





Bi-Spectrum AI IR Thermal Camera



**Key Features** 

- Bi-spectrum monitoring with 2MP visible & QVGA thermal
- AI based Object classification with visible channel only (person)
- Remote Temperature Monitoring within -20 ~ 130°C range
- 6 of quadrangle ROI areas for temperature monitoring
- Compact and Light-weight for Indoor purpose











### **Specifications**

| Video                       | Thermal                                                                                                                                                                                  | Visible                                                                                                           |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Imaging Device              | Uncooled micro bolometer (320x240)                                                                                                                                                       | 1/2.8" 2MP CMOS                                                                                                   |
| Resolution                  | 1280x960, 640x480, 320x240(Original)                                                                                                                                                     | 1920x1080, 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. 30fps/25fps(60Hz/50Hz)                                                                                                           |                                                                                                                   |
| NETD                        | <50mK                                                                                                                                                                                    |                                                                                                                   |
| Pixel size                  | 12µm                                                                                                                                                                                     |                                                                                                                   |
| Min. Illumination           |                                                                                                                                                                                          | Color: 0.05 lux(F1.6, 1/30sec)<br>B/W: 0.005 lux(F1.6, 1/30sec)                                                   |
| Video Out                   | CVBS: 1.0 Vp-p / $75\Omega$ composite, $720x480(N)$ , $720x576(P)$ for installation USB : Micro USB Type B, $1280x720$ for installation                                                  |                                                                                                                   |
| Lens                        |                                                                                                                                                                                          |                                                                                                                   |
| Focal Length (Zoom Ratio)   | 4.7mm fixed focal                                                                                                                                                                        | 4mm fixed focal                                                                                                   |
| Max. Aperture Ratio         | F1.0                                                                                                                                                                                     | F1.6                                                                                                              |
| Angular Field of View       | H: 50.0-, V: 36.4-, D: 65.3-<br>(iFoV: 2.553 mRad )                                                                                                                                      | H: 87.6, V: 46.4°, D: 104.5°                                                                                      |
| Min. Object Distance        | 1m(3.28ft)                                                                                                                                                                               |                                                                                                                   |
| Focus Control               | Fixed                                                                                                                                                                                    | Fixed                                                                                                             |
| Operational                 |                                                                                                                                                                                          |                                                                                                                   |
| Camera Title                | Displayed up to 17 characters                                                                                                                                                            |                                                                                                                   |
| Day & Night                 |                                                                                                                                                                                          | Auto(ICR)                                                                                                         |
| Backlight Compensation      |                                                                                                                                                                                          | BLC, WDR, SSDR                                                                                                    |
| Wide Dynamic Range          |                                                                                                                                                                                          | extremeWDR(150dB)                                                                                                 |
| Digital Noise Reduction     |                                                                                                                                                                                          | SSNR V                                                                                                            |
| Digital Image Stabilization | Support(built-in gyro sensor)                                                                                                                                                            |                                                                                                                   |
| Motion Detection            | 8ea, 8point polygonal zones                                                                                                                                                              |                                                                                                                   |
| Privacy Masking             | 24ea, polygonal zones<br>- Color: Grey/Green/Red/Blue/Black/White<br>- Mosaic                                                                                                            |                                                                                                                   |
| Gain Control                |                                                                                                                                                                                          | Low / Middle / High                                                                                               |
| White Balance               |                                                                                                                                                                                          | ATW / AWC / Manual / Indoor / Outdoor                                                                             |
| LDC                         |                                                                                                                                                                                          | Support                                                                                                           |
| Electronic Shutter Speed    |                                                                                                                                                                                          | Minimum / Maximum / Anti flicker(2~1/12,000sec)                                                                   |
| Video Rotation              | Flip, Mirror                                                                                                                                                                             |                                                                                                                   |
| Analytics                   | Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line, Audio detection,<br>Temperature detection<br>Al based Object detection (person/face, visible channel only) |                                                                                                                   |
| Alarm I/O                   | Input 1ea / Output 2ea                                                                                                                                                                   |                                                                                                                   |
|                             |                                                                                                                                                                                          |                                                                                                                   |

