

# PNF-9010R/9010RV/9010RVM

4K Fisheye Camera



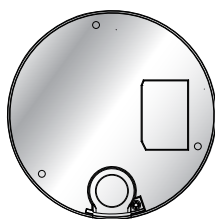
## Key Features

- 12 Megapixel (4000 x 3000) Resolution
- H.265, H.264, MJPEG Codec
- Variable View Mode (Fishyeye, Single Panorama, Double Panorama, Quad View Etc)
- On Board Dewarping, Digital PTZ (16x) / Bi-Directional Audio
- True WDR (120dB), WiseStream
- People Counting, Heatmap, Defocus Detection
- Micro SD / SDHC / SDXC (Max. 128GB), PoE

	PNF-9010R	PNF-9010RV	PNF-9010RVM
M12 Connector			✓
IK10, IP66		✓	✓

## Dimensions

Unit: mm (inch)



## Accessories (Optional)



SBF-100B1



SBP-300HMS



SBP-300TM1

	PNF-9010R	PNF-9010RV	PNF-9010RVM
<b>VIDEO</b>			
Imaging Device	1/1.7" 12.4MP CMOS		
Total Pixels / Effective Pixels	4,168 x 3,062 / 2,992 x 2,992		
Scanning System	Progressive		
Minimum Illumination	Color : 0.3Lux (F2.2, 30IRE), B/W : 0Lux (IR LED on)		
S/N Ratio	50dB		
Video Output	CVBS : 1.0 Vpp / 75Ω Composite, 714 x 480 for Installation, DIP Connector Type		
<b>LENS</b>			
Focal Length / Max. Aperture Ratio	2.1mm Fixed / F2.2		
Angular Field of View	H : 180° / V : 180° / D : 180°		
Min. Object Distance	0.5m (1.64ft)		
Focus Control	Simple Focus / Manual - Remote Control Via Network		
Lens Type / Mount Type	Fixed Lens / Board Type		
<b>OPERATIONAL</b>			
IR Viewable Length	15m (49.21ft)		
Camera Title	Off / On (Displayed up to 60 characters) - English / Numeric / International characters / Special characters - Common : Multi-line (Max. 5), Color (Grey / Green / Red / Blue / Black / White), Transparency, Auto scale by resolution		
Day & Night	Auto (ICR) / Color / B/W / External / Schedule		
Backlight Compensation	Off / BLC / WDR		
Wide Dynamic Range	120dB		
Contrast Enhancement	SSDR (Off / On)		
Digital Noise Reduction	SSNR (2D+3D noise filter) (Off / On)		
Defog	Off / Auto / Manual		
Motion Detection	Off / On (8ea Polygonal Zones)		
Privacy Masking	Off / On (8ea Polygonal) - Color : Gray / Green / Red / Blue / Black / White		
Gain Control	Off / Low / Middle / High		
White Balance	ATW / AWC / Manual / Indoor / Outdoor		
Electronic Shutter Speed	Minimum / Maximum / Anti Flicker		
Digital Zoom	16x, Digital PTZ (Preset, Group)		
Flip / Mirror	Off / On		
Intelligent Video Analytics	Tampering, Virtual Line, Enter/Exit, (Dis) Appear, Audio Detection, Defocus Detection		
Alarm I/O	Input 1ea / Output 1ea		
Alarm Triggers	Alarm input, Motion Detection, Video Analytics, Audio Detection, Network Disconnect, SD Card Error, NAS Error		
Alarm Events	File upload via FTP and E-mail, Notification Via E-mail, Local Storage (SD / SDHC / SDXC) or NAS Recording at Event Triggers, External output		
Viewing Composition	Camera Side : Fisheye, Single Panorama, Double Panorama, Fisheye + 4 PTZ Quad View, Fisheye + 8 PTZ		
Pixel Counter	Support (Plug-in Viewer only)		
<b>NETWORK</b>			
Ethernet	RJ-45 (10 / 100 / 1000 BASE-T)		
Video Compression Format	H.265 / H.264 / MJPEG		
Resolution	Double Panorama : 2560 x 1280, 1920 x 960, 1280 x 640, 704 x 352, 640 x 320 Single Panorama : 2560 x 640, 1920 x 480, 1280 x 320, 704 x 176, 640 x 160 Quad View : 2944 x 2208, 2560 x 1920, 2048 x 1536, 1600 x 1200, 1280 x 960, 1024 x 768, 800 x 600, 704 x 576, 640 x 480		
