# AI32-SVR-STD-E1

## 32CH AI Server




| Product Features |
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| **Device Connectivity** |
| · Connects to HD IP cameras compliant with ONVIF, RTSP, GB28181 and WebRTC. |
| · Fully compatible with remote and local M51C camera video streams. |
| · Supports H.265/H.264 video and IP cameras up to 8 MP. |
| **Intelligent Applications** |
| · Visual management platform. |
| · Supports platform integration. |
| · Algorithm and Logic Functions. |
| · Over 60 built-in algorithms, continually optimized with ongoing upgrade support. |

Key advantages compared with other products on the market:

| No. | Product Features | Comparable Products on the Market |
|---|---|---|
| 1 | Extensively optimized for hazardous chemical production environments. | Only provide similar basic functions. |
| 2 | Built-in algorithms cover most applications, with no additional algorithm purchases required and free lifetime upgrades. | Include only a few algorithms; most require an additional fee. |
| 3 | Comprehensive remote management platform with remote maintenance and upgrades, simplifying installation and configuration. | No remote maintenance; personnel must visit the site for installation and commissioning. |

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| 4 | Embedded Linux with a pure C/C++ architecture; each video channel can run more than 20 algorithms simultaneously. | PC-based architecture limits optimization of concurrent algorithms across multiple channels; heavy configurations are prone to crashes. |
| 5 | Highly expandable, with ample storage and memory reserved for future algorithms. Custom algorithms can be developed for specific customer scenarios. | System architecture causes the operating system to occupy substantial space, limiting future algorithm expansion; custom algorithms are costly. |
| 6 | Supports flexible integration through multiple APIs. | Limited flexibility. |
| 7 | Low power consumption: No more than 100 W for the complete system. | Several hundred watts. |
| 8 | Over one year of extensive testing and field use by more than 300 partners has demonstrated product stability and reliability. | Most are at an early stage of development. |
| 9 | Supports large vision model applications. | Rarely available. |

| Host Specifications | |
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| **System Parameters** | |
| Main Processor | Low-power 4-core industrial control chipset |
| Operating System | Linux |
| Memory | 8G DDR4, maximum 16 G |
| Storage | 512G SSD, other configurations available |
| Mainboard Form Factor | Mini-ITX |
| Display Outputs | DP + HDMI outputs |
| Network Ports | 2 x 2.5 GbE ports and 2 x Gigabit Ethernet ports |
| USB Ports | 5 x USB ports |
| **Application Software** | |
| Management System | Built-in management system for configuring AI computing units and managing alarm messages. Supports standalone project operation and GB28181-compliant streaming platforms. Supports rule orchestration for large-model algorithms and secondary verification using large models. (Note: Large-model applications require an embedded large-model computing board.) |
| **AI Computing Units** | |
| BMC16H | 2 x 16-channel AI computing units. |
| **Intelligent Analytics** | |
| Chassis Dimensions | Standard 1U width/height, 482 x 400 x 44.5 mm |
| Power Supply | 220V, 200 W |
| Actual Power Consumption | Complete system: ≤ 100 W |
| Cooling | 2 mini fans |
| Switch | Touch- sensitive switch |

| AI Computing Unit Specifications | |
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| **System Parameters** | |
| Main Processor | Quad-core low-power high-performance process with integrated NPU, Delivering 28.8 TOPS. |
| Operating System | Embedded Linux |
| **Device Connectivity** | |
| Video Input | ONVIF, RTSP, GB28181, M51C, WebRTC, RTMP<br>Video resolution: Unrestricted, including 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 | 16 channels of 1080p video |
| **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. Over 60 algorithms are available and can be enabled by selecting the corresponding options. | **Face-to-person association + face recognition**: Up to 8/16 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 8/16 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 |
| | **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<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<br>**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 |

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| | **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 |
| National Standard Support | Supports GB28181 platform cascading. |
| **Interfaces** | |
| Network Ports | 2 x 100/1000 Mbps auto-sensing Ethernet ports |
| Reset Button | 1 |
| Power Indicator (PWR) | 1 |
| Status Indicator (RUN) | 1 |
| **System Functions** | |
| Network Protocols | TCP/UDP/HTTP/MULTICAST/DHCP/FTP/NTP/HTTPS/RTSP/GAT1400, etc. |
| Management System | Embedded web management system for channel configuration, alarm rules and parameters; 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 +40°C |
| Storage Temperature | -30°C to +70°C |
| Relative Humidity | 10% to 90% RH, non-condensing |
| **Other Specifications** | |
| Power Supply | DC 220V±10%, 2 A |
| Chassis | Metal Chassis |
| Dimensions (L x D x H) | 482 x 400 x 44.5 mm |
| Weight | < 8 kg |
| Package Dimensions | 540 x 535 x 147 mm |
| **Overall Dimension** | |

