

Network Bullet

# TNO-A45080R

## Ultra High Resolution 45MP T AI Camera

## Key Features

- 45MP Image Resolution
- 12~51mm Focal Length
- 4.2x Optical Zoom
- AI Analytics Person and Vehicle Detection
- Compact & Lightweight (13.8" × 4.7", 8.93 lbs)
- Dual Model Lineup (TNO-A45080R: 12-51mm, TNO-A45090R: 50-150mm)
- Low Ligiht Performance with 1/1.4" Sensor
- IR Distance Up to 200m
- Flexible Power & Connectivity Options(PoE+, PoE, 12V DC, SFP)
- Multi-View (1 Original + Up to 4 ROI Channels)

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# TNO-A45080R

Ultra High Resolution 45MP T AI Camera



## Specifications

### Video

| | | |
|---|---|---|
| **Imaging Device** | Size | Diagonal 23.1mm 1.4" |
| | Type | CMOS |
| **Resolution Mode** | 45MP | 8192x5552, 7792x5280, 7392x5008, 6752x4576, 5936x4024, 4512x3056, 4096x2776, 3456x2344, 2880x1952, 2240x1520, 1440x976, 1216x824, 800x544, 640x436 |
| | 8K | 7680x4320, 7424x4176, 7680x3840, 6400x4800, 6144x3456, 5120x2880, 4096x3072, 3840x2160, 3200x2400, 3328x1872, 2688x1512, 2560x1440, 1920x1080, 1600x1200, 640x480 |
| | Virtual Channel (Supports 1 to 4 Channels) | 3840x2160, 3328x1872, 3200x2400, 2688x1512, 2560x1440, 1920x1080,1600x1200 |
| **Max. Framerate** | H.265/H.264 | 15fps@45MP(45MP mode) / 25fps@33MP(8K mode) |
| | MJPEG | 25fps/1fps@45MP(45MP mode) / 1fps@33MP(8K mode) |
| **Min. Illumination (Lux)** | Color(1/30sec, 30IRE) | 0.08 |
| | BW(1/30sec, 30IRE) | 0.008 |
| **Video Out** | | USB: USB Type C. Preview and installation ONLY. Requires WiFi dongle. |

### Lens

| | | |
|---|---|---|
| **Focal Length (mm)** | | 12-51 |
| **Zoom Ratio** | Optical | 4.2 |
| **Max Aperture Ratio (F number)** | Wide | 1.6 |
| | Tele | 3.8 |
| **Angular Field of View** | Horizontal | 89.6°(Wide)~21.1°(Tele) |
| | Vertical | 61.1°(Wide)~14.2°(Tele) |
| | Diagonal | 107.3°(Wide)~25.4°(Tele) |
| **Min. Object Distance** | | 1.8m(Wide)~2.2m(Tele) |
| **Focus Control** | | Simple focus |
| **Lens Type** | | P iris(IR corrected) |

### Pan / Tilt / Rotate

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

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## Operational

| | | |
|---|---|---|
| **Day & Night** | | Auto(ICR) |
| **Backlight Compensation** | | BLC, SSDR |
| **Digital Noise Reduction** | | WiseNR II (Based on AI engine), SSNR V |
| **Digital Image Stabilization** | | Support |
| **Defog** | | Support |
| **Motion Detection** | Quantity | 8ea |
| | Shape | 8point Polygonal zones |
| **Privacy Masking** | Quantity | 4ea |
| | Shape | Polygonal zones |
| | Color / Option | Gray, Green, Red, Blue, Black, White, Mosaic |
| **Gain Control** | | Low, Middle, High, Off |
| **White Balance** | | ATW, AWC, Manual, Indoor, Outdoor |
| **LDC** | | Support |
| **Electronic Shutter** | Mode | Minimum, Maximum, Anti flicker, Prefer shutter control(Based on AI engine) |
| | Speed Range | 1/5~1/12,000sec |
| **Digital PTZ** | | Support |
| **Video Rotation** | | Flip, Mirror, Hallway view(90°/270°) |
| **Alarm Interface** | In/Out | 2 configurable I/O ports |
| | Others | Support extra alarm I/O via optional I/O box |
| **Alarm Triggers** | | Analytics, Network disconnect, Alarm input, Time schedule, MQTT subscription, Case tampering, Day/Night, Storage disruption |
| **Alarm Events When Alarm Trigger Occurred** | | File upload(image): e-mail/FTP/SFTP,<br>File upload(video clip): FTP/SFTP,<br>Notification: e-mail,<br>Recording: SD/SDHC/SDXC or NAS recording at event triggers,Alarm output,<br>Handover: PTZ preset,send message by HTTP/HTTPS/TCP,Audio clip playback,<br>MQTT: publication |
| **Audio In** | | Selectable(mic in/line in) |
| **Audio Out** | | Line out |
| **Light Type** | | IR LED |
| **Light Viewable Length** | IR | 80m(262.5ft) |
| **IR Wavelength** | | 850nm |

