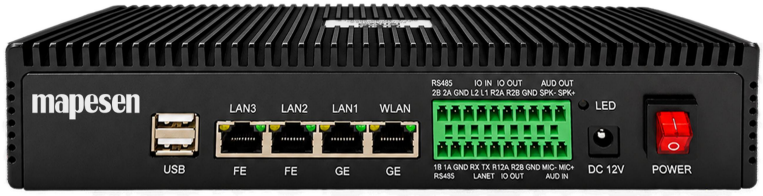
# AI08-BOX-P-E1

## 8CH AI Mini Server (Premium)




## Product Feature

### Device Connectivity

- Connects to HD IP cameras compliant with ONVIF, RTSP, RTMP and WebRTC.
- Supports H.265/H.264 video and IP cameras up to 8 MP.

### Intelligent Applications

- Total capacity: Up to 300,000 face images across 64 databases.
- Combined algorithms: Face mode and hybrid mode (face-to-person association + structured video analytics).
- Face recognition: Up to 8 video streams at full load.
- Structured video analytics: Up to 8 video streams at full load.
- Perimeter alerts: Up to 8 video streams at full load.
- Behavior alerts: Up to 8 video streams at full load.
- Supports face capture, face matching alarms and unknown-person alerts.
- Recognizes facial attributes, including gender, age, hats, glasses and masks.
- Captures faces, people, motor vehicles, non-motor vehicles and license plates; supports face-to-person and person-to-non-motor-vehicle association.
- Analyzes person attributes, including upper/lower clothing colors and styles, backpacks and safety helmets.
- Analyzes vehicle attributes, including motor vehicle type, color, make and direction of travel, and non-motor vehicle type.
- Supports license plate recognition and license-plate-to-motor-vehicle association.
- Supports smoke, flame and fire extinguisher recognition, and clutter accumulation alarms.
- Supports intelligent perimeter alerts, including area intrusion and illegal parking.
- Supports behavior alerts for running, falls, smoking, phone calls, looking at a phone, sleeping on duty, fighting and calls for help.

- Supports custom algorithm development for specific industries.

**System Features**

- Supports software platforms such as GB28281.
- Provides extensive RESTful APIs for integration with third-party platforms.

## Application Scenarios

- Provides face recognition, structured analysis of all target types and intelligent alerts. With upper-level platform software, it supports end-to-end workflows for face capture and recognition, structured video analytics and intelligent alerts. Supports secondary development and AI algorithm expansion.
- Suitable for smart factories, hazardous chemical monitoring and various early-warning applications.
- Suitable for locations requiring face recognition, including entrances and exits of smart residential communities and office buildings, watchlist management and recognition alarms, and unknown-person identification.
- Suitable for structured analytics requiring capture of faces, people, motor vehicles, non-motor vehicles and license plates, and license plate recognition; for example, people/vehicle management in smart campuses and license plate recognition in smart communities.

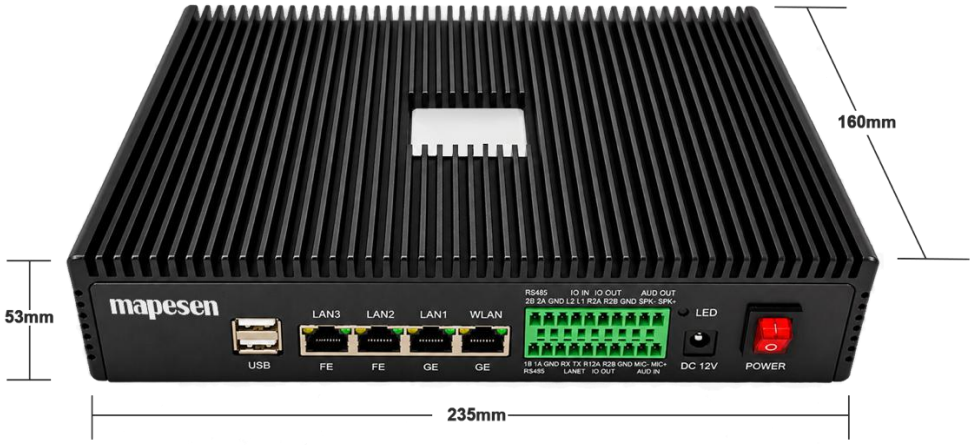
## Supported Algorithms (over 60 built-in algorithms)

