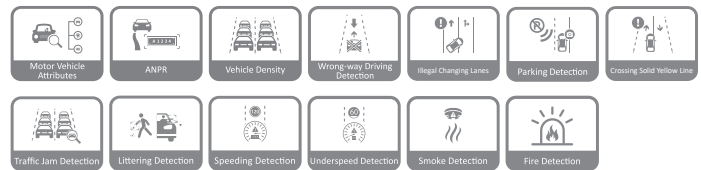


# DHI-IVS-TB8000-xE-GU2(x=2-6)

## Intelligent Video Analysis Server for Traffic Event Detection



- Separation of rules and algorithms, based on metadata of traditional and deep learning algorithms, for the high performance of various upper-level applications.
- Adopts Dahua video cloud architecture and supports dynamic adjustment of computing resources for greater precision and control.
- Automatic detection of lane lines and key points of vehicles.
- Supports the global detection application of PTZ Camera scenes.
- Supports one-click deployment of all-in-one machines for small-scale scenarios and simple demonstrations, and supports distributed cluster deployment for large-scale scenarios.



### System Overview

Built on Dahua video cloud architecture, TB8000-E series intelligent video analysis server for traffic event detection is a powerful traffic detection device built to the specific standards of Dahua. It adopts AIX3200 intelligent analysis card, which combines traditional and deep learning algorithms. The server not only supports real-time video stream access, and outputs abnormal event alarms but with its smart design, it also gives you the control to analyze data according to your preferences based on the defined intelligent rules. The server integrates a variety of intelligent algorithms and supports large-scale clusters, serving the many demands that come with traffic management.

With its dynamic and rich design, the server supports making statistics of traffic flow, and detecting abnormal events such as parking, pedestrian on vehicle lane, non-motor vehicle, traffic jam, traffic flow statistics, littering, area intrusion, illegal lane change, wrong-way driving, construction, obstacle, traffic accident, fog, smoke, fire, crossing solid line, speeding, driving too slow, truck entering prohibited area, hazardous material transport vehicle and driving in emergency lane. It is ideal for traffic management, and applies to scenarios such as expressways, tunnels, bridges, city roads and railways.

### Functions

#### Global Detection

Supports global detection mode for one channel. After global detection mode is enabled, one channel can enable global detection.

1. Lane lines and detection regions are automatically detected.
2. Rule parameters can be configured
3. The lane lines and detection zones can be updated in real time.
4. Available options through the algorithm: Parking, pedestrian on vehicle lane, non-motor vehicle, traffic jam, littering, wrong-way driving, reversing, construction, obstacle, traffic accident, radiation fog, smoke and fire detection.

#### Open Intelligent Rules

1. Training model and rules to form new algorithms. You can add, delete, edit, enable and disable new algorithms.
2. Displays open algorithm lists. You can turn pages and view algorithm name, alarm ID, model name, model parameters and rule type.
3. Algorithms can be created. You must enter the algorithm name, rule type and model name. Alarm ID is optional.
4. Algorithms can be edited. You can edit the alarm ID and alarm name. Chinese, English and a few special characters are supported.
5. Open algorithms can be enabled and disabled, and you can view new event types, analysis management and smart configuration to add helmet positions in order to add newly generated open algorithms.
6. Open algorithms can be deleted. When the open algorithm has tasks, it prompts whether to delete it, and deletes all related information once you confirm to delete.

#### Alarm Video

1. Alarm videos can be enabled by event.
2. The duration can be configured by event. Range:  $\pm 5$  s-180 s,  $\pm 15$  s by default.
3. Supports configuring the video storage disk through the client. It also notifies of full cycle coverage and storage space overflow.
4. The alarm video contains smart frames, and the client performs filtering during playback and decoding. Only the smart frames and target IDs related to the alarm rules cannot be filtered out.
5. Displays the video on the alarm details page. Video recordings can also be played. Supports adjusting the control bar of the video, and notifying when the video corresponding to the event is still being generated while it is being played.
6. Supports downloading alarm videos in .mp4 format (without smart frame) and .dav format (with smart frame). The default format is .mp4.
7. Hard disks can be mounted and unloaded. be given on the UI.

**Plate Number Recognition**

Supports ANPR for parking, illegal lane change, crossing the solid yellow line, wrong-way driving, and area intrusion. It is recommended that the license plate width is more than 80 pixels.

**Report Generation and Export**

Supports alarm information in Excel form, including device, device IP, channel name, event time, event name, event type, lane, license plate number, speed and other information.

**Alarm Search**

Supports searching for alarm information according to multiple options, such as device, channel, event type, capture time and more.

