# MT-IPB520Z12EAI

2MP IR Vari-focal Bullet AI Network Camera

| **Deep Learning AI** | **Superior Night Vision** | **Industrial Grade** | **Professional Features** |
|---|---|---|---|
| Video metadata, face detection, perimeter protection, people counting, AcuPick | 1/2.8" CMOS, 120 dB WDR, 0.0007 Lux, 120 m IR distance | IP67 & IK10, -30 °C to +60 °C, metal casing | 4 streams, ONVIF S/G/T/M, long-distance PoE, built-in MIC |

## FEATURES

• 2MP 1/2.8" CMOS image sensor, low luminance, high definition image

• Outputs max. 2MP (1920×1080) @25/30 fps

• Built-in IR LED, max. illumination distance 120 m

• ROI, SVC, H.264+/H.265+, AI H.264/H.265, encoding after filter, flexible coding, applicable to various bandwidth and storage environments

• Rotation mode, WDR, 3D NR, HLC, BLC, digital watermarking, applicable to various monitoring scenes

• Deep learning algorithm: video metadata, smart sound detection, IVS, face detection, smart object detection, people counting

• Alarm: 2 in, 1 out; Audio: 1 in, 1 out; supports max. 1 TB Micro SD card, built-in MIC

• 12 VDC / PoE power supply; long-distance PoE

• IP67 and IK10 protection

• SMD 3.0

## TECHNICAL SPECIFICATIONS

### Camera

| | |
|---|---|
| Image Sensor | 1/2.8" CMOS |
| Max. Resolution | 1920 (H) × 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@F1.6 (Color, 30 IRE)<br>0.0004 lux@F1.6 (B/W, 30 IRE)<br>0 lux (Illuminator on) |
| S/N Ratio | >56 dB |
| Illumination Distance | Up to 120 m (393.70 ft) (IR) |
| Illuminator On/Off Control | Auto; Zoomprio; Manual |
| Illuminator Number | 4 (IR LED) |
| Angle Adjustment | Pan: 0°–360°<br>Tilt: 0°–90°<br>Rotation: 0°–360° |

### Video

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|---|---|
| Video Compression | H.265; H.264; H.264H; H.264B; MJPEG (Only supported by the sub stream) |
| Advanced Codec | H.265+ / H.264+ |
| AI Coding | AI H.265; AI H.264 |
| Video Frame Rate | Main stream: 1080p@(1–25/30 fps)<br>Sub stream: D1@(1–25/30 fps)<br>Third stream: 1080p@(1–25/30 fps)<br>Fourth stream: 720p@(1–25/30 fps) |
| Stream Capability | 4 streams |
| Resolution | 1080p (1920 × 1080); 1.3M (1280 × 960); 720p (1280 × 720); D1 (704 × 576/704 × 480); VGA (640 × 480); CIF (352 × 288/352 × 240) |
| 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° (Support 90°/270° with 1080p resolution and lower) |
| Mirror | Yes |
| Privacy Masking | 8 areas |

### Certifications

| | |
|---|---|
| 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 |

### Lens

| | |
|---|---|
| Lens Type | Motorized vari-focal |
| Lens Mount | Module |
| Focal Length | 7 mm–35 mm |
| Max. Aperture | F1.6 |
| Field of View | H: 30°–11°; V: 17°–6°; D: 35°–13° |
| Iris Control | Auto |
| Close Focus Distance | 1.5 m (4.92 ft) |

| DORI Distance | Lens | W | T |
|---|---|---|---|
| | Detect | 147.3 m (483.27 ft) | 395.0 m (1295.93 ft) |
| | Observe | 58.9 m (193.24 ft) | 158.0 m (518.37 ft) |
| | Recognize | 29.5 m (96.78 ft) | 79.0 m (259.19 ft) |
| | Identify | 14.7 m (48.23 ft) | 39.5 m (129.59 ft) |

### Intelligent

| | |
|---|---|
| IVS (Perimeter Protection) | Intrusion, tripwire, fast moving (the three functions support the classification and accurate detection of vehicle, animal and human); loitering detection, people gathering, parking detection. Supports long-distance mode. Supports self-learning, it filters out false alarms. |
| Smart Object Detection | Smart abandoned object; smart missing object |
| SMD | SMD 3.0 |
| AcuPick | Uses deep learning algorithms and works with back-end devices to accurately match targets, such as people, animal, 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 including 6 attributes and 8 expressions; face snapshot set as face, one-inch photo or custom; snapshot strategies (real-time snapshot, quality priority and optimization snapshot); face angle filter; optimization time setting. |
| People Counting | Tripwire people counting, generating and exporting report (day/week/month/year); people counting in area and queue management; generating and exporting report (day/week/month); 4 rules can be set for tripwire, people counting in area and queue management. |
| Heat Map | Yes |
| Video Metadata | Motor vehicle, non-motor vehicle, face, human body detection; track; snapshot; snapshot optimization; optimal face snapshot upload.<br>Motor vehicle attributes: vehicle type, vehicle color, vehicle logo and other attributes: seatbelt, smoking, calling.<br>Non-motor vehicle attributes: type, color, number of people, top type and color, hat.<br>Human body attributes: gender, top/bottom type and color, bag, hat and umbrella.<br>Face attributes: gender, age, expressions, glasses, face mask and beard. |
| Smart Search | Work together with Smart NVR to perform refine intelligent search, event extraction and merging to event videos |
| Smart Sound Detection | Yes |

### Audio

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

## TECHNICAL SPECIFICATIONS

### Alarm Event

| Alarm Event | No SD card; SD card full; SD card error; network disconnection; IP conflict; illegal access; 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; SMD; people counting in area; stay detection; people counting; people number error detection; queue people number alarm; queue time alarm; security exception; defocus detection |
|---|---|

### Power

| Power Supply | 12 VDC / PoE (802.3af) / Long-distance PoE |
|---|---|
| Dual Power Backup | 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. |
| Power Consumption | Basic: 3.4 W (12 VDC); 4.5 W (PoE)<br>Max. (H.265+ WDR+ Intelligence on+IR on): 9.3 W (12 VDC); 11.6 W (PoE) |

### Environment

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

### Port

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

### Network

| Network Port | RJ-45 (10/100 Enhancement Base-T) |
|---|---|
| SDK and API | Yes |
| Network Protocol | 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; Auto Register |
| Interoperability | ONVIF (Profile S/Profile G/Profile T/Profile M); CGI |
| User/Host | 20 (Total bandwidth: 80 M) |
| Storage | FTP; SFTP; Micro SD card (support max. 1 TB); NAS |
| Browser | IE: IE 9 and later<br>Chrome: Chrome 102 and later<br>Firefox: Firefox 88 and later |
| Management Software | ONVIF (Profile S/G/T), CGI, compatible VMS |
| Mobile Client | iOS; Android |
| Security | Trusted execution; Digest; Security logs; WSSE; Account lockout; Syslog; 802.1x; IP/MAC filtering; HTTPS; Trusted upgrade; Trusted boot; Generation and importing of X.509 certification |

### Structure

| Casing Material | Metal |
|---|---|
| Product Dimensions | 273.2 mm × 95.0 mm × 95.0 mm (10.76" × 3.74" × 3.74") (L × W × H) |
| Net Weight | 1.13 kg (2.49 lb) |
| Gross Weight | 1.68 kg (3.70 lb) |

Datasheet rev.A26.02