| | |
|---|---|
| **Image Capture** | |
| A. Structured Capture | **1)** Faces **2)** People **3)** Motor vehicles **4)** Non-motor vehicles **5)** License plates |
| B. Capture Functions | Scheduled capture |
| **Recognition** | |
| Person and Vehicle Recognition | **1)** Face recognition and matching<br>**2)** License plate recognition and matching |
| **Alerts** | |
| A. Environmental Anomalies | **1)** Flame alarms **2)** Smoke alarms **3)** Fire safety equipment detection<br>**4)** Clutter accumulation **5)** Warning signs **6)** Improper fuel unloading<br>**7)** Lens obstruction **8)** Camera displacement<br>**9)** Animal detection **10)** Object movement |
| B. PPE Violations | Alarms for **1)** No safety helmet **2)** No mask **3)** No workwear **4)** No safety harness<br>**5)** No reflective vest |
| C. Perimeter Alerts - People | **1)** Loitering **2)** Wall climbing **3)** Intrusion **4)** Line crossing **5)** Excessive occupancy<br>**6)** Insufficient occupancy **7)** Person leaving **8)** Overstaying |
| D. Abnormal behavior | **1)** Falls **2)** Smoking **3)** Phone calls **4)** Looking at a phone **5)** Running<br>**6)** Sleeping on duty **7)** Leaving a post **8)** Crowding **9)** Fighting **10)** Calls for help<br>**11)** Driver fatigue |
| E. Perimeter alerts - vehicles | **1)** Motor vehicles in no-parking zones **2)** Motor vehicle departure<br>**3)** Non-motor vehicles in no-parking zones **4)** Non-motor vehicle departure<br>**5)** Riding without a helmet 6. Motor vehicle count above threshold<br>**7)** Motor vehicle count below threshold<br>**8)** Prohibited entry of special vehicles (19 types)<br>**9)** Riding a motorcycle into a gas station |

| Model Number | AI08-BOX-P-E1 |
|---|---|
| **System Parameters** | |
| CPU | Quad-core Cortex-A53, 1.3 GHz, integrated NPU, up to 28.8 TOPS |
| Memory | 2×LPDDR4X, 2×4GB |
| Flash | 64GB eMMC |
| Operating System | Embedded Linux |
| **Device Connectivity** | |
| Video Input | ONVIF, RTSP, WebRTC, RTMP<br>Video Resolution: Unrestricted, include 720 x 480, 1280 x 720, 1280 x 960, 1920 x 1080 (2MP), 2560 x 1440 (4MP) and 3840 x 2160 (8MP). |
| Video Decoding | H.264/H.265 |
| Maximum Input Capacity | 8 channels of 1080p video at 25fps |
| **Intelligent Analytics** | |
| **AI algorithms**: Multiple algorithms run in parallel and can be configured per channel, including face recognition, structured analytics, behavior alerts and environmental anomaly detection. | **Face-to-person association + face recognition**: Up to 8 channels at full load<br>Face capture, face recognition, facial attributes, person capture, person attributes and face-to-person association |
| | **Structured video analytics**: Up to 8 channels at full load<br>**Image capture**: Faces, people, motor vehicles, non-motor vehicles and license plates<br>**Attribute output**: Faces, people, motor vehicles, non-motor vehicles and license plates<br>**License plate recognition**<br>**Associations**: Face-to-person, vehicle-to-license-plate and person-to-non-motor-vehicle |
| | **Behavior Detection Algorithms**<br>**Abnormal behavior**:<br>**1)** Falls **2)** Smoking **3)** Phone calls **4)** Looking at a phone **5)** Running<br>**6)** Sleeping on duty **7)** Leaving a post **8)** Crowding **9)** Fighting **10)** Calls for help<br>**11)** Driver fatigue |
| | **Alert Algorithms - Intelligent Alerts**<br>**A. Environmental anomalies**:<br>**1)** Flame alarms **2)** Smoke alarms **3)** Fire safety equipment detection<br>**4)** Clutter accumulation (8 waste types) **5)** Warning signs<br>**6)** Improper fuel unloading **7)** Lens obstruction **8)** Camera displacement<br>**9)** Animal detection **10)** Object movement<br>**B. PPE violations**:<br>Alarms for **1)** No safety helmet **2)** No mask **3)** No workwear<br>**4)** No safety harness **5)** No reflective vest<br>**C. Perimeter alerts - people**:<br>**1)** Loitering **2)** Wall climbing **3)** Intrusion **4)** Line crossing<br>**5)** Excessive occupancy **6)** Insufficient occupancy **7)** Person leaving |