**Scene**

Suitable for locations where intelligent applications are required, such as expressways, tunnels, bridges, city roads and railways.

**Technical Specification**

System

Main Processor	Two Intel Xeon extensible processors, 10 C/20 T for each one
Intelligent Card	2-6 AIX3200 intelligent analysis cards
Operating System	CentOS Linux release 7.4.1708 (Core)
Memory	4 x 16 GB DDR4 memory, maximum 24 slots
Disk	1 x 128 GB 2.5-inch SSD and 2 x 4 TB 3.5-inch HDDs with up to 4 slots. 7.2K RPM SATA 6 Gbps 512N 3.5-inch

Traffic Event Detection

Multi-rules Application	Multiple rules can take effect simultaneously
Detection Area and Exclusion Area Setting	Supports detection zone and exclusion zone for the server. The server only triggers alarms for events that occur in the detection zone or outside the exclusion zone. Supports up to 1 detection zone and 10 exclusion zones
Real-time Display	Displays detection zone rules and the target tracking box in live view. The rule and target tracking boxes flash on screen when an alarm is triggered
Parking Detection	<p>Detects when a vehicle moves and then stops for longer than the defined threshold.</p> <p>1. Intelligent Configuration</p> <ul style="list-style-type: none"> <li>• Parking duration. Range: 1 s-600 s, 10 s by default.</li> <li>• Parking threshold. 3 by default.</li> <li>• Repeated alarm suppression. Supports: on and off, off by default.</li> <li>• Detected priority. Supports: on and off, off by default.</li> <li>• Only takes snapshots of moving vehicles. Supports: on and off, off by default.</li> <li>• Takes multiple snapshots. Supports: on and off, off by default.</li> </ul> <p>2. Alarm Details</p> <p>1) Includes: Alarm video, alarm pictures, devices, channels, alarm start time, alarm end time, event name, event type, and plate number.</p> <p>2) Alarm pictures: 2 pictures, including 1 x parking picture and 1 x picture taken 1 s after the alarm.</p> <p>3) Picture overlay: Target box, target ID, detection region and target points</p>

Pedestrian Detection	<p>Detects when a pedestrian walks onto the vehicle lane or into an area where pedestrians are prohibited from entering for longer than the defined threshold.</p> <p>1. Intelligent Configuration</p> <ul style="list-style-type: none"> <li>• Shortest duration. Range: 1 s-300 s, 2 s by default.</li> </ul> <p>2. Alarm Details</p> <p>1) Includes: Alarm video, alarm pictures, devices, channels, alarm start time, event name and event type.</p> <p>2) Alarm picture: 1 picture of the pedestrian.</p> <p>3) Picture overlay: Target box, target ID, detection region and target points</p>
Non-motor Vehicle Detection	<p>Detects when a pedestrian walks onto the vehicle lane or into an area where pedestrians are prohibited from entering for longer than the defined threshold.</p> <p>1. Intelligent Configuration</p> <ul style="list-style-type: none"> <li>• Shortest duration. Range: 1 s-300 s, 2 s by default.</li> </ul> <p>2. Alarm Details</p> <p>1) Includes: Alarm video, alarm pictures, devices, channels, alarm start time, event name and event type.</p> <p>2) Alarm picture: 1 picture of the pedestrian.</p> <p>3) Picture overlay: Target box, target ID, detection region and target points</p>
Traffic Jam Detection	<p>Detects when a lane is congested for longer than the defined threshold. Supports reporting on traffic jams based on the lane and region they occur in.</p> <p>1. Intelligent Configuration</p> <p>1) Traffic jam on lane settings:</p> <ul style="list-style-type: none"> <li>• Lane number</li> <li>• Line occupancy ratio. Range: 1-100, 50 by default.</li> <li>• Alarms in intervals. Range: 1-3,600 s, 600 s by default.</li> <li>• Delay time. Range: 1-300 s, 10 s by default.</li> <li>• Sensitivity. Range: 1-10, 2 by default.</li> <li>• Discontinuation time threshold. Range: 1-255 s, 1 s by default.</li> </ul> <p>2) Traffic jam in region settings:</p> <ul style="list-style-type: none"> <li>• Region</li> <li>• Number of vehicles in traffic jam.</li> <li>• Alarms in intervals. Range: 1-3,600 s, default: 600 s.</li> <li>• Delay time. Range: 1-300 s, default: 10 s.</li> <li>• Sensitivity. Range: 1-10, 2 by default.</li> </ul> <p>2. Alarm Details</p> <p>1) Includes: Alarm pictures with the target box, alarm video, devices, channel, alarm start time, alarm end time, event name, event type, and plate number.</p> <p>2) Alarm pictures: 3 types of pictures, including 1 x traffic jam picture, alarm pictures taken in intervals and 1 x picture of the end of the traffic jam.</p> <p>3) Picture overlay:</p> <p>Traffic jam in lane: Lane; the start and end point of the traffic jam on the lane                  Region jam: Detection box</p>

