

Explosion-proof cameras for Hazardous area



TNO-6320E /TNU-6320E

- Max. 2MP (1920 x 1080) resolution
- ATEX certification :
II 2 GD Ex d IICT6 Gb, Ex tb IIICT85°C Db (TNO-6320E)
II 2 GD Ex d IICT6 Gb, Ex tb IIICT80°C Db (TNU-6320E)
- Max. 60fps@2MP at all resolution
- 4.44~142.6mm (32x) optical zoom
- 0.15 Lux@F1.6 (Color), 0.015 Lux@F1.6@ (B/W)
- Built-in wiper

Explosion proof cameras for hazardous environments

Heavy industrial facilities such as gas pipelines, petrochemical plants or oil refineries are potentially explosive because of flammable gases and dusts emitted. Therefore, it is important that a video surveillance system used in heavy industrial facilities is not the cause of explosions whilst still delivering high quality images. Wisenet T series explosion proof cameras satisfy both requirements by the powerful network camera and stainless steel housing enclosure surrounding it.



Stainless steel 316L enclosure to prevent explosions

T series explosion proof cameras are designed to be safely operated in hazardous areas with the special enclosure made of stainless steel 316L housing. The ATEX certified enclosure has the ability to contain any internal explosions or prevent sparks from escaping the device which may lead to a disaster.



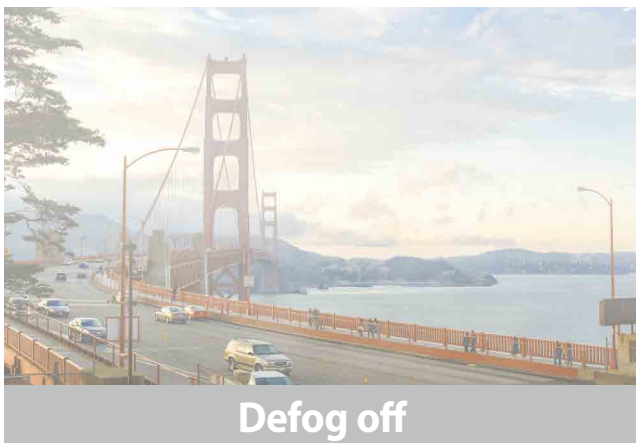
Capture details with 2MP 32x optical zoom

The powerful 2MP optical zoom 32x (4.44~142.6mm) camera SNZ-6320 is built in the explosion proof enclosure. 32x Optical zoom and 16x digital zoom helps users to see more further and clearly, capturing everything with sharpness without losing detail.



Defog technology to improve image clarity

Defog function is an image processing technology which helps increase image clarity in poor weather conditions such as fog or yellow dust. The visibility of the cameras can be enhanced in any weather condition so that users can monitor full-time.



360° endless pan rotation and 255 preset mode

TNU-6320E is capable of monitoring a broad range, with its 360° endless pan and 180° tilt feature moving at 1~50° /sec preset speed. In addition, the camera's flexibility is increased by 255 preset positions, allowing users to save settings for pan/tilt functions and automatically view the location desired.



255 preset mode

TNU-6320E

360° endless pan rotation

True WDR(120dB)

The true WDR function built into the explosion-proof camera provides enhanced picture quality, by resolving different brightness in a scene.



WDR off



WDR on

TNO-6320E

2M 32x Network Explosion-proof Camera

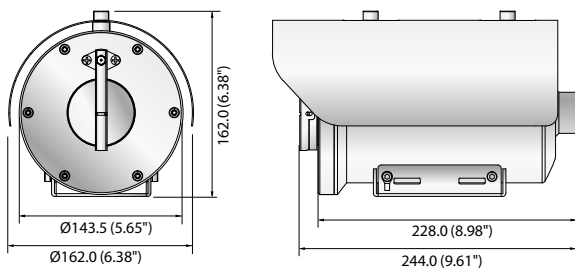


Key Features

- Max. 2Megapixel (1920 x 1080) resolution
- Max. 60fps@2M all resolutions
- 4.44 ~ 142.6mm (32x) optical zoom, 16x digital zoom
- 0.15 Lux@F1.6 (Color), 0.015 Lux@F1.6 (B/W)
- H.264, MJPEG dual codec, Multiple streaming
- Day & Night (ICR), WDR (120dB)
- Face detection, Tampering, Virtual line support
- Explosion-proof certificate (ATEX) :
II 2 GD Ex d IIC T6 Gb, Ex tb IIIC T85°C Db
- Stainless 316L, Built-in wiper
- IP67, IK10