## Analytics

| | | |
|---|---|---|
| **Classified Object Type** | | Person, Face, Vehicle, License plate |
| **Attributes** | Person | Upper/Lower clothes color, Gender, Bag |
| | Vehicle | Type(car, bus, truck, motorcycle, bicycle), Color |
| | Face | Age, Gender, Face mask, Glasses |
| **Thumbnail** | | BestShot |

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## Analytics

| | | |
|---|---|---|
| **Analytics Events** | Based on AI Engine | Object detection, Virtual line(Crossing/Direction), Motion detection, Virtual area(Loitering/Intrusion/Enter/Exit/Appear/Disappear) |
| | Normal | Defocus detection, Tampering, Audio detection, Shock detection |
| **Business Intelligence** | Based on AI Engine | People counting, Queue management, Heatmap, Vehicle counting, Crowd counting |

## Network

| | | |
|---|---|---|
| **Ethernet** | | Metal shielded RJ-45(10/100/1000BASE-T), SFP |
| **Video Compression** | | H.265: Main,<br>H.264: Main/High,MJPEG |
| **Audio Compression** | | G.711(PCM): 8kHz(64kbps),<br>G.726(ADPCM): 8kHz(16/24/32/40kbps),<br>AAC-LC: 16kHz(48kbps),<br>OPUS: 16kHz(64kbps) |
| **Smart Codec** | | Manual, WiseStream(Based on AI engine) |
| **Bitrate Control** | | H.265/H.264: CBR or VBR,<br>MJPEG: VBR |
| **Streaming** | Unicast | Up to 20 users |
| | Multicast | Support |
| | Multiple Streaming | Up to 3 profiles |
| **Protocol** | | IPv4, IPv6, TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, FTP, SFTP, SMTP, ICMP, IGMPv2, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, UPnP, Bonjour, LLDP, CDP, SRTP(TCP, UDP Unicast), MQTT, Syslog |
| **Application Programming Interface** | ONVIF | S, G, T, M |
| | Others | SUNAPI(HTTP API), Hanwha Vision Open Platform |

## Security

| | |
|---|---|
| **OS / Firmware Protect** | Encrypted firmware, Secure boot, Signed firmware |
| **User authentication** | Digest authentication, Prevent brute-force attack |
| **Network authentication** | IEEE 802.1X(EAP-TLS, EAP-LEAP, EAP-PEAP, MSCHAPv2) |
| **Secure Communication** | HTTPS, WSS(WebSocket Secure), SRTP |
| **Access Control** | IP-based access control, MAC-based access control, Auto logout |
| **Data Protect** | Encryption credentials, Encrypt compress for live recording file export |
| **Audit** | Access / System / Event Log management |
| **Device ID** | Device certificate(Hanwha Vision Root CA) |
| **Secure Storage** | TPM(Trusted platform module), SDcard partition encrypt(AES-256), Secure element |
| **Supply Chain Security** | SBOM |
| **Security Certificate** | Secure element(FIPS 140-3 level3, CC EAL6+), Consumer IoT Security Standard (ETSI EN 303 645) |

