



Network

Bullet

TNO-C3012TRA

QVGA Radiometric AI Thermal Camera



Key Features

- AI based object classification (person, vehicle)
- High performance detector applied (17 μ m, NETD 30mK)
- QVGA resolution (384x288) with wide angle (FoV 90°)
- Wide temperature monitoring range -40°~ 550°C (-40°F ~ 1,022°F)
- Smaller and light camera (Φ 147 * 233.5mm, 1.7KG) for easy and simple installation
- Maximum 8fps @ all resolutions (H.265/H.264/MJPEG)

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QVGA Radiometric AI Thermal Camera



Specifications

Video

| | |
|----------------|---|
| Imaging Device | Uncooled micro bolometer (Spectral range: 8~14 μ m) |
| Resolution | 768x576, 384x288(original) |
| Max. Framerate | H.265/H.264/MJPEG: Max. 8fps |
| NETD | <30mK |
| Pixel Size | 17 μ m |
| Video Out | USB: Micro USB Type B, 768x576 for installation |

Lens

| | |
|---------------------------|--|
| Focal Length (Zoom Ratio) | 4.4mm fixed focal |
| Max. Aperture Ratio | F1.0 |
| Angular Field of View | H: 90° / V: 65.3° / D: 118.6° (iFoV: 3.9 mRad) |
| Min. Object Distance | 0.6m |
| Focus Control | fixed |

Pan / Tilt / Rotate

| | |
|---------------------------|----------------------------|
| Pan / Tilt / Rotate Range | 0°~350° / 0°~90° / 0°~350° |
|---------------------------|----------------------------|

Operational

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|-----------------------|--|
| Camera Title | Displayed up to 85 characters |
| Motion Detection | 8ea, 8point polygonal zones |
| Privacy Masking | 6ea, Rectangle zones - color : Grey, Black, White |
| Video Rotation | Flip, Mirror, Hallway view(90-/270-) |
| Analytics | Classified object type: Person/Vehicle Support BestShot Analytics events based on AI engine - WiseMD, Object detection, Virtual line*(Crossing/Direction), Virtual area*(Loitering/Intrusion/Enter/Exit) Analytics events - Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Appear/Disappear) |
| Business Intelligence | Support (Temperature data) |
| Serial Interface | RS-485 |
| Alarm I/O | 2 configurable I/O ports |
| Alarm Triggers | Analytics, Network disconnect, Alarm input, Time schedule, 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 |

Design and specifications are subject to change without notice. The latest product information / specification can be found at HanwhaVision.com

Hanwha Vision is formerly known as Hanwha Techwin.

| | |
|---------------------------------------|--|
| Audio In | Selectable(mic in/line in) |
| Audio Out | Line out |
| Color Palettes | Whitehot, Blackhot, Rainbow, Rainbow2, Sepia, Red, Iron, Custom, Hybrid palettes |
| Radiometry | |
| Temperature Detect Range | -40°C~550°C(-40°F~1022°F) |
| Temperature Accuracy | below 150°C: up to $\pm 2^{\circ}\text{C}$ Above 150°C: up to $\pm 15\%$ * based on measurements in a room temperature environment. Auto Temperature mode |
| Temperature Detection | 10 Polygonal ROI zones, whole FoV area |
| Additional | Hybrid palettes, Spot temperature reading (ROI condition monitoring: Above/ Below/ Increase/ Decrease) |
| Network | |
| Ethernet | Metal shielded RJ-45(10/100/1000BASE-T) |
| Video Compression | H.265/H.264: Main/Baseline/High, MJPEG |
| Audio Compression | G.711 u-law / G.726 Selectable G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps AAC-LC: 48Kbps at 16KHz |
| Smart Codec | Manual(5ea area), WiseStream II , WiseStreamIII(Based on AI engine) |
| Bitrate Control | H.264/H.265: CBR or VBR MJPEG: VBR |
| Streaming | Unicast(20 users) / Multicast Multiple streaming(Up to 10 profiles) |
| Protocol | IPv4, IPv6, TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, UPnP, Bonjour, LLDP, CDP, SRTP (TCP, UDP Unicast), MQTT |
| Application Programming Interface | ONVIF Profile S/G/T/M SUNAPI(HTTP API) Wisenet open platform |
| Security | |
| OS / Firmware Protect | Secure boot, Signed firmware, Firmware encryption |
| User authentication | Digest Authentication, Prevent brute-force attack |
| Network authentication | 802.1X Authentication(EAP-TLS, EAP-LEAP, EAP-PEAP MSCHAPv2) |
| Secure Communication | HTTPS, SRTP, WSS(Websocket secure) |
| Access Control | Access control based on IP address |
| Data Protect | Authentication information encryption, ZIP compression encryption |
| Audit | User Access/System/Event log management |
| Device ID | Device Certificate(Hanwha Private Root CA) |
| Secure Storage | TPM(Trusted platform module), SDcard partition encrypt |
| Security Certificate | TPM with FIPS 140-2 level 2 |
| 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 Max. 1TB |
| Memory | 2GB RAM, 512MB Flash |
| Environmental & Electrical | |
| Operating Temperature / Humidity | -40°C~+60°C(-40°F~+140°F) / 0~95% RH(non-condensing) |
| Storage Temperature / Humidity | -50°C~+60°C(-58°F~+140°F) / Less than 95% RH |

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| | |
|-------------------|---|
| Certification | IP66, IK10, NEMA4X |
| Input Voltage | PoE(IEEE802.3af, Class3), 12VDC |
| Power Consumption | PoE: Max 10.8W, typical 9W 12VDC: Max 9.4W, typical 7.7W |

Mechanical

| | |
|-----------------------------------|--|
| Color / Material | White / Aluminum + PC |
| RAL Code | RAL9003 |
| Product Dimensions / Weight | ø93.8x233.5mm(ø3.69x9.19"), 1700g(3.75 lb) |
| Compatible Conduit hole / Gangbox | Conduit hole : SBP-060BA(Sold seperately) Gangbox : single, double, 4" octagon, 4" square |
| Backbox | Included |
| Pole Mount | SBD-180PMW, SBP-300PMW2 |
| Corner Mount | SBP-300KMW1 |
| Cabinet | SBP-300NBW |
| Conduit Adaptor | SBP-060BA |

Certifications & Standards

| | |
|-------------|---|
| EMC | EN 55032:2015/A11:2020 EN 50130-4:2011/A1:2014 EN 61000-3-2:2014 EN 61000-3-3:2013 FCC - 47 CFR Part 15, Subpart B Class A FCC - IC Regulation ICES 003 Issue 7 RCM - EN IEC 63000:2018 Class A VCCI - EN IEC 63000:2018 Class A KS - KS C 9832:2023 Class A KS - KS C 9835:2019 Class A |
| Safety | UL/CSA 62368-1 |
| Environment | ROHS - EN IEC 63000:2018 IK10 - KS C IEC 62262: 2005 IP66 - IEC 60529:1989 +A1:1999+A2:2013 NEMA4X - NEMA 250-2014 |

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CAD

Unit:mm [inch]