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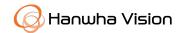
| Alarm Triggers                      | Analytics, Network disconnect, Alarm input, MQTT subscription                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 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 - MQTT: publication                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| Audio In                            | Selectable(mic in/line in)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| Audio Out                           | Line out                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |
| Color Palettes                      | Whitehot, Blackhot, Rainbow, Rainbow2, Sepia,<br>Red, Iron, Custom                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |
| Radiometry                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
| Temperature Detect Range            | -20~+130°C(-4-F~+266-F)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |
| Temperature Accuracy                | ±5-C(≤100-C), ±20%(>100-C)  * This temperature accuracy is based on testing the minimum object distance (MoD) at room temperature as a reference value.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |
| Temperature Detection               | 6 Quadrangle ROI zones, whole FoV area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| Additional                          | Hybrid palettes, Spot temperature reading                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |
| Network                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
| Ethernet                            | Metal shielded RJ-45(10/100BASE-T), RJ-45(10/100BASE-T)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |
| Video Compression                   | H.265/H.264: Main/Baseline/High, MJPEG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| Audio Compression                   | G.711 u-law /G.726 Selectable<br>G.726(ADPCM) 8KHz, G.711 8KHz<br>G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps<br>AAC-LC: 48Kbps at 16KHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |
| Smart Codec                         | WiseStream II Manual(5ea area), WiseStream II                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| Bitrate Control                     | H.264/H.265: CBR or VBR<br>MJPEG: VBR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Streaming                           | Unicast(20 users) / Multicast<br>Multiple streaming(Up to 6 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, UPnP, Bonjour, LLDP, SRTP (TCP, UDP Unicast), MQTT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| Application Programming Interface   | ONVIF Profile S/T/M<br>SUNAPI(HTTP API)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |
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| Security Security                   | Encoded Electronic Control Charles and Cha |  |
| OS / Firmware Protect               | Encrypted Firmware, Secure boot, Signed Firmware                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| User authentication                 | Digest Authentication                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Network authentication              | IEEE 802.1X(EAP-TLS, EAP-LEAP, EAP-PEAP, MSCHAPv2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |
| Secure Communication                | HTTPS, WSS(WebSocket Secure)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| Access Control                      | IP-based access control                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |
| Data Protect                        | Encryption Credentials, Encrypt compress for live recording file                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| Audit                               | Access / System / Event Log management                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| Device ID                           | Device Certificate (Hanwha Private Root CA)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| Secure Storage Security Certificate | HTPM(Hanwha Trusted Platform Module), SDcard partition encrypt  TPM with FIPS 140-2 level 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
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| 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 1slot 256GB ge without notice. The latest product information / specification can be found at HanwhaVision.com                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |

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| Memory                           | 4608MB RAM, 512MB Flash                                                                                                                                                                                                                               |  |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|                                  |                                                                                                                                                                                                                                                       |  |
| Environmental & Electrical       |                                                                                                                                                                                                                                                       |  |
| Operating Temperature / Humidity | -10°C~+55°C(+14°F~+131°F) / Less than 95% RH                                                                                                                                                                                                          |  |
| Storage Temperature / Humidity   | -30°C~+60°C(-22°F~+140°F) / Less than 95% RH                                                                                                                                                                                                          |  |
| Input Voltage                    | PoE+(IEEE802.3at, Class4), 12VDC                                                                                                                                                                                                                      |  |
| Power Consumption                | PoE+: Max. 17.0W, typical 12.5W<br>12VDC: Max. 14.5W, typical 11.0W                                                                                                                                                                                   |  |
| Mechanical                       |                                                                                                                                                                                                                                                       |  |
| Color / Material                 | White / Aluminum                                                                                                                                                                                                                                      |  |
| RAL Code                         | RAL9003                                                                                                                                                                                                                                               |  |
| Product Dimensions / Weight      | 135(W)x75(H)x188.5(D)mm, (5.31x2.95x7.42"), 1.7kg(3.77lb)                                                                                                                                                                                             |  |
| Ceiling Mount (Assy)             | SBP-142CMW                                                                                                                                                                                                                                            |  |
| Wall Mount                       | SBP-142WMW                                                                                                                                                                                                                                            |  |
| Certifications & Standards       |                                                                                                                                                                                                                                                       |  |
| EMC                              | EN 55032:2015/A11:2020 CLASS A EN 50130-4:2011/A1:2014 CLASS A EN 61000-3-2:2014 CLASS A EN 61000-3-3:2013 CLASS A 47 CFR Part 15, Subpart B ANSI C63.4 2014 CLASS A IC Regulation ICES 003: 2016 ANSI C63.4 2014 CLASS A VCCI CISPR 32: 2016 CLASS A |  |
| Safety                           | UL/CSA 62368-1<br>KC 62368-1                                                                                                                                                                                                                          |  |
| Environment                      | IEC/EN 63000                                                                                                                                                                                                                                          |  |



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CAD Unit:mm [inch]