| | |
|---|---|
| | **8)** Overstaying<br>**D. Perimeter alerts - vehicles**:<br>**1)** Motor vehicles in no-parking zones **2)** Motor vehicle departure<br>**3)** Non-motor vehicles in no-parking zones **4)** Non-motor vehicle departure<br>**5)** Riding without a helmet **6)** Motor vehicle count above threshold<br>**7)** Motor vehicle count below threshold<br>**8)** Prohibited entry of special vehicles (19 types)<br>**9)** Riding a motorcycle into a gas station |
| Event Reporting | 1) Face capture, face recognition and facial attribute results<br>2) Capture and attributes of faces, people, motor vehicles, non-motor vehicles and license plates; license plate recognition results<br>3) Security alerts<br>4) Scheduled capture |
| Faces | Capture rate ≥ 99% |
| | False capture rate < 1% |
| | Allowlist recognition pass rate > 99.5% |
| | False recognition rate < 0.5% |
| | Maximum face database: 300,000 portraits |
| People | Capture rate ≥ 95% |
| | False capture rate < 1% |
| Motor Vehicles | Capture rate ≥ 90% |
| | False capture rate < 1% |
| Non-motor Vehicles | Capture rate ≥ 95% |
| | False capture rate < 1% |
| License Plates | Capture rate ≥ 95% |
| | False capture rate < 1% |
| | Recognition rate ≥ 95% |
| Other Alerts | Capture rate ≥ 90% |
| **Platform Expansion** | |
| AI Expansion | Supports AI algorithm expansion and remote upgrades/deployment. |
| Platform Integration | Integration with upper-level platforms via UDP, TCP, HTTP and Web APIs |
| **Interfaces** | |
| Network Ports | 4 RJ45 Ethernet ports: 2 x 100/1000 Mbps + 2 x 100 Mbps auto-sensing |
| Alarm Inputs | 2 digital I/O channels |
| Alarm Outputs | 2 digital I/O channels |
| Audio Output | 1 channel |
| Audio Input | 1 channel |
| USB Ports | 2 x USB 2.0 ports |
| RS485 | 2 channels |
| Power Switch | 1 |

| | |
|---|---|
| Power Indicator (PWR) | 1 |
| Status Indicator (RUN) | 1 |
| HDMI Port | 1 x 2.0 HDMI port |
| TF Card Slot | 1 x on-board TF card slot |
| **System Functions** | |
| Face Recognition | Employee access at entrances/exits; watchlist management and recognition alarms; unknown-person identification |
| Structured Video Analytics | Capture and attribute analysis of faces, people, motor vehicles, non-motor vehicles and license plates; license plate recognition |
| Network Protocols | TCP/UDP/HTTP/MULTICAST/DHCP/FTP/NTP/HTTPS/RTSP, etc. |
| Embedded Web Interface | Supports plugin-free video viewing and alarm image information lists. |
| Log Search | Query, search and display capture information for faces, people, motor vehicles, non-motor vehicles and license plates. |
| **Environmental Requirements** | |
| Operating Temperature | -20°C to +60°C |
| Storage Temperature | -30°C to +70°C |
| Relative Humidity | 10% to 90% RH, non-condensing |
| **Other Specifications** | |
| Power Supply | DC 12V ±10%, 3 A |
| Chassis | Metal Chassis |
| Dimensions (L x D x H) | 235 x 53 x 160mm |
| Weight | < 2 kg |
| Package Dimensions | 284 x 79x 249mm |
| **Overall Dimension** | |


160mm
53mm
mapesen
LAN3
LAN2
LAN1
WLAN
USB
FE
FE
GE
GE
LED
DC 12V
POWER
235mm