## General

| | | |
|---|---|---|
| **Memory** | RAM | 8GB |
| | Flash | 16GB eMMC |



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## General

| | | |
|---|---|---|
| **Edge Storage** | Micro SD/SDHC/SDXC | Max. 1TB x 2slot(Total 2TB) |

## Environmental & Electrical

| | | |
|---|---|---|
| **Operating Condition** | Temperature | -40°C~+55°C(-40°F~+131°F) |
| | Humidity | 0~100% RH(condensing) |
| | Others | Humidity control with AIR vent |
| **Storage Condition** | Temperature | -50°C~+60°C(-58°F~+140°F) |
| | Humidity | 0~95% RH(non-condensing) |
| **Input Voltage** | | PoE+(IEEE802.3at, Class4), PoE++(IEEE802.3bt type3, Class6), 12VDC |
| **Power Consumption** | PoE | PoE++: Max. 39.4W, typical 19.0W<br>PoE+: Max. 23.4W, typical 19.0W |
| | 12VDC | Max. 37.3W, typical 18.4W |
| **WisePower** | | Power mode, Power monitoring |

## Mechanical

| | |
|---|---|
| **Color** | White, Black |
| **Material** | Aluminum, Plastic |
| **RAL Code** | RAL9003 |
| **Product Dimensions** | 120x120x350mm(4.72"x4.72"x13.78") |
| **Product Weight** | 4050g(8.93lb) |
| **Compatible Gang Box** | Single, Double, 4" Octagon, Square |

## Certifications & Standards

| | |
|---|---|
| **EMC** | FCC 47 CFR 15 Subpart B Class A,CE/UKCA - EN55032 Class A,EN 50130-4,EN 61000-3-2,EN 61000-3-3,KS C 9832 Class A,KS C 9835,IC Regulation ICES-003 Issue 7 Class A,FCC - IC Regulation ICES 003 Issue 7,<br>RCM - EN IEC 63000:2018 Class A,<br>VCCI - EN IEC 63000:2018 Class A |
| **Safety** | UL 62368-1, CAN/CSA C22.2 NO. 62368-1, IEC 62471 |
| **Environment** | IEC/EN 63000, IEC 60529 IP66, IEC 60529 IP67, IEC 62262 IK10, NEMA 250 type 4X, IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-6, IEC 60068-2-14, IEC 60068-2-27, IEC 60068-2-78 |

## AI Detection Distance

| | | |
|---|---|---|
| **Person(1.8m/5.9ft)** | Wide | Up to 67.8m(222.4ft) |
| | Tele | Up to 321.1m(1053.5ft) |
| **Vehicle(1.45m/4.8ft)** | Wide | Up to 87.7m(287.7ft) |
| | Tele | Up to 415.8m(1364.2ft) |

## DORI (EN62676-4 standard)

| | | |
|---|---|---|
| **Detect (25PPM/ 8PPF)** | Wide | 165.0m(541.30ft) |
| | Tele | 879.7m(2886.21ft) |

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## DORI (EN62676-4 standard)

| | | |
|---|---|---|
| **Observe (63PPM/ 19PPF)** | Wide | 66.0m(216.52ft) |
| | Tele | 351.9m(1154.48ft) |
| **Recognize (125PPM/ 38PPF)** | Wide | 33.0m(108.26ft) |
| | Tele | 175.9m(577.24ft) |
| **Identify (250PPM/ 76PPF)** | Wide | 16.5m(54.13ft) |
| | Tele | 88.0m(288.62ft) |

