

# TNO-X6320EP\*

7j b'aeja` ZbaaXBullet 5S\_ Vb

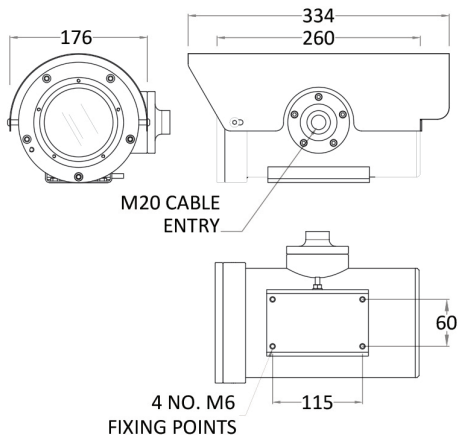


## Key Features

- 2 MP (1920 x 1080) resolution
- 4.44-142.6mm (32x) optical zoom, 16x digital zoom
- H.265, H.264, MJPEG triple codec, WiseStream II
- Day & Night (ICR), WDR (150dB)
- Video & Audio Analytics, SDXC memory slot
- DIS with built-in Gyro sensor
- cLCus C1/D1/INMETRO / cLC CSA Certified
- Electro-polished 316L stainless steel on all welded assemblies
- Camera window in toughened glass
- Powered by IEEE802.3af PoE

## Dimensions

Unit: mm



## Accessories (Optional)



## TNO-X6320EP\*

### VIDEO

|                      |   |
|----------------------|---|
| Image Sensor         | 1/2.8" 2.4 MP CMOS  |
| Resolution           | Resolution: 1920x1080 to 320x180; 60fps at all resolutions (H.265/H.264)  |
| Lens                 | 32x optical 16x digital zoom 4.44-142.6 mm F1.6 to F4.4, horizontal angle of view 62.8° - 2.23°   |
| Minimum Illumination | Color : 0.05Lux (1/30sec, F1.6, 50IRE)<br>B/W : 0.005Lux (1/30sec, F1.6, 50IRE)   |
| Streaming            | H.265, H.264, MJPEG triple codec, multiple streaming, VBR/CBR, WiseStream II  |
| Features             | Intelligent video/audio analytics, motion detection, day & night (ICR), WDR (150dB), HLC, auto focus, auto iris, AGC, SDR, SSNR III, BLC, Gyro DIS, Defog                                     |
| Standards Protocols  | ONVIF Profile S/G/T, TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour |

### SPECIFICATIONS

|                           |   |
|---------------------------|---|
| Sun Shield                | Standard stainless steel 316L mirror finish |
| Ingress Protection Rating | IP66/67, IP68 (1.5m for 24 hours)           |
| Temperature Rating        | -10°C ~ +55°C (+14°F ~ +131°F)              |

### ELECTRICAL

|                   |  |
|-------------------|--|
| Input Voltage     | IEEE802.3af PoE  |
| Power Consumption | Maximum 12.0W (PoE, Class 3)                                   |
| Cable Entry       | One 1/2" NPT side entry  |
| Body Material     | Electro-polished 316L stainless steel on all welded assemblies |
| Fixings Material  | A4 stainless steel   |
| Camera Window     | Toughened glass  |

### CERTIFICATIONS

|             |  |
|-------------|--|
| INMETRO     | Ex d IIC T4 (T5 On Request) Gb -60°C ≤ Ta ≤ +60°C Ex tb IIIC T135°C Db IP66/67. Certificate Number: TUV 12.1080X / TUV 12.1081X  |
| cLCus C1/D1 | Class I, Division 1, Groups B,C,D, -60°C ≤ Ta ≤ 60°C T4/ Class II, Division 1, Groups E, F, G IP67 CSA-C22.2 No:30-M1986 No:25-1966(R2009) CSA-C22.2 No:60065-03(R2012) & UL1203, UL60065(ED.7). Certificate Number: 11671-1S / 11677-1S |
| cLC CSA     | Ex d IIC T4 (T5 On Request) LC1311396 -60°C ≤ Ta ≤ +60°C. CAN CSA-C22.2 No.60079-0:2011 & 60079-1-2011. Certificate Number: 11396-1S-CSA   |
| Weight      | Up to 8.54Kg (18.9lb)  |

Model Number:

