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| <p><b>AI Deep Learning Analytics</b></p> <p>Perimeter protection, face detection, people counting, video metadata</p> | <p><b>12x Motorized Zoom</b></p> <p>Vari-focal 5-60 mm lens with auto-focus and DORI up to 551 m</p> | <p><b>Industrial Grade</b></p> <p>IP67 &amp; IK10 vandal-proof, -30 °C to +60 °C operating range</p> | <p><b>Professional Imaging</b></p> <p>2MP 1/2.8" CMOS, 120 dB WDR, 150 m IR illumination</p> |
|---|--|--|--|

## Long-Range AI Surveillance with 12x Motorized Optical Zoom

Designed for demanding outdoor projects where flexibility and detail are critical, the MT-IPB520Z12AI combines a 12x motorized vari-focal lens (5-60 mm) with deep learning AI analytics to deliver accurate detection of people and vehicles even at long distances. The 1/2.8" 2MP CMOS sensor with 120 dB WDR captures crisp images in challenging lighting, while 150 m IR illumination ensures clear visibility in total darkness. Rugged IP67 and IK10 housing protects the camera in the harshest environments.

## FEATURES

- Motorized vari-focal lens 5-60 mm with 12x optical zoom and auto-focus
- AI deep learning: perimeter protection, face detection, video metadata, people counting
- 2MP 1/2.8" CMOS sensor delivering 1920x1080 @25/30 fps on main stream
- Intelligent Motion Detection with human/vehicle classification (eliminates false alerts)
- Built-in IR LED with up to 150 m illumination distance
- AI Target Search to quickly locate persons or vehicles in live or recorded video
- 120 dB true WDR, 3D NR, HLC, BLC for challenging lighting conditions
- Smart sound detection: screams, glass breaking and other audio events
- IP67 and IK10 protection, operating temperature -30 °C to +60 °C
- Built-in MIC, 1 audio in / 1 audio out, 2 alarm in / 1 alarm out
- 12 VDC / PoE (802.3af) / Long-distance PoE power supply
- Micro SD card slot up to 512 GB, 4 simultaneous video streams

# MT-IPB520Z12AI

## TECHNICAL SPECIFICATIONS

| Camera                     |  |
|----------------------------|--|
| Image Sensor               | 1/2.8" CMOS  |
| Max. Resolution            | 1920 (H) x 1080 (V)  |
| ROM                        | 4 GB   |
| RAM                        | 1 GB   |
| Scanning System            | Progressive  |
| Electronic Shutter Speed   | Auto / Manual 1/3 s - 1/100,000 s  |
| Min. Illumination          | 0.0007 lux @F1.5 (Color, 30 IRE); 0.0004 lux @F1.5 (B/W, 30 IRE); 0 lux (Illuminator on) |
| S/N Ratio                  | > 56 dB  |
| Illumination Distance      | Up to 150 m (492.13 ft) (IR)   |
| Illuminator On/Off Control | Auto; Zoom Priority; Manual  |
| Illuminator Number         | 4 (IR LED)   |
| Angle Adjustment           | Pan: 0°-360°; Tilt: 0°-90°; Rotation: 0°-360°  |

