DIP Switch)				
Power					
Power Supply	DC 12V ±30%				
Power Consumption	Max 9.6W (12V DC, IR on)				
Environment					
Operating Temperature	$-40^\circ\text{C}$ to +60°C (–40°F to +140°F); < 95% (non-condensation)				
Storage Temperature	$-40^\circ\text{C}$ to $+60^\circ\text{C}$ (–40°F to +140°F); < 95% (non-condensation)				
Protection Grade	IP67				
Structure					
Casing	Metal throughout the whole casing				
Camera Dimensions	244.1 mm × 90.4 mm × 90.4 mm (9.61" × 3.56" × 3.56")				
Net Weight	0.77 kg (1.70 lb)				

1.04 kg (2.29 lb)

Gross Weight

#### Video

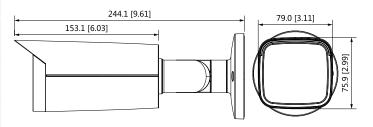
Frame Rate	CVI: PAL: 5M@25 fps; 4M@25 fps; 1080P@25 fps NTSC: 5M@25 fps; 4M@30 fps; 1080P@30 fps AHD: PAL: 4M@25 fps; NTSC: 4M@30 fps TVI: PAL: 4M@25 fps; NTSC: 4M@30 fps CVBS: PAL: 960H; NTSC: 960H
Resolution	5M (2880 × 1620); 4M (2560 × 1440); 1080P (1920 × 1080); 960H (960 × 576/960 × 480)

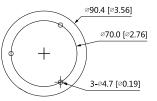
# Pro Series | DH-HAC-HFW2501TU-A

# Ordering Information

Туре	Part Number	Description	
5MP Camera	DH-HAC-HFW2501TUP-A 3.6 mm		
	DH-HAC-HFW2501TUN-A 3.6 mm		
	DH-HAC-HFW2501TUP-A 6 mm	5MP Starlight HDCVI IR Bullet Camera	
	DH-HAC-HFW2501TUN-A 6 mm	Sivir Stangit HDCVLik Bullet Camera	
	DH-HAC-HFW2501TUP-A 8 mm		
	DH-HAC-HFW2501TUN-A 8 mm		
Accessories	PFA135	Junction Box	
	PFA130-E	IP66 junction box	
	PFA152-E	Pole Mount Bracket	
	PFM800-4K	Passive HDCVI Balun	
	PFM321D	12V 1A Power Adapter	
	PFM904	Integrated Mount Tester	

## Dimensions (mm [inch])





# Accessories

## **Optional:**



PFA135 Junction Box



PFA130-E IP66 junction box



PFM800-4K Passive HDCVI Balun



PFM321D 12V 1A Power Adapter



PFA152-E Pole Mount Bracket



PFM904 Integrated Mount Tester

