

Network

PNM-C9022RV

8MP IR Panoramic Camera

Key Features

- Max. 8MP panoramic stitching image
- IR viewable length Maximum 20m (65.6ft), WiseIR
- H.265/H.264/MJPEG Max. 20fps
- H.265, H.264, MJPEG codec
- Day & Night (ICR), extremeWDR (120 dB)
- Hard-coated dome bubble
- WiseNR II (Based on AI engine), WiseStreamIII (Based on AI engine)
- Analytics events based on AI engine : Object classification(Person/Vehicle)
- Analytics events : Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Virtual area(Appear/Disappear)
- IP66, IK10, NEMA 250 type 4X

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Specifications

Video

Imaging Device	Size	1/2.8"
	Type	CMOS
Resolution		5120x1568, 3648x1152, 2560x784, 1280x392
Max. Framerate	H.265/H.264	20fps/20fps(60Hz/50Hz)
	MJPEG	20fps
Min. Illumination (Lux)	Color(1/30sec, 30IRE)	0.1
	BW(1/30sec, 30IRE)	0.01
Video Out		USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.

Lens

Focal Length (mm)		2.8
Zoom Ratio	Optical	4x
Max Aperture Ratio (F number)	Wide	2.0
Angular Field of View	Horizontal	209°
	Vertical	60°
Min. Object Distance		5m(16.4ft)
Focus Control		Fixed
Lens Type		Fixed iris

Pan / Tilt / Rotate

Pan / Tilt / Rotate Range	Pan	0°~360°
	Tilt	0°~65°

Operational

Day & Night	Auto(ICR)
Backlight Compensation	BLC, WDR, SSDR
Wide Dynamic Range (dB)	120
Digital Noise Reduction	WiseNR II (Based on AI engine), SSNR V

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Operational

Motion Detection	Quantity	8ea
	Shape	8point Polygonal zones
Privacy Masking	Quantity	10ea
	Shape	Rectangular zones
	Color / Option	Gray, Green, Red, Blue, Black, White
Gain Control		Low, Middle, High
White Balance		ATW, AWC, Manual, Indoor, Outdoor
Electronic Shutter	Mode	Minimum, Maximum, Anti flicker, Prefer shutter control(Based on AI engine)
	Speed Range	1/5~1/12,000sec
Digital PTZ		Support
Video Rotation		Flip, Mirror
Alarm Interface	In/Out	2 configurable I/O ports
Alarm Triggers		Analytics, Network disconnect, Alarm input, App event, Time schedule
Alarm Events When Alarm Trigger Occurred		File upload(image): e-mail/FTP, Notification: e-mail, Recording: SD/SDHC/SDXC or NAS recording at event triggers,Alarm output, Handover: PTZ preset,send message by HTTP/HTTPS/TCP,Audio clip playback
Audio In		Selectable(mic in/line in)
Audio Out		Line out
Light Type		IR LED
Light Viewable Length	IR	WiseIR 20m(65.62ft) 4 individual zones with Automatic/Manual level adjustment
IR Wavelength		850nm

Analytics

Classified Object Type		Person, Vehicle
Thumbnail		BestShot
Analytics Events	Based on AI Engine	Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit)
	Normal	Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Virtual area(Appear/Disappear)

Network

Ethernet	Metal shielded RJ-45(10/100/1000BASE-T)
Video Compression	H.265: Main, H.264: Main/High,MJPEG
Audio Compression	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
Smart Codec	Manual, WiseStreamIII
Bitrate Control	H.265/H.264: CBR or VBR, MJPEG: VBR

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Network

Streaming	Unicast	Up to 20 users
	Multicast	Support
	Multiple Streaming	Up to 3 profiles
Protocol		IPv4, IPv6, TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, FTP, SMTP, ICMP, IGMPv2, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, UPnP, Bonjour, LLDP, SRTP(TCP, UDP Unicast)
Application Programming Interface	ONVIF	S, G, T, M
	Others	SUNAPI(HTTP API), Hanwha Vision Open Platform
Direct Cloud Connection		Optional (needs gateway)

Security

OS / Firmware Protect	Encrypted firmware, Secure boot, Signed firmware
User authentication	Digest authentication, Prevent brute-force attack
Network authentication	IEEE 802.1X(EAP-TLS, EAP-LEAP, EAP-PEAP, MSCHAPv2)
Secure Communication	HTTPS, WSS(WebSocket Secure), SRTP
Access Control	IP-based access control
Data Protect	Encryption credentials, Encrypt compress for live recording file export
Audit	Access / System / Event Log management
Device ID	Device certificate(Hanwha Vision Root CA)
Secure Storage	TPM(Trusted platform module), SDcard partition encrypt(AES-256)
Security Certificate	TPM 2.0 with FIPS 140-2 level2

General

Memory	RAM	4GB
	Flash	512MB
Edge Storage	Micro SD/SDHC/SDXC	Max. 512GB x 2slot(Total 1TB)
Edge Storage(OnCloud)	Micro SD/SDHC/SDXC	Max. 1TB x 2slots (Total 2TB) *Hanwha Vision branded microSD cards have been certified and recommended for OnCloud edge recording.