Maximum Framerate	H.265 / H.264 : 20fps@4000 x 3000, 25fps@under 2992 x 2992, MJPEG : Max. 15fps		
Smart Codec / WiseStream	Manual mode (Area-Based : 5ea) / Support		
Video Quality Adjustment	H.265 / H.264 : Target Bitrate Level Control, MJPEG : Quality Level Control		
Bitrate Control Method	H.265 / H.264 : CBR or VBR, MJPEG : VBR		
Streaming Capability	Multiple streaming (Up to 3 profiles)		
Audio In	Selectable (Mic in / Line in / Built-in Mic)		
Audio Out	Supply Voltage : 2.5VDC (4mA), Input Impedance : Approx. 2K Ohm Line Out (3.5mm Mono Jack), Max output level : 1 Vrms		
Audio Compression Format	G.711 u-law/G.726 Selectable, G.726 (ADPCM) 8KHz, G.711 8KHz, G.726 : 16Kbps, 24Kbps, 32Kbps, 40Kbps, AAC-LC : 48Kbps at 16KHz		
Audio Communication	Bi-Directional		
IP	IPv4, IPv6		
Protocol	TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour, SIP		
Security	HTTPS(SSL) Login Authentication, Digest Login Authentication IP Address Filtering, User Access log, 802.1x Authentication (EAP-TLS, EAP-LEAP)		
Streaming Method	Unicast / Multicast		
Maximum User Access	15 users at Unicast Mode SD/SDHC/SDXC (up to 128GB)		
Edge Storage	- Motion Images Recorded in the SD/SDHC/SDXC Memory Card can be Downloaded - Camera can Detect Automatically when the memory is Connected - Memory Status Display (Normal / Error / Active / Formatting / Lock) NAS (Network Attached Storage), Local PC for Instant Recording (Plug-in Viewer Only)		
Application Programming Interface	ONVIF Profile S/G, SUNAPI (HTTP API) v2.0, Wisenet Open Platform		
Webpage Language	English, French, German, Spanish, Italian, Chinese, Korean, Russian, Japanese, Swedish, Portuguese, Turkish, Polish, Czech, Dutch, Hungary, Greek		
Web Viewer	Supported OS : Windows 7, 8.1, 10, Mac OS X 10.9, 10.10, 10.11 Plug-in free Webviewer - Supported Browser : Google Chrome 47, MS Edge 20 Plug-in Webviewer - Supported Browser : MS Explorer 11, Mozilla Firefox 43, Apple Safari 9 * Mac OS X only		
Central Management Software	Wisenet WAVE, SmartViewer		
<b>ENVIRONMENTAL</b>			
Operating Temperature / Humidity	-10°C ~ +55°C (+14°F ~ +131°F)   -40°C ~ +55°C (-40°F ~ +131°F) / Less than 90% RH / Less than 90% RH * Start up should be done at above -35°C (-31°F) (PNF-9010R/9010RVM)		
Storage Temperature / Humidity	-30°C ~ +60°C (-22°F ~ +140°F) / Less than 90% RH		
Ingress Protection	N/A (PNF-9010R)   IP66 (PNF-9010RV/9010RVM)		
Vibration Resistance	EN55011:2009+A1:2010, EN50581:2012, EN50121-3-2:2015, EN61000-4-2:2009, EN61000-4-3:2006+A2:2010, EN61000-4-4:2012, EN61000-4-5:2014, EN61000-4-6:2009		
Vandal Resistance	IK10		
<b>ELECTRICAL</b>			
Input Voltage / Current	12V DC ±10%, PoE (IEEE802.3af, Class3)		
Power Consumption	12V DC : Max. 11W, PoE : 12W (PNF-9010R)   12V DC : Max. 12W, PoE : 12.95W (PNF-9010RV/9010RVM)		
<b>MECHANICAL</b>			
Color / Material	Ivory / Metal		
Dimensions (WxH)	Ø146.0 x 63.4mm (Ø5.75" x 2.5")		
Weight	805g (1.77 lb) (PNF-9010R)   810g (1.79 lb) (PNF-9010RV)   815g (1.8 lb) (PNF-9010RVM)		

\* The latest product information / specification can be found at [hanwha-security.com](http://hanwha-security.com)  
\* Design and specifications are subject to change without notice.