Dimensions

Unit : mm (inch)



Accessories (Optional)



SBE-100B

SBE-100WM

SBE-100CM

SBE-100PM

TNO-6320E

| VIDEO | |
|-----------------------------------|--|
| Imaging Device | 1/2.8" 2.38M CMOS |
| Total Pixels | 1,952(H) x 1,116(V), 2.18M pixels |
| Effective Pixels | 1,944(H) x 1,104(V), 2.14M pixels |
| Scanning System | Progressive |
| Min. Illumination | Color : 0.3 Lux (1/30sec, F1.6, 50IRE, AGC High), 0.005 Lux (2sec, F1.6, 50IRE, AGC High) B/W : 0.03 Lux (1/30sec, F1.6, 50IRE, AGC High), 0.0005 Lux (2sec, F1.6, 50IRE, AGC High) Color : 0.15 Lux (1/30sec, F1.6, 30IRE), 0.0025 Lux (2sec, F1.6, 30IRE) B/W : 0.015 Lux (1/30sec, F1.6, 30IRE), 0.00025 Lux (2sec, F1.6, 30IRE) |
| S / N Ratio | 50dB |
| LENS | |
| Focal Length (Zoom Ratio) | 4.44 ~ 142.6mm (Optical 32x) |
| Max. Aperture Ratio | F1.6(Wide) / F4.4(Tele) |
| Angular Field of View | H : 62.8°(Wide) ~ 2.23°(Tele) / V : 36.8°(Wide) ~ 1.26°(Tele) |
| Min. Object Distance | Wide : 1.5m (4.92ft), Tele : 1.5m (4.92ft) |
| Focus Control | Auto / Manual / One push |
| Lens / Mount Type | DC Auto Iris / Board-in Type |
| OPERATIONAL | |
| Camera Title | Off / On (Displayed up to 45 Characters) |
| Day & Night | Auto (ICR) / Color / B/W |
| Backlight Compensation | Off / BLC |
| Wide Dynamic Range | 120dB |
| Contrast Enhancement | SSDR (Off / On) |
| Digital Noise Reduction | SSNR III (2D + 3D Noise filter) (Off / On) |
| Digital Image Stabilization | Off / On |
| Defog | Off / Auto / Manual |
| Motion Detection | Off / On (4ea rectangle zone) |
| Privacy Masking | Off / On (32 zones of rectangle zone) with zoom threshold mosaic option |
| Gain Control | Off / Low / Middle / High |
| White Balance | ATW / AWC / Manual / Indoor / Outdoor / Mercury |
| Electronic Shutter Speed | Minimum / Maximum / Anti Flicker (2 ~ 1/12,000sec) |
| Digital Zoom | 16x |
| Flip / Mirror | Off / On |
| Intelligent video analytics | Tampering, Virtual line, Enter / Exit, (Dis) Appear, Face detection |
| Alarm I/O | Input 1ea / Output 1ea (Relay) |
| Alarm Triggers | Motion detection, Tampering, Face detection, Video analytics, Alarm input, Network disconnection |
| Alarm Events | File Upload Via FTP and E-Mail, Notification Via E-Mail, TCP and HTTP NAS Recording at alarm triggers, External output |
| NETWORK | |
| Ethernet | RJ-45 (10/100 BASE-T) |
| Video Compression Format | H.264 (MPEG-4 part 10/AVC), MJPEG |
| Resolution | 1920 x 1080, 1280 x 1024, 1280 x 960, 1280 x 720, 1024 x 768, 800 x 600, 800 x 450, 720 x 576, 640 x 480, 640 x 360, 320 x 240, 320 x 180 |
| Max. Framerate | H.264 : Max. 60fps at all resolutions MJPEG : 1920 x 1080, 1280 x 1024, 1280 x 960, 1280 x 720, 1024 x 768 : Max. 15fps 800 x 600, 800 x 450, 720 x 576, 640 x 480, 640 x 360, 320 x 240, 320 x 180 : Max. 30fps |
| Smart Codec | Manual mode (Area-based : 5ea), Face detection mode |
| Video Quality Adjustment | H.264 : Compression level, Target bitrate level control, MJPEG : Quality level control |
| Bitrate Control Method | H.264 : CBR or VBR, MJPEG : VBR |
| Streaming Capability | Multiple streaming (Up to 10 Profiles) |
| 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 |
| Streaming Method | Unicast / Multicast |
| Max. User Access | 10 Users at Unicast Mode |
| Edge Storage | NAS (Network Attached Storage) |
| Application Programming Interface | ONVIF profile S, SUNAPI (HTTP API), SVP 1.2, Wisenet Open Platform |
| Webpage Language | English, French, German, Spanish, Italian, Chinese, Korean, Russian, Japanese, Swedish, Danish, Portuguese, Turkish, Polish, Czech, Rumanian, Serbian, Dutch, Croatian, Hungarian, Greek, Finnish, Norwegian |
| Web Viewer | Supported OS : Windows XP / VISTA / 7, MAC OS X 10.7 Supported Browser : Microsoft Internet Explorer (Ver. 8 ~ 11), Mozilla Firefox (Ver. 9 ~ 19), Google Chrome (Ver. 15 ~ 25), Apple Safari (Ver. 6.0.2 (Mac OS X 10.8, 10.7 only), 5.1.7) * Mac OS X only |
| Central Management Software | SmartViewer, SSM |
| ENVIRONMENTAL | |
| Operating Temperature / Humidity | -40°C ~ +60°C (-40°F ~ +140°F) / Less than 90% RH * Start up should be done at above -30°C (-22°F) |
| Storage Temperature / Humidity | -30°C ~ +60°C (-22°F ~ +140°F) / Less than 90% RH |
| Ingress Protection | IP67 |
| Vandal Resistance | IK10 |
| Explosion Certification | ATEX (II 2 GD Ex d IIC T6 Gb, Ex tb IIIC T85°C Db) |
| ELECTRICAL | |
| Input Voltage / Current | 24V AC |
| Power Consumption | 24V AC : Max. 28W (24V AC heater on) |
| MECHANICAL | |
| Color / Material | Metalic silver / Stainless 316L |
| Dimensions (WxH) | Ø162.0 x 244.0mm (Ø6.38" x 9.61") |
| Weight | 7Kg (15.43 lb) |