Environmental & Electrical

Operating Condition	Temperature	-40°C~+55°C(-40°F~+131°F)
	Humidity	0~95% RH(non-condensing)
Storage Condition	Temperature	-50°C~+60°C(-58°F~+140°F)
	Humidity	0~90% RH(non-condensing)
EPA(Effective Projected Area)		0.029m²
Input Voltage		PoE+(IEEE802.3at, Class4), 12VDC
Power Consumption	PoE	Max. 24.5W, typical 11.3W
	12VDC	Max. 22W, typical 10.4W
Power Redundance Failover		Support

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Mechanical

Color	White
Material	Aluminum
RAL Code	RAL9003
Product Dimensions	ø253x170mm(9.96x6.69")
Product Weight	2,900g(6.39lb)
Compatible Conduit Hole	19.1mm(3/4")(M25)
Compatible Gang Box	Single, Double, 4" Octagon, Square

Certifications & Standards

EMC	FCC 47 CFR 15 Subpart B Class A, ICES-3(A)/NMB-3(A), CE/UKCA - EN55032 Class A, EN 50130-4, EN 61000-3-2, EN 61000-3-3, VCCI CISPR 32 Class A, RCM AS-NZS CISPR 32 Class A, KS C 9832 Class A, KS C 9835
Safety	UL 62368-1, CAN/CSA C22.2 NO. 62368-1, IEC 62471
Environment	IEC/EN 63000, IEC 60529 IP66, IEC 62262 IK10, NEMA 250 type 4X

DORI (EN62676-4 standard)

Detect (25PPM/ 8PPF)	Wide	52.2m(171.25ft)
Observe (63PPM/ 19PPF)	Wide	20.9m(68.50ft)
Recognize (125PPM/ 38PPF)	Wide	10.4m(34.25ft)
Identify (250PPM/ 76PPF)	Wide	5.2m(17.13ft)

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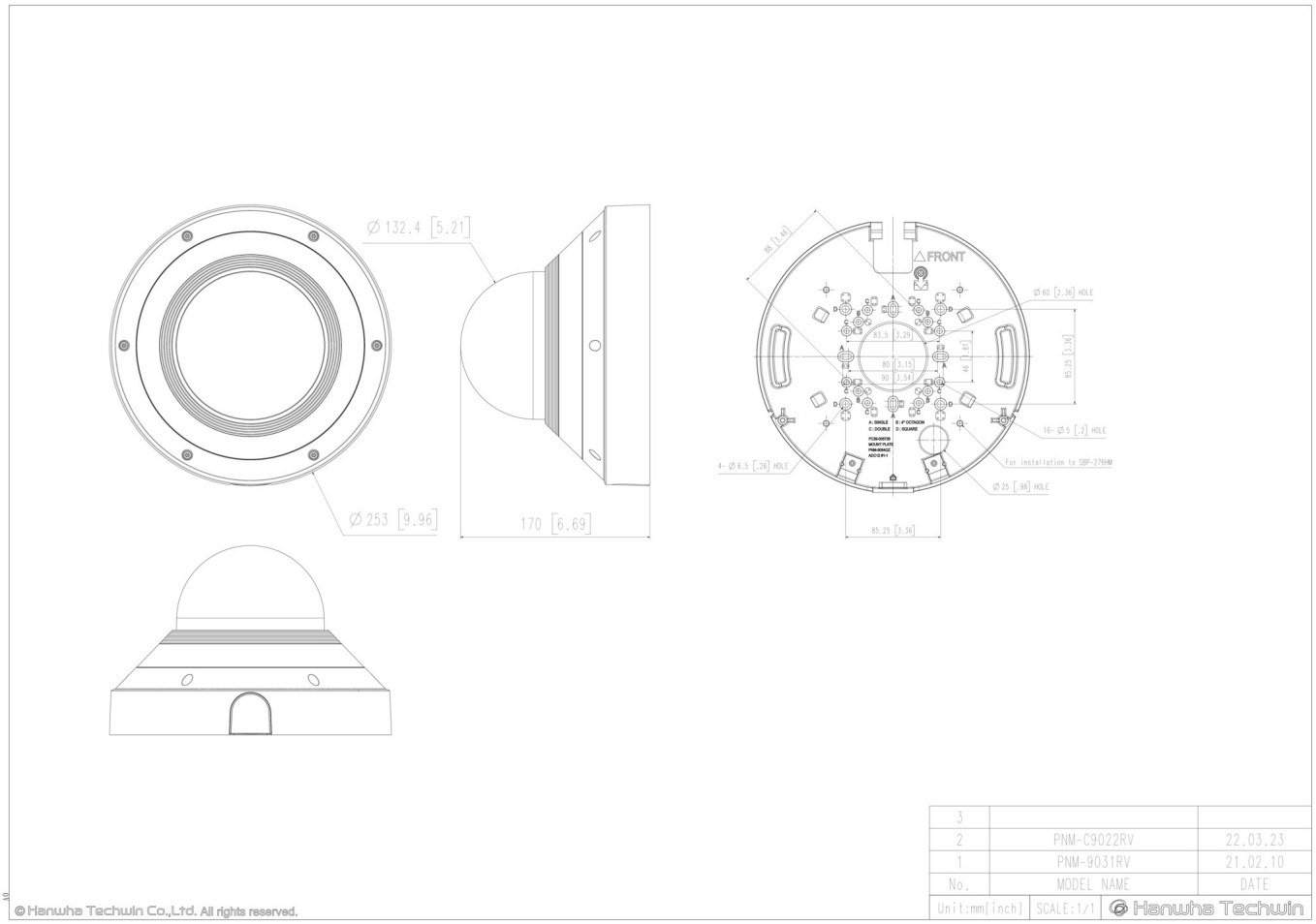
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CAD

Unit: mm [inch]



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