



## Key Features

- 4.4~9.3mm (2.1x) motorized Varifocal
  - Color: 0.04 Lux (F1.3, 1/30sec, 30IRE), 0 Lux (IR LED on)
  - Maximum 30 fps (H.265/H.264)
  - IR viewable length: 15m (49.21ft), 30m(98.43ft) based on scene
  - 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 (NPU)
    - Object detection
      - Person
      - Face
      - Vehicle
        - car
        - truck
        - bus
        - bicycle
        - motorcycle
        - License plate.
  - Analytics events
    - Defocus detection
    - Motion detection, Tampering
    - Fog detection
    - Audio detection
    - Sound classification
    - Shock detection
    - Appear/Disappear
  - IP66
  - IP67
  - IP6K9K
  - NEMA4X
  - IK10+
- IVA
  - Virtual line
  - Area, Enter
  - Exit
  - Loitering
  - Direction
  - Intrusion)

## Specifications

## Video

|                   |                                                                                                                                                                                     |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Imaging Device    | 1/1.8" progressive CMOS                                                                                                                                                             |
| Resolution        | 3840x2160, 3328x1872, 3072x1728, 2592x1944, 2688x1520, 1920x1080, 1600x1200, 1280x1024, 1280x960, 1280x720, 1024x768, 800x600, 800x448, 720x576, 720x480, 640x480, 640x360, 320x240 |
| Max. Framerate    | H.265/H.264: Max. 30fps/25fps(60Hz/50Hz)<br>MJPEG: Max. 15fps/12fps(60Hz/50Hz)                                                                                                      |
| Min. Illumination | Color: 0.03Lux(F1.3, 1/30sec, 30IRE)<br>BW: 0.003Lux(F1.3, 1/30sec, 30IRE), 0Lux(IR LED on)                                                                                         |

## Lens

|                           |                                                                              |
|---------------------------|------------------------------------------------------------------------------|
| Focal Length (Zoom Ratio) | 4.4~9.3mm(2.1x) motorized varifocal                                          |
| Max. Aperture Ratio       | F1.3(Wide) ~ F2.15(Tele)                                                     |
| Angular Field of View     | H: 113°(Wide)~47°(Tele)<br>V: 58°(Wide)~26°(Tele)<br>D: 138°(Wide)~54°(Tele) |
| Min. Object Distance      | 0.5m(1.64ft)                                                                 |
| Focus Control             | Simple focus, Manual                                                         |
| Lens Type                 | P-iris(IR corrected)                                                         |

## Pan / Tilt / Rotate

|                           |                                                                 |
|---------------------------|-----------------------------------------------------------------|
| Pan / Tilt / Rotate Range | Remote adjustment(Max. 200cycles)<br>0°~350° / 0°~85° / 0°~340° |
|---------------------------|-----------------------------------------------------------------|

## Operational

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Camera Title                | Displayed up to 85 characters                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Day & Night                 | Auto(ICR)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Backlight Compensation      | BLC, HLC, WDR, SSDR                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Wide Dynamic Range          | extremeWDR (120dB)                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Digital Noise Reduction     | WiseNR II (Based on AI engine), SSNR V                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Digital Image Stabilization | Support                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Defog                       | Support                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Motion Detection            | 8ea, 8point Polygonal zones                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Privacy Masking             | 32ea, 4point Quadrangle zones<br>- Color : Gray, Green, Red, Blue, Black, White<br>- Mosaic                                                                                                                                                                                                                                                                                                                                                                                                     |
| Gain Control                | Off / Max Gain / Manual                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| White Balance               | ATW / Narrow ATW / AWC / Manual / Indoor / Outdoor                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| LDC                         | Support (Fill/stretch mode)                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Electronic Shutter Speed    | Minimum / Maximum / Prefer / Anti flicker (2~1/12,000sec)<br>Auto Prefer shutter control(Based on AI engine)                                                                                                                                                                                                                                                                                                                                                                                    |
| Video Rotation              | Flip, Mirror, Hallway view(90°/270°)                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Analytics                   | Classified object type : Person/Face/Vehicle/License plate<br>Attributes : Vehicle(Type:car/bus/truck/motorcycle/bicycle)<br>Support DetectionShot<br>Analytics events based on AI engine<br>- Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit)<br>Analytics events<br>- Defocus detection, Motion detection, Tampering, Fog detection, Virtual area(Appear/Disappear)<br><br>* Audio detection, Sound classification(with NW I/O box SPM-4210) |

