# HWT-X2391-10-TL

**4T 9MP ITS AI Bullet Camera**

## Features

- 4 TOPS computing power
- Supports vehicle recognition, vehicle event detection, and traffic flow statistics
- Supports backlight adaptation, overcast adaptation, and speed adaptation
- 1" GS CMOS sensor
- Online loading and upgrade of algorithms
- 120 dB super wide dynamic range (WDR), ensuring that both foreground and background objects are clearly identified in environments with sharp light contrast

## Technical Specifications

| Model | HWT-X2391-10-TL |
|---|---|

### Major Specifications

| | | |
|---|---|---|
| Main control | Computing power | 4 TOPS |
| | Memory | DDR4 4.0 GB |
| | Flash type | SPI NAND Flash 512.0 MB |
| | Max capacity | MicroSD card slot that supports microSDHC/microSDXC; maximum memory card capacity: 256 GB |
| Camera | Image sensor | 1" GS CMOS/9MP 4096(H)*2160(V) |
| | Illumination distance | 30m |
| | Focal length | 12/16/20/25/50/70mm,16-40mm |
| | Lens aperture type | Manual iris |
| | Max Aperture | F1.4 |

### Intelligence

| | | |
|---|---|---|
| ITS | ePolice | Passing vehicle snapshot /Unsafe lane change/Road marking violation /Bus lane violation /Wrong-way driving /Vehicle running-red-light /Traffic light detector /Traffic light recognition /Speeding /Low-speed |
| | Checkpoint | Passing vehicle snapshot /Wrong-way driving /Speeding/Low-speed /Vehicle statistics |
| Vehicle | License plate recognition | License plates from the Chinese Mainland |
| | Vehicle analysis | Vehicle color/Vehicle type/Vehicle model |
| | Traffic flow statistics | Motor vehicle/Non-motorized vehicle/Pedestrian/Vehicle direction |
| Other intelligences | Non-motorized vehicle | Supported |
| | Defocus | Supported |
| | Alarm information | No SD card; SD card full; SD card error; Network disconnection; Defocus detection; IP Address Conflict Detection |

### Open ecosystem

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|---|---|---|
| Algorithm openness | Open OS | Supported |
| Data openness | Data openness | SDK (proprietary protocol)/REST API (proprietary protocol)/GA/T 1400/GB/T 28181 (2011, 2016) /ONVIF Profile S/G/T |

### Image

| | | |
|---|---|---|
| Codec | Video encoding format | MJPEG/H.264/H.265 |
| | Video encoding channels | Five streams |
| | Intelligent encoding | Extra265/264 |
| | Video frame rate | Configurable (25 fps or 30 fps) |
| Image AI | Scene adaptation | Backlight adaptation/Overcast adaptation/Speed adaptation |
| | | Color: 0.005 lux (F1.2, AGC ON, 1/30s shutter speed); B/W: 0.0025 lux |

| | | |
|---|---|---|
| Image ISP | Min illumination | (F1.2, AGC ON, 1/30s shutter speed) |
| | Day/Night mode | Supported; automatic (ICR)/Color/B/W (default: color); Sensitivity level: high (default), medium, and low; Image triggering/Internal triggering |
| | WDR | 120 dB |
| | White balance | Auto/Manual/OnePush |
| | HLC/BLC | Supported/Supported |
| | Digital noise reduction | 2D/3D noise reduction |
| | Shutter speed | Slow shutter is not supported. Non-slow shutter speed levels: 1/30, 1/50, 1/60, 1/90, 1/100, 1/120, 1/125, 1/180, 1/250, 1/350, 1/500, 1/725, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000, 1/6000, 1/10000, 1/30000, 1/100000, custom (default: 1/250)<br><br>ePolice snapshot: 1/250<br>Checkpoint snapshot: 1/500 |
| | Signal-to-Noise Ratio(SNR) | >45dB |
| | Primary stream resolution | 4096×2160(4K),3840×2160(4K),3072×1728(5MP),2560×1440(4MP),2304×1296(3MP),1920×1080(1080P),1280×720(720P) |
| | Secondary stream resolution | Secondary stream 1: 1920 x 1080 (1080p), 1280 x 720 (720p), 720 x 576 (PAL), 720 x 480 (NTSC)<br>Secondary stream 2: 1280 x 720 (720p), 720 x 576 (PAL), 720 x 480 (NTSC), 352 x 288 (PAL), 352 x 240 (NTSC)<br>Secondary stream 3: 720 x 576 (PAL), 720 x 480 (NTSC), 352 x 288 (PAL), 352 x 240 (NTSC)<br>Secondary stream 4: 720 x 576 (PAL), 720 x 480 (NTSC), 352 x 288 (PAL), 352 x 240 (NTSC) |
| | Video bit rate | Only for H.264 and H.265:<br>1080P~4K 512Kbps ~ 16Mbps<br>720P 384Kbps ~ 8Mbps<br>D1 256K ~ 4Mbps<br>CIF 32K ~ 1Mbps |
| | Smart Illumination | Not Supported/ |
| | Optical Defogging/Algorithm-assisted Defogging | Not Supported/Supported |
| | EIS | Supported Sensitivity levels are not supported. |