| Video                       |   |
|-----------------------------|---|
| Video Compression           | H.265; H.264; H.264H; H.264B; MJPEG (sub stream only)   |
| Advanced Codec              | Advanced H.265+; Advanced H.264+  |
| AI Coding                   | AI H.265; AI H.264  |
| Video Frame Rate            | Main stream: 1080p @(1-25/30 fps); Sub stream: D1 @(1-25/30 fps); Third stream: 1080p @(1-25/30 fps); Fourth stream: 720p @(1-25/30 fps). Values are max. frame rates per stream; for multiple streams, the values will be subject to the total encoding capacity |
| Stream Capability           | 4 streams   |
| Resolution                  | 1080p (1920x1080); 1.3M (1280x960); 720p (1280x720); D1 (704x576/704x480); VGA (640x480); CIF (352x288/352x240)   |
| Bit Rate Control            | CBR / VBR   |
| Video Bit Rate              | H.264: 32 kbps - 12032 kbps; H.265: 12 kbps - 7424 kbps   |
| Day/Night                   | Auto (ICR) / Color / B/W  |
| BLC                         | Yes   |
| HLC                         | Yes   |
| WDR                         | 120 dB  |
| Scene Self-adaptation (SSA) | Yes   |
| White Balance               | Auto; natural; street lamp; outdoor; manual; regional custom  |
| Gain Control                | Auto  |
| Noise Reduction             | 3D NR   |
| Motion Detection            | OFF / ON (4 areas, rectangular)   |
| Region of Interest (RoI)    | Yes (4 areas)   |
| Image Stabilization         | Electronic Image Stabilization (EIS)  |
| Defog                       | Yes   |
| Image Rotation              | 0° / 90° / 180° / 270° (90°/270° supported with 1080p resolution and lower)   |
| Mirror                      | Yes   |
| Privacy Masking             | 8 areas   |

| Structure          |   |
|--------------------|---|
| Casing Material    | Metal   |
| Product Dimensions | 273.2 mm x 95.0 mm x 95.0 mm (10.76" x 3.74" x 3.74") (L x W x H) |
| Net Weight         | 1.12 kg (2.47 lb)   |
| Gross Weight       | 1.66 kg (3.66 lb)   |

| Lens                 |                                 |         |
|----------------------|---------------------------------|---------|
| Lens Type            | Motorized vari-focal            |         |
| Lens Mount           | Module                          |         |
| Focal Length         | 5 mm - 60 mm                    |         |
| Max. Aperture        | F1.5                            |         |
| Field of View        | H: 59°-5°; V: 33°-3°; D: 66°-6° |         |
| Iris Control         | Auto                            |         |
| Close Focus Distance | 1 m (3.28 ft)                   |         |
| DORI Distance        | Lens                            | T       |
|                      | Detect                          | 551.7 m |
|                      | Observe                         | 220.7 m |
|                      | Recognize                       | 110.3 m |
|                      | Identify                        | 55.2 m  |

| Intelligent                  |   |
|------------------------------|---|
| IVS (Perimeter Protection)   | Intrusion, tripwire, fast moving (with vehicle/human classification); loitering detection, people gathering, parking detection  |
| Smart Object Detection       | Smart abandoned object; smart missing object  |
| Intelligent Motion Detection | Intelligent motion detection with human/vehicle classification (eliminates false alerts from animals, leaves, rain)   |
| AI Target Search             | Uses deep learning algorithms and works with back-end devices to accurately match targets such as people and motor vehicles, and search through live and recorded videos to quickly locate targets  |
| AI SSA                       | Yes   |
| Face Detection               | Face detection; track; snapshot; snapshot optimization; optimal face snapshot upload; face enhancement; face exposure; face attributes extraction (6 attributes and 8 expressions); face snapshot set as face, one-inch photo or custom; snapshot strategies (real-time, quality priority, optimization); face angle filter; optimization time setting                    |
| People Counting              | Tripwire people counting with day/week/month/year reports; people counting in area and queue management with day/week/month reports; up to 4 rules per function   |
| Heat Map                     | Yes   |
| Video Metadata               | Motor vehicle, non-motor vehicle, face, human body detection; track; snapshot; snapshot optimization. Motor vehicle attributes: type, color, logo, seatbelt, smoking, calling. Non-motor vehicle: type, color, number of people, top type/color, hat. Human body: gender, top/bottom type/color, bag, hat, umbrella. Face: gender, age, expressions, glasses, mask, beard |
| Smart Search                 | AI-powered quick target search (find specific person or vehicle in seconds)   |
| Smart Sound Detection        | Yes   |