* The latest product information / specification can be found at hanwha-security.com
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TNU-6320E

2M 32x Network Explosion-proof PTZ Camera

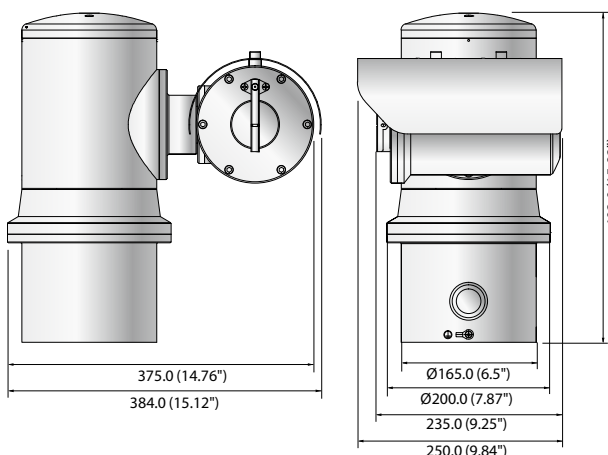


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- 0.15 Lux@F1.6 (Color), 0.015 Lux@F1.6 (B/W)
- H.264, MJPEG dual codec, Multiple streaming
- Day & Night (ICR), WDR (120dB)
- Pan/Tilt : 50°/sec (Preset), Endless rotation, 255 preset
- Face detection, Tampering, Virtual line support
- Explosion-proof certificate (ATEX) :
II 2 GD Ex d IIC T6 Gb, Ex tb IIIC T80°C Db
- Stainless 316L, Built-in wiper
- IP67, IK10

Dimensions

Unit : mm (inch)



Accessories (Optional)