## TNO-X6320EPT0-Z

Body Style :  
Bullet : O

Power :  
PoE : P

Temperature Rating :  
-10°C : T0

Certification :  
cLC CSA : C  
INMETRO : M  
cLCus C1/D1 : Z

| <b>VIDEO</b>                |  |
|-----------------------------|--|
| Imaging Device              | 1/2.8" 2.4 MP CMOS   |
| Total Pixels                | 1981(H) x 1288(V), 2.55 MP   |
| Effective Pixels            | 1944(H) x 1212(V), 2.35 MP   |
| Scanning System             | Progressive scan   |
| Minimum Illumination        | Color : 0.05 Lux (1/30 sec, F1.6)<br>B/W : 0.005 Lux (1/30 sec, F1.6)  |
| S / N Ratio                 | 50dB   |
| <b>LENS</b>                 |  |
| Focal Length (Zoom Ratio)   | 4.44 ~ 142.6mm (Optical 32x)   |
| Maximum Aperture Ratio      | F1.6 (Wide) / F4.4 (Tele)  |
| Angular Field of View       | H : 61.8°(Wide) ~ 2.19°(Tele) / V : 36.2°(Wide) ~ 1.24°(Tele)  |
| Minimum Object Distance     | Wide 1.5m (4.92ft), Tele 2m (6.56ft)   |
| Focus Control               | Auto / Manual / One shot AF  |
| Lens Type                   | DC auto iris   |
| Mount Type                  | Board-in type  |
| <b>OPERATIONAL</b>          |  |
| Camera Title                | Off / On (Displayed up to 85 characters)<br>- English / International / Numeric / Special characters<br>- Multi-line (Maximum 5), Color (Grey / Green / Red / Blue / Black / White), Transparency,<br>Auto scale by resolution |
| Day & Night                 | Auto (ICR) / Color / B/W / Schedule  |
| Backlight Compensation      | Off / WDR / BLC / HLC  |
| Wide Dynamic Range          | 150dB  |
| Contrast Enhancement        | SSDR (On / Off)  |
| Digital Noise Reduction     | SSNR5 (2D+3D noise filter) (On / Off)  |
| Digital Image Stabilization | On / Off (Built-in gyro sensor)  |
| Defog                       | Off / Manual / Auto  |
| Motion Detection            | On / Off (8ea, Polygonal)  |
| Privacy Masking             | On / Off (24 Zones of rectangle zone)<br>- Color : Grey / Green / Red / Blue / Black / White<br>- Mosaic   |
| Gain Control                | Off / Low / Middle / High  |
| White Balance               | ATW / AWC / Manual / Indoor / Outdoor (Included Mercury & Sodium)  |
| Electronic Shutter Speed    | Minimum / Maximum / Anti flicker (1 ~ 1 / 12,000sec)   |
| Digital Zoom                | 32x  |
| Flip / Mirror               | On / Off   |
| Video & Audio Analytics     | Tampering, Loitering, Directional/Virtual Line detection, Fog detection, Enter/Exit, Appear/Disappear, Audio detection, Face detection, Motion detection, Sound classification, Shock detection                                |
| Serial Interface            | RS-485/RS-422<br>Supported protocols - Samsung-T, Pelco-D/P, Panasonic, Bosch, AD, GE, Vicon, Honeywell  |
| Alarm I/O                   | Input 1ea / Output 2ea (Relay)   |
| Alarm Triggers              | Alarm input, Motion detection, Video & Audio analytics, Network disconnect   |
| Alarm events                | File upload via FTP and E-Mail, Notification via E-Mail, TCP and HTTP,<br>Local storage (SD/SDHC/SDXC) or NAS recording at alarm triggers,<br>External output, Preset  |
| Audio In                    | Selectable (Mic In/Line In)<br>Supply voltage: 2.5VDC (4mA), Input impedance: approx. 2K Ohm   |
| Audio out                   | Line out (3.5mm), Maximum output level: 1 Vrms   |
| Pixel counter               | Support  |

| <b>NETWORK</b>                    |   |
|-----------------------------------|---|
| Ethernet                          | RJ-45 (10/100BASE-T)  |
| Video Compression Format          | H.264 (MPEG-4 Part 10/AVC), H.265, Motion JPEG  |
| Resolution                        | 1920 x 1080, 1280 x 1024, 1280 x 960, 1280 x 720, 1024 x 768, 800 x 600, 800 x 448, 720 x 576, 720 x 480, 640 x 480, 640 x 360, 320 x 240   |
| Maximum Framerate                 | H.264 / H.265 : Maximum 60fps at all resolutions<br>Motion JPEG : Maximum 30fps at all resolutions  |
| Smart Codec                       | Manual mode (Area-based : 5ea)  |
| WiseStream II                     | Support   |
| Video Quality Adjustment          | H.264 / H.265 / MJPEG : Target bitrate level control  |
| Bitrate Control Method            | H.264 / H.265 : CBR or VBR<br>Motion JPEG : VBR   |
| Streaming Capability              | Multiple streaming (Up to 10 profiles)  |
| Audio Compression Format          | 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  |
| Audio Communication               | Bi-directional (2-Way)  |
| IP                                | IPv4, IPv6  |
| Protocol                          | TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour   |
| Security                          | HTTPS (SSL) login authentication, Digest login authentication, IP address filtering, User access log, 802.1X Authentication (EAP-TLS, EAP-LEAP)   |
| Streaming Method                  | Unicast / Multicast   |
| Maximum User Access               | 20 users at Unicast mode  |
| Edge Storage                      | Micro SD/SDHC/SDXC 2 slots (up to 512 GB total capacity)<br>- Continuous recording(1st slot to 2nd slot)<br>- Motion Images recorded in the Micro SD/SDHC/SDXC memory card can be downloaded.<br>NAS (Network Attached Storage)<br>Local PC for instant recording |
| Application Programming Interface | ONVIF Profile S/G,T SUNAPI 2.0 (HTTP API), Wisenet Open Platform  |
| Webpage Language                  | English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Swedish, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek   |
| Web Viewer                        | Supported OS : Windows 7, 8.1, 10, Mac OS X 10.10, 10.11, 10.12<br>Plug-in Free Webviewer supported browser : Google Chrome, Microsoft Edge, Microsoft Internet Explorer, Mozilla Firefox (Windows 64-bit only) , Apple Safari 10 (Mac OS X only)                 |
| Central Management Software       | Wisenet WAVE, SmartViewer, SSM  |

\* The latest product information / specification can be found at [hanwhavision.com](http://hanwhavision.com)

\* Design and specifications are subject to change without notice.

\* Wisenet is the proprietary brand of **Hanwha Vision**.