| Audio | | |
|---|---|---|
| Audio | Audio Encoding Format | G.711a/G.711u/G.726/OPUS |
| | Audio sampling rate | G.711a/G.711u/G.726: 8 kHz<br>OPUS: 8/12/16/24/48 kHz |
| | Audio bit rate | G.711a/G.711u: 64 kbit/s, G.726: configurable (16/24/32/40 kbit/s); OPUS: configurable (16/24/32/40/64/96/128/160/192/224/256/288 kbit/s) |

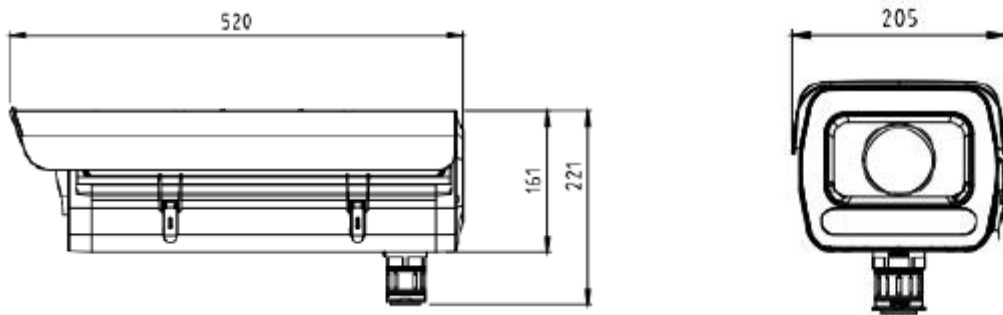| Networking | | |
|---|---|---|
| Network transmission | Protocols supported by IPv4 | TCP, UDP, IPv4, DHCP, DNS, ICMP, IGMP, HTTPS, FTP, SFTP, RTP, RTSP, RTCP, SIP, ARP, SSL, NTP, SNMP (V1/V2/V3), 802.1x, QoS, SMTP, and PPPoE. Note: The northbound protocol needs to adapt to the PPPoE dialup scenario. |
| | Protocols supported by IPv6 | HTTPS,RTP,RTCP,RTSP,Onvif,IPv6,ICMPv6,DHCPv6 |

| Security | | | |
|---|---|---|---|
| Data security | Media security | | Supports web- or SDK-based media stream encryption; supports a maximum of two channels of encrypted media streams; supports encrypted data storage on SD cards |
| | Video digital watermark | | Supported |
| | Image digital watermark | | Supported |
| Service security | User rights | | Three user roles: administrator, advanced operator, and common operator |
| | Security mode | | User name and password authentication, 802.1X authentication, and HTTPS digital certificate |
| | Secure boot | | Supported |
| | System intrusion detection | | Supported |

| Port | |
|---|---|
| Storage port | MicroSD card slot that supports microSDHC/microSDXC; maximum memory card capacity: 256 GB |
| Alarm port | 1input port and 5 output ports |
| Network port | Two RJ45 10M/100M/1000M adaptive Ethernet ports |
| Communication serial port | RS-485 port |
| Audio port | Supported (one-channel LINE IN or one-channel external MIC)/Supported (one-channel LINE OUT) |

| General Specifications | |
|---|---|
| Power type | AC100~240V |
| Power consumption | Maximum: 55.4 W; typical: 11.3 W |
| Operating temperature | −40°C to +60°C |
| Operating humidity | 5% to 95% (non-condensing) |
| Surge protection | 4 kV |
| IP rating | IP65 |
| Equipment Anti Corrosion | Class C corrosion resistance |
| Weight | Net weight 6.26 kg;Gross weight 8.36 kg |
| Dimensions | Device dimensions 160 mm x 515.9 mm x 215 mm;Package dimensions 325 mm x 678 mm x 329 mm |

## Dimensions

520

205

161 221

## Recommended Accessories

ACC3282

ACC3231

## Product selector

Scan the QR code on the right to view and
compare specifications of HOLOWITS
products and select the best camera for you.