



Deep Learning AI	Superior Night Vision	Industrial Grade	Professional Features
Video metadata, face detection, perimeter protection, people counting, Smart Search	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
- Smart Motion 3.0

MT-IPB520Z12EAI

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) 0.0004 lux@F1.6 (B/W, 30 IRE) 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° Tilt: 0°–90° Rotation: 0°–360°

Video	
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) Sub stream: D1@(1–25/30 fps) Third stream: 1080p@(1–25/30 fps) 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
Smart Motion	Smart Motion 3.0
Smart Search	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. Motor vehicle attributes: vehicle type, vehicle color, vehicle logo and other attributes: seatbelt, smoking, calling. Non-motor vehicle attributes: type, color, number of human, top type and color, hat. Human body attributes: gender, top/bottom type and color, bag, hat and umbrella. 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 changing; audio detection; voltage detection; external alarm; face detection; video metadata; Smart Motion; people counting in area; stay detection; people counting; people 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) 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 Chrome: Chrome 102 and later 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)