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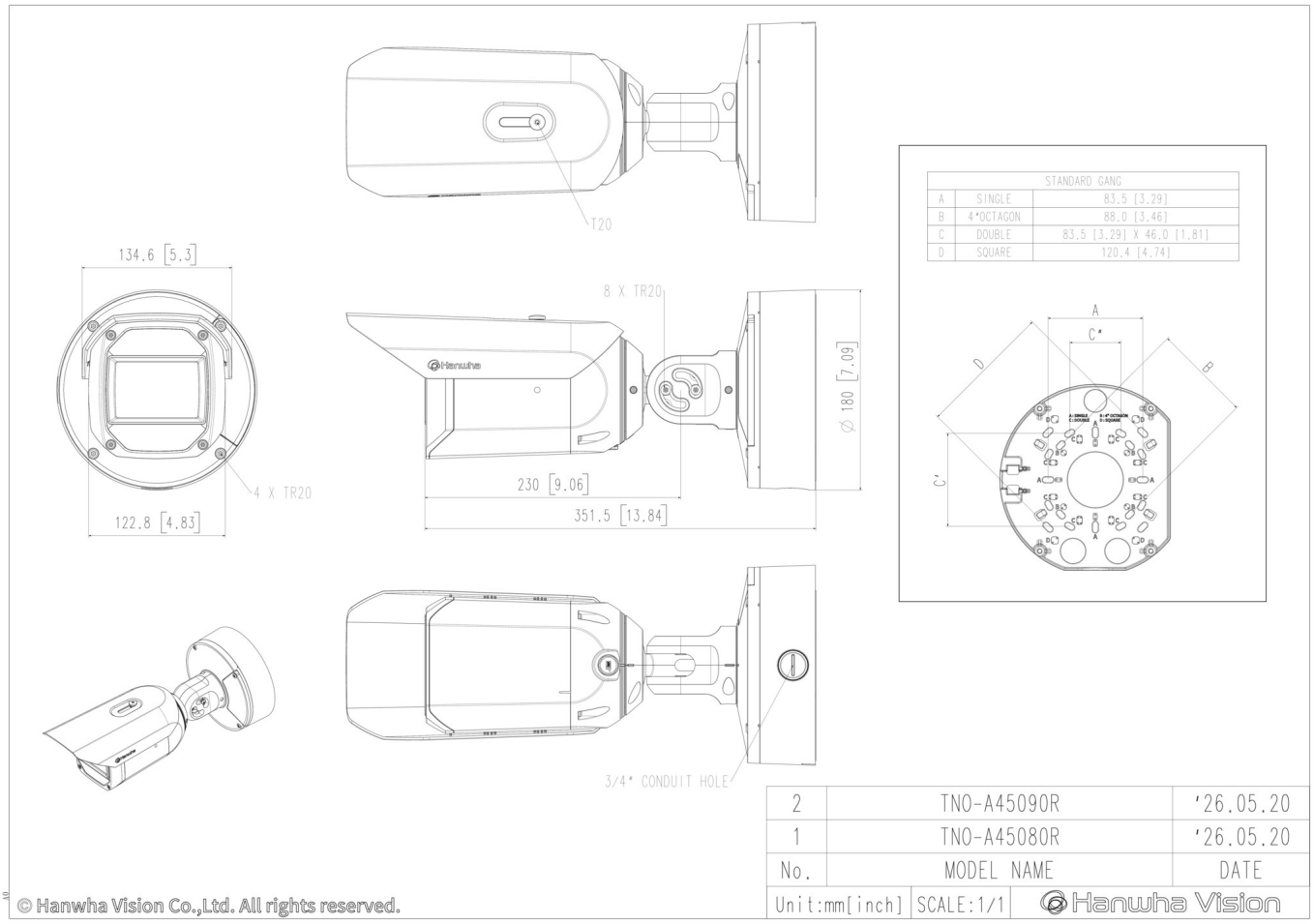
# TNO-A45080R

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## CAD

**Unit:** mm [inch]






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## Compatible Devices


SBP-300CMTS


SBP-140CMB


SBP-180CMB


SBP-180CMS


SBP-150CMP


SBP-300CMP


SBP-900CMP


SBP-C15H


SBP-C15NP


SBP-C35H


SBP-C15P


SBP-150CMI


SBP-150NBW


SBP-150PMW


SBP-150S


SBP-156KMW


SBP-156LMW1


SBP-115PFA


SBP-050NBW


SBP-060S


SBP-300CMI


SBP-300CMTW


SBP-300CMW1


SBP-900CMW


SBP-250WMW


SBP-400WMW


SBD-180PMW


SBP-350WMW


SBP-200WMW


SPM-4210


SBP-180HMW1

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