



Key Features

- 4K resolution
- 25X optical zoom 5mm ~ 125mm
- -20° tilt look-up capability to see above the horizon
- Spin dry for water removal
- 360° endless pan
- Triple codec H.265/H.264/MJPEG
- WiseStream III technology
- Extreme WDR
- Azimuth display (Cardinal and intermediate directions)
- AI-based Object Auto tracking (Person, Vehicle), target lock tracking, Intelligent video analytics
- Analytics events based on AI engine: Object detection (Person/Face/Vehicle/License plate), IVA (Virtual line/Area, Enter/Exit, Loitering, direction, intrusion), Analytics events: Defocus detection, Motion detection, Tampering, Fog detection, Audio detection, Sound classification (with NW I/O box), Object auto-tracking (Person/Vehicle), Target lock track
- True D/N
- Dual SD card slots
- DIS with Built-in Gyro sensor
- PoE+
- IP66, IK10, NEMA4X, NEMA TS-2 2.2.8 (Vibration) and 2.2.9 (Shock)
- Optional SPM-4210 Network I/O box for alarm and audio I/O
- TPM 2.0 with FIPS 140-2 level 2

Specifications

Video	
Imaging Device	1/2.8" CMOS
Resolution	3840x2160, 2592x1944, 2592x1464, 1920x1080, 1600x1200, 1280x1024, 1280x960, 1280x720, 1024x768, 800x600, 800x448, 720x576, 720x480, 640x480, 640x360, 320x240
Max. Framerate	H.265/H.264: Max. 30fps/25fps(60Hz/50Hz) MJPEG: Max. 30fps/25fps(60Hz/50Hz) (@8MP Max. 5fps)
Min. Illumination	Color: 0.1Lux(F1.6, 1/30sec) BW: 0.01Lux(F1.6, 1/30sec)
Lens	
Focal Length (Zoom Ratio)	5~125mm(25x) zoom (digital 32x, total 800x zoom)
Max. Aperture Ratio	F1.6(Wide)~F3.73(Tele)
Angular Field of View	H: 57.42°(Wide)~2.71°(Tele) / V: 33.54°(Wide)~1.55°(Tele)
Min. Object Distance	5m(16.4ft)
Focus Control	Oneshot AF, Focus save
Lens Type	DC auto iris
Pan / Tilt / Rotate	
Pan Range	360° Endless
Pan Speed	Max. 700°/sec, Manual: 0.024°/sec~250°/sec
Tilt Range	110°(-20°~90°)
Tilt Speed	Max. 500°/sec, Manual: 0.024°/sec~250°/sec
Sequence	Preset(300ea), Swing, Group(6ea), Trace, Tour, Auto Run, Schedule
Preset Accuracy	Up to ±0.1°, Pan/Tilt correction
Operational	
Camera Title	Displayed up to 85 characters
Direction Indicator	Support
Day & Night	Auto(ICR)/Color/BW/Schedule
Backlight Compensation	BLC, HLC, WDR, SDR
Wide Dynamic Range	Extreme WDR(120dB)
Digital Noise Reduction	SSNR V
Digital Image Stabilization	Support(built-in gyro sensor)
Defog	Support
Motion Detection	8ea, 8point polygonal zones
Privacy Masking	32ea, Quadrangle Support - Color: Grey/Green/Red/Blue/Black/White - Mosaic
Gain Control	Manual / Max
White Balance	ATW /Narrow ATW /AWC /Manual /Indoor /Outdoor /Mercury /Sodium
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (2~1/12,000sec)
Video Rotation	Flip, Mirror

Analytics	Classified object type : Person/Face/Vehicle/License plate Attributes : Vehicle(Type:car/bus/truck/motorcycle/bicycle) Support DetectionShot Analytics events based on AI engine - Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit) Analytics events - Defocus detection, Motion detection, Tampering, Fog detection, Shock detection, Virtual area(Appear/Disappear) * Audio detection, Sound classification(with NW I/O Box)
Alarm Triggers	Analytics, Network disconnect * Alarm input(with NW I/O Box)
Alarm Events	File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers PTZ Preset Handover * Alarm output(with NW I/O Box)
Water Removal	Support(Spinning dry)
Auto Tracking	Object auto tracking(Person/Vehicle), Target lock tracking
Network	
Ethernet	Metal shielded RJ-45(10/100BASE-T)
Video Compression	H.265/H.264: Main/Baseline/High, MJPEG
Smart Codec	Manual(5ea area), WiseStream II
Video Quality Adjustment	H.264/H.265: Target bitrate level control MJPEG: Target bitrate level control
Bitrate Control	H.264/H.265: CBR or VBR MJPEG: VBR
Streaming	Unicast(20 users) / Multicast (128 user) Multiple streaming(Upto 10 profiles)
Protocol	IPv4, IPv6, TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP,RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour, LLDP, SRTP, NTCIP, MQTT
Application Programming Interface	ONVIF Profile S/G/T SUNAPI(HTTP API) Wisenet open platform
Security	
OS / Firmware Protect	Secure boot, Signed firmware, Firmware encryption
User authentication	Digest Authentication, Prevent brute-force attack
Network authentication	802.1X Authentication(EAP-TLS, EAP-LEAP, EAP-PEAP MSCHAPv2)
Secure Communication	HTTPS, SRTP, WSS(Web socket secure)
Access Control	IP address filtering
Data Protect	Authentication information encryption, ZIP compression encryption
Audit	User Access/System/Event log
Device ID	Device Certificate(Hanwha Techwin Root CA, pre-installed)
Secure Storage	TPM 2.0 with FIPS 140-2 level2
Security Certificate	Secure by default
General	
Webpage Language	English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek
Edge Storage	Micro SD/SDHC/SDXC 2slot 1TB
Memory	4GB RAM, 512MB Flash

Environmental & Electrical

Operating Temperature / Humidity	-40°C~+55°C(-40°F ~ +131°F) / +74°C(+165°F) (MAX) based on NEMA-TS 2(2.2.7) * Start up should be done at above -30°C 0~95% RH(Non-condensing)
Storage Temperature / Humidity	-50°C ~ +60°C(-58°F ~ +140°F) / 0~90% RH
Certification	IP66, IK10, NEMA4X, NEMA-TS 2(2.2.8, 2.2.9)
Input Voltage	PoE+(IEEE802.3at, Class4)
Power Consumption	Typical 24W, Max 25.5W

Mechanical

Color / Material	Body : White / Aluminum Head : Black / Polycarbonate Hard-coated dome
RAL Code	White: RAL9003 / Black: RAL9005
Product Dimensions / Weight	ø158x293.3mm(6.22x11.55") / 3.2Kg(7.05lb)

DORI (EN62676-4 standard)

Detect (25PPM/ 8PPF)	Wide: 140.2m(460.0ft) / Tele: 3246.9m(10652.4ft)
Observe (63PPM/ 19PPF)	Wide: 56.1m(184.0ft) / Tele: 1298.7m(4261.0ft)
Recognize (125PPM/ 38PPF)	Wide: 28.0m(92.0ft) / Tele: 649.4m(2130.5ft)
Identify (250PPM/ 76PPF)	Wide: 14.0m(46.0ft) / Tele: 324.7m(1065.2ft)

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