TNU-6320E

| VIDEO | |
|-----------------------------------|--|
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| LENS | |
| Focal Length (Zoom Ratio) | 4.44 ~ 142.6mm (Optical 32x) |
| Max. Aperture Ratio | F1.6(Wide) / F4.4(Tele) |
| Angular Field of View | H : 62.8°(Wide) ~ 2.23°(Tele) / V : 36.8°(Wide) ~ 1.26°(Tele) |
| Min. Object Distance | Wide : 1.5m (4.92ft), Tele : 1.5m (4.92ft) |
| Focus Control | Auto / Manual / One push |
| Lens / Mount Type | DC Auto Iris / Board-in Type |
| PAN / TILT / ROTATE | |
| Pan / Tilt Range | 360° Endless / 180° (-90° ~ 90°) |
| Pan / Tilt Speed | Preset : 50°/sec, Manual : 0.1°/sec ~ 40°/sec |
| Sequence | Preset (255ea), Swing, Group (6ea), Trace, Tour (1ea), Auto run, Schedule |
| Preset Accuracy | ± 0.2° |
| Azimuth | Yes (E / W / S / N / NE / NW / SE / SW) |
| OPERATIONAL | |
| Camera Title | Off / On (Displayed up to 45 Characters) |
| Day & Night | Auto (ICR) / Color / B/W |
| Backlight Compensation | Off / BLC |
| Wide Dynamic Range | 120dB |
| Contrast Enhancement | SSDR (Off / On) |
| Digital Noise Reduction | SSNR III (2D + 3D Noise filter) (Off / On) |
| Digital Image Stabilization | Off / On |
| Defog | Off / Auto / Manual |
| Motion Detection | Off / On (4ea rectangle zone) |
| Gain Control | Off / Low / Middle / High |
| White Balance | ATW / AWC / Manual / Indoor / Outdoor / Mercury |
| Electronic Shutter Speed | Minimum / Maximum / Anti Flicker (2 ~ 1/12,000sec) |
| Digital Zoom | 16x |
| Flip / Mirror | Off / On |
| Intelligent video analytics | Tampering, Virtual line, Enter / Exit, (Dis) Appear, Face detection |
| Alarm I/O | Input 1ea / Output 1ea (Relay) |
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| Max. User Access | 10 Users at Unicast Mode |
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| Application Programming Interface | ONVIF profile S, SUNAPI (HTTP API), SVNP 1.2, Wisenet Open Platform |
| Webpage Language | English, French, German, Spanish, Italian, Chinese, Korean, Russian, Japanese, Swedish, Danish, Portuguese, Turkish, Polish, Czech, Rumanian, Serbian, Dutch, Croatian, Hungarian, Greek, Finnish, Norwegian |
| Web Viewer | Supported OS : Windows XP / VISTA / 7, 8, MAC OS X 10.7 Supported Browser : Microsoft Internet Explorer (Ver. 8 ~ 11), Mozilla Firefox (Ver. 9 ~ 19), Google Chrome (Ver. 15 ~ 25), Apple Safari (Ver. 6.0.2 (Mac OS X 10.8, 10.7 only), 5.1.7) * Mac OS X only |
| Central Management Software | SmartViewer, SSM |
| ENVIRONMENTAL | |
| Operating Temperature / Humidity | -40°C ~ +60°C (-40°F ~ +140°F) / Less than 90% RH * Start up should be done at above -30°C (-22°F) |
| Storage Temperature / Humidity | -30°C ~ +60°C (-22°F ~ +140°F) / Less than 90% RH |
| Ingress Protection | IP67 |
| Vandal Resistance | IK10 |
| Explosion Certification | ATEX (II 2 GD Ex d IIC T6 Gb, Ex tb IIIC T80°C Db) |
| ELECTRICAL | |
| Input Voltage / Current | 24V AC |
| Power Consumption | 24V AC : Max. 49W (24V AC heater on) |
| MECHANICAL | |
| Color / Material | Metalic silver / Stainless 316L |
| Dimensions (WxHxD) | 384.0 x 402.0 x 250.0mm (15.12" x 15.83" x 9.84") |
| Weight | 35Kg (77.16 lb) |

* The latest product information / specification can be found at hanwha-security.com
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