|                           |                                                                                                                                                                                                                                                                    |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Alarm Triggers</b>     | Analytics, Network disconnect, App event, Time schedule<br>* Alarm input(with NW I/O Box SPM-4210)                                                                                                                                                                 |
| <b>Alarm Events</b>       | When alarm trigger occurred<br>- File upload(image) : e-mail/FTP<br>- Notification : e-mail<br>- Recording : SD/SDHC/SDXC or NAS recording at event triggers<br>- Alarm output(with NW I/O box SPM-4210)<br>- Handover(PTZ preset, Send message by HTTP/HTTPS/TCP) |
| <b>IR Viewable Length</b> | 15m(49.21ft)<br>30m(98.43ft) based on scene                                                                                                                                                                                                                        |

## Network

|                                          |                                                                                                                                                                                                                                                                                                                                                           |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Ethernet</b>                          | Metal shielded RJ-45(10/100/1000BASE-T)                                                                                                                                                                                                                                                                                                                   |
| <b>Video Compression</b>                 | H.265/H.264: Main/High, MJPEG                                                                                                                                                                                                                                                                                                                             |
| <b>Smart Codec</b>                       | Manual(5ea area), WiseStream II, WiseStreamIII(Based on AI engine)                                                                                                                                                                                                                                                                                        |
| <b>Bitrate Control</b>                   | H.264/H.265: CBR or VBR<br>MJPEG: VBR                                                                                                                                                                                                                                                                                                                     |
| <b>Streaming</b>                         | Unicast(20 users) / Multicast<br>Multiple streaming(Up to 10 profiles, 3 virtual channel support)                                                                                                                                                                                                                                                         |
| <b>Protocol</b>                          | 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, UPnP, Bonjour, LLDP, SRTP (TCP, UDP Unicast)                                                                                                                                                |
| <b>Security</b>                          | TPM 2.0 (FIPS 140-2 level 2)<br>HTTPS(SSL) Login Authentication<br>Digest Login Authentication<br>IP Address Filtering<br>User access log<br>802.1X Authentication(EAP-TLS, EAP-LEAP, EAP-PEAP MSCHAPv2)<br>Device Certificate(Hanwha Techwin Root CA, pre-installed)<br>Secure by default certificate<br>Secure OS/Boot/Storage, Verify firmware forgery |
| <b>Application Programming Interface</b> | ONVIF Profile S/G/T/M<br>SUNAPI(HTTP API)<br>Wisenet open platform                                                                                                                                                                                                                                                                                        |

## General

|                         |                                                                                                                                            |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Webpage Language</b> | English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Portuguese, Czech, Polish, Turkish, Dutch, Greek, Hungarian |
| <b>Edge Storage</b>     | Micro SD/SDHC/SDXC 2slot Max. 1TB (512GB * 2)                                                                                              |
| <b>Memory</b>           | 4GB RAM, 512MB Flash                                                                                                                       |

## Environmental & Electrical

|                                         |                                                                                                                                                                                   |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Operating Temperature / Humidity</b> | -50°C~+55°C(-58°F ~ +131°F)<br>+74°C(165°F)(Max) based on NEMA TS-2(2.2.7)<br>* Start up should be done at above -30°C<br>0~95%RH(non-condensing)<br>Humidity control /w AIR vent |
| <b>Storage Temperature / Humidity</b>   | -50°C ~ +60°C(-58°F ~ +140°F) / Less than 90% RH                                                                                                                                  |
| <b>Certification</b>                    | IP66/IP67/IP6K9K, NEMA4X, IK10+                                                                                                                                                   |
| <b>Input Voltage</b>                    | PoE+(IEEE802.3at type 2, Class4)                                                                                                                                                  |
| <b>Power Consumption</b>                | PoE+: Max 22.5W, typical 12.1W                                                                                                                                                    |