| Audio             |                                    |
|-------------------|------------------------------------|
| Built-in MIC      | Yes                                |
| Audio Compression | G.711a; G.711Mu; PCM; G.726; G.723 |

| Alarm Event |   |
|-------------|---|
| Alarm Event | No SD card; SD card full; SD card error; network disconnection; IP conflict; illegal access; Intelligent Motion Detection; video tampering; tripwire; intrusion; fast moving; abandoned object; missing object; loitering detection; people gathering; parking detection; scene changing; audio detection; voltage detection; external alarm; face detection; video metadata; people counting in area; stay detection; people counting; people number error; queue people number alarm; queue time alarm; security exception; defocus detection |

# MT-IPB520Z12AI

## TECHNICAL SPECIFICATIONS

| Network                    |   |
|----------------------------|---|
| <b>Network Port</b>        | RJ-45 (10/100 Enhancement Base-T)   |
| <b>SDK and API</b>         | Yes   |
| <b>Network Protocol</b>    | IPv4; IPv6; HTTP; TCP; UDP; ARP; RTP; RTSP; RTCP; RTMP; SMTP; FTP; SFTP; DHCP; DNS; DDNS; QoS; UPnP; NTP; Multicast; ICMP; IGMP; NFS; SAMBA; PPPoE; SNMP; P2P   |
| <b>Interoperability</b>    | ONVIF (Profile S/G/T); CGI  |
| <b>User/Host</b>           | 20 (total bandwidth: 80 M)  |
| <b>Storage</b>             | FTP; SFTP; Micro SD card (up to 512 GB); NAS  |
| <b>Browser</b>             | IE 9 and later; Chrome 102 and later; Firefox 88 and later  |
| <b>Management Software</b> | ONVIF (Profile S/G/T), CGI, compatible VMS  |
| <b>Mobile Client</b>       | iOS; Android  |
| <b>Cyber Security</b>      | Configuration encryption; trusted execution; Digest; security logs; WSSE; account lockout; syslog; video encryption; 802.1x; IP/MAC filtering; HTTPS; trusted upgrade; trusted boot; firmware encryption; X.509 certificate generation and import |

| Port                |   |
|---------------------|---|
| <b>Audio Input</b>  | 1 channel (RCA port)                        |
| <b>Audio Output</b> | 1 channel (RCA port)                        |
| <b>Alarm Input</b>  | 2 channels in: wet contact, 5 mA 3 V-5 V DC |
| <b>Alarm Output</b> | 1 channel out: wet contact, 300 mA 12 V DC  |

| Power                    |   |
|--------------------------|---|
| <b>Power Supply</b>      | 12 VDC / PoE (802.3af) / Long-distance PoE  |
| <b>Dual Power Backup</b> | When the power adapter and PoE provide power at the same time, disconnect one of them. The device will continue to work, but will not restart |
| <b>Power Consumption</b> | Basic: 3.4 W (12 VDC); 4.6 W (PoE). Max. (H.265+, WDR, Intelligence on, IR on): 9.7 W (12 VDC); 12.1 W (PoE)                                  |

| Environment                  |                                      |
|------------------------------|--------------------------------------|
| <b>Operating Temperature</b> | -30 °C to +60 °C (-22 °F to +140 °F) |
| <b>Operating Humidity</b>    | ≤95%                                 |
| <b>Storage Temperature</b>   | -40 °C to +60 °C (-40 °F to +140 °F) |
| <b>Storage Humidity</b>      | 10% - 95% (RH), non-condensing       |
| <b>Protection</b>            | IP67; IK10                           |

| Certifications        |   |
|-----------------------|---|
| <b>Certifications</b> | CE-LVD: EN62368-1; CE-EMC: Electromagnetic Compatibility Directive 2014/30/EU; FCC: 47 CFR FCC Part 15, Subpart B; UL/CUL: UL62368-1 & CAN/CSA C22.2 No. 62368-1-14 |

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## DIMENSIONS

