

# PNM-9020V

7.3Megapixel Multi-sensor 180° Panoramic Camera

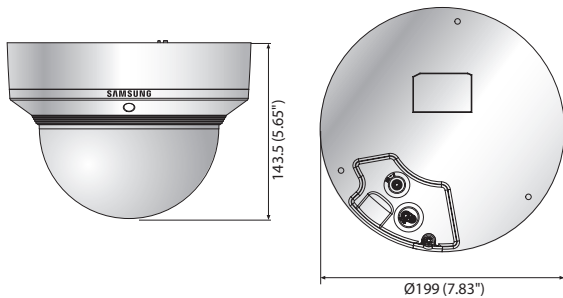


## Key Features

- Max. 7.3M (4096 x 1800) resolution
- Built-in 3.6mm fixed lens
- H.265/H.264 : Max. 30fps at all resolutions  
MJPEG : Max. 15fps at all resolutions
- H.265, H.264, MJPEG codec supported, Multiple streaming
- Motion detection, Hand over to PTZ, Tampering, Defocus detection, Digital auto tracking, Heatmap
- SD/SDHC/SDXC (128GB) memory slot, PoE+ / 12V DC
- WiseStream supported, IP66, IK10

## Dimensions

Unit : mm (inch)



## Accessories (Optional)



## PNM-9020V

<b>VIDEO</b>	
Imaging Device	7.3M (2M x 4)
Total / Effective Pixels	5,152(H) x 1,981(V) / 4,096(H) x 1,800(V)
Scanning System	Progressive
Min. Illumination	Color : 0.3Lux
<b>LENS</b>	
Focal Length (Zoom Ratio)	3.6mm fixed
Max. Aperture Ratio	F2.0
Angular Field of View	[Total 4sensor] H : 180°, V : 84°
Min. Object Distance	1.5m (4.92ft)
Focus Control	Manual
Lens / Mount Type	Fixed / Board type
<b>PAN / TILT / ROTATE</b>	
Pan / Tilt Range	0° ~ 355° / 0° ~ 60°
<b>OPERATIONAL</b>	
Camera Title	Off / On (Displayed up to 45 characters) - W/W : English / Numeric / Special characters - Korea : English / Numeric / Special / Korean characters - China : English / Numeric / Special / Chinese characters - Common : Multi-line (Max. 6), 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
Contrast Enhancement	SSDR (Off / On)
Digital Noise Reduction	SSNR III (2D+3D noise filter) (Off / On)
Defog	Off / Auto / Manual
Motion Detection	Off / On (8ea, Polygonal), Hand over
Privacy Masking	Off / On (16ea, Polygonal with 4 lines only) - Color : Grey / Green / Red / Blue / Black / White
Gain Control	Off / Low / Middle / High
White Balance	ATW / AWC / Manual / Indoor / Outdoor (not included Mercury & Sodium)
Electronic Shutter Speed	Minimum / Maximum / Anti flicker
Flip / Mirror	Off / On
Digital PTZ	Support
Intelligent Video Analytics	Tampering, Virtual line, Enter/Exit, (Dis)Appear, Audio detection, Defocus detection, Digital auto tracking, Heat map
Alarm I/O	Input 1 / Output 1
Alarm Triggers	Alarm Input, Motion Detection, Tampering(Scene Change), Virtual Line, Enter/Exit, Appear / Disappear, Audio Detection, Defocus Detection
Alarm Events	File upload via FTP, E-mail, Notification via E-mail, Local storage (SD/SDHC/SDXC) or NAS recording at event triggers, External output
Pixel Counter	Support (Plug-in viewer only)
View Composition	Plug-in : Single Panorama, Panorama +3 PTZ, Plug-in Free : 3DView
<b>NETWORK</b>	
Ethernet	RJ-45 (1000BASE-T), Plug-in type
Video Compression Format	H.265/H.264 (MPEG-4 part 10/AVC) : Main/Baseline/High, MJPEG [Panorama] 4096 x 1800, 3584 x 1576, 3072 x 1352, 2560 x 1124, 2048 x 900, Resolution 1536 x 676, 1024 x 452, 512 x 224, 720 x 576 [HalfView] 2048x1536 / 1600x1200 / 1024x768 / 800x600
Max. Framerate	H.265/H.264 : Max. 30fps@all resolutions, MJPEG : Max. 15fps
Smart Codec/WiseStream	Manual mode (Area-based : Sea)/Support
Video Quality Adjustment	H.265/H.264, MJPEG : Target bitrate level control
Bitrate Control Method	H.265/H.264 : CBR or VBR, MJPEG : VBR
Streaming Capability	Multiple streaming (Up to 10 profiles)
Audio In	Line in, Supply voltage : 2.5V DC(4mA), Input impedance : approx. 2K Ohm
Audio Out	Line out (3.5mm stereo mini jack)
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 (2-way)
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
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
Max. User Access	15 users at unicast mode SD/SDHC/SDXC (up to 128GB) - 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)
Storage	NAS (Network Attached Storage), Local PC for instant recording (Plug-in viewer only)
Application Programming Interface	ONVIF profile S/G SUNAPI (HTTP API), SVPN, Wisenet Open Platform
Webpage Language	English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Swedish, Portuguese, Czech, Polish, Turkish, 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, Mozilla Firefox 43, Apple Safari 9 * Mac OS X only Plug-in Webviewer - Supported Browser : MS Explore 11, Mozilla Firefox 43, Apple Safari 9 * Mac OS X only
Central Management Software	SmartViewer, SSM
<b>ENVIRONMENTAL</b>	
Operating Temperature / Humidity	-40°C ~ +55°C (-40°F ~ +131°F) / Less than 90% RH * Start up should be done at above -35°C (-31°F)
Storage Temperature / Humidity	-40°C ~ +60°C (-40°F ~ +140°F) / Less than 90% RH
Ingress Protection / Vandal Resistance	IP66 / IK10
<b>ELECTRICAL</b>	
Input Voltage / Current	PoE+ (IEEE802.3at) / 12V DC
Power Consumption	Max. 25.5W (PoE+, Heater On), Max 21.0W (DC12V, Heater On)
<b>MECHANICAL</b>	
Color / Material	Ivory / Aluminum
Dimensions (WxH)	Ø199.0 x 143.5mm (Ø7.83" x 5.65")
Weight	2.03Kg (4.5 lb)

\* The latest product information / specification can be found at [hanwha-security.com](http://hanwha-security.com)