## Mechanical

|                                          |                                                            |
|------------------------------------------|------------------------------------------------------------|
| <b>Color / Material</b>                  | White / Aluminum<br>Hard-coated dome bubble                |
| <b>RAL Code</b>                          | RAL9003                                                    |
| <b>Product Dimensions / Weight</b>       | Ø180x135mm(7.09x5.31"), 2000g(4.41 lb)                     |
| <b>Compatible Conduit hole / Gangbox</b> | 19.1mm(3/4")(M25)<br>single, double, 4" octagon, 4" square |
| <b>Hanging Mount (Dome)</b>              | SBP-187HMW                                                 |

## Certifications & Standards

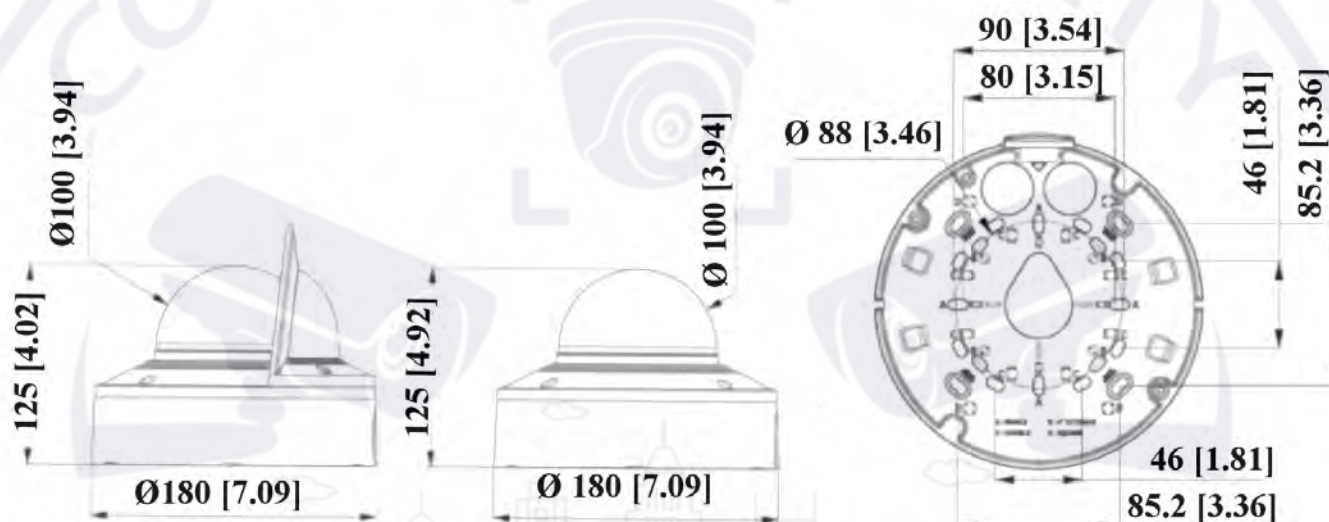
|             |                                                                                                                                                                                                                                      |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EMC         | EN 50121-4<br>FCC 47 CFR 15 Subpart B Class A<br>ICES-3(A)/NMB-3(A)<br>CE/UKCA<br>- EN 55032 Class A, EN 50130-4, EN 61000-3-2, EN 61000-3-3<br>VCCI CISPR 32 Class A<br>RCM AS/NZS CISPR 32 Class A<br>KS C 9832 Class A, KS C 9835 |
| Safety      | UL 62368-1, CAN/CSA C22.2 NO. 62368-1<br>IEC 62471                                                                                                                                                                                   |
| Environment | EN IEC 63000<br>IEC 60529 IP66/IP67, ISO 20653 IP6K9K, IEC 62262 IK10+<br>NEMA 250 type 4X                                                                                                                                           |

## DORI (EN62676-4 standard)

|                           |                                                |
|---------------------------|------------------------------------------------|
| Detect (25PPM/ 8PPF)      | Wide: 51.7m(166.77ft) / Tele: 176.6m(579.49ft) |
| Observe (63PPM/ 19PPF)    | Wide: 20.3m(66.71ft) / Tele: 70.7m(231.80ft)   |
| Recognize (125PPM/ 38PPF) | Wide: 10.2m(33.35ft) / Tele: 35.3m(115.90ft)   |
| Identify (250PPM/ 76PPF)  | Wide: 5.1m(16.68ft) / Tele: 17.7m(57.95ft)     |

## Dimensions

Unit: mm [inch]



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