<p><b>Traffic Flow Statistics</b></p>	<p>Generates statistics on the number of vehicles passing through a road section within a specified time.</p> <ol style="list-style-type: none"> <li>Counts vehicles that cross the detection line on the lane. Supports counting traffic that is approaching and departing, and not specifying a direction.</li> <li>Statistics Page             <ol style="list-style-type: none"> <li>Displays statistics on: Lanes, traffic flow, small-sized vehicles, passenger vehicles, trucks, average speed, time occupancy ratio, space occupancy ratio, queue length, the distance between 2 vehicles, and the time between 2 vehicles passing the detection line.</li> <li>Displays traffic flow statistics by parameters.                 <ul style="list-style-type: none"> <li>Flow of approaching traffic, including information on small-sized vehicles, passenger vehicles and trucks.</li> <li>Average speed, time occupancy ratio, space occupancy ratio, queue length, the distance between 2 vehicles and the time between 2 vehicles passing the detection line.</li> <li>Shows the total traffic flow when there are more than 2 lanes.</li> </ul> </li> <li>The traffic flow continues to be accumulated from the last value when an operator is abnormal or the device is restarted.</li> <li>Supports searching for traffic flow by vehicle type, including small-sized vehicle, passenger vehicle and truck.</li> <li>Flow data can be manually cleared, and requires second confirmation</li> </ol> </li> </ol>	<p><b>Intrusion Detection</b></p>	<p>Detects when vehicles enter and remain in an area for longer than the defined threshold.</p> <ol style="list-style-type: none"> <li>Intelligent Configuration             <ol style="list-style-type: none"> <li>Parameters                 <ul style="list-style-type: none"> <li>Object: Pedestrian, motor vehicle, non-motor vehicle; motor vehicle by default</li> <li>Action list: Appear and cross, cross by default.</li> </ul> </li> <li>Sensitivity: Range: 1-10, 3 by default.</li> </ol> </li> <li>Alarm Details             <ol style="list-style-type: none"> <li>Includes: Alarm pictures with the target box, devices, channels, event time, event name, event type, and plate number.</li> <li>Alarm picture: 1 picture of the vehicle intrusion.</li> <li>Picture overlay: Target box, target ID, detection region and lane line</li> </ol> </li> </ol>
<p><b>Visibility Detection</b></p>	<p>Detects when radiation fog appears in the area for longer than the defined threshold.</p> <ol style="list-style-type: none"> <li>Intelligent Configuration:             <ol style="list-style-type: none"> <li>Shortest duration. Range: 1 s-300 s, 5 s by default.</li> <li>Alarms in intervals. Range: 1 s-65,535 s, 300 s by default.</li> <li>Alarm threshold. Range: 1-100.</li> </ol> </li> <li>Reports on events when the alarm starts, ends, and for the period it exists.</li> <li>Alarm Details             <ol style="list-style-type: none"> <li>Includes: Alarm pictures with the target box, devices, channels, start time, event name, event type, the thickness of the fog, and the time the fog dissipates.</li> <li>Alarm pictures: 3 types of pictures, including 1 x fog picture, alarm pictures taken in intervals and 1 x picture of the dissipation of the fog.</li> <li>Picture overlay: Target box and detection region</li> </ol> </li> </ol>	<p><b>Illegal Lane Change Detection</b></p>	<p>Detects when a vehicle crosses the solid yellow or white lane line for longer than the defined threshold.</p> <ol style="list-style-type: none"> <li>Intelligent Configuration:             <ul style="list-style-type: none"> <li>Lane Number</li> <li>Sensitivity. Range: 1-10, 10 by default.</li> </ul> </li> <li>Alarm Details:             <ol style="list-style-type: none"> <li>Includes: Devices, channels, event time, event name, event type, lane number and plate number.</li> <li>Alarm pictures: 2 pictures, including 1 x picture of the vehicle changing lanes and 1 x picture of the vehicle after it changed the lane.</li> <li>Picture overlay: Target box, target ID, lane line and target point</li> </ol> </li> </ol>
<p><b>Littering Detection</b></p>	<p>Detects when an object is littered by a pedestrian or a person from a vehicle and the litter disturbs traffic for longer than the defined threshold.</p> <ol style="list-style-type: none"> <li>Intelligent Configuration             <ul style="list-style-type: none"> <li>Duration. Range: 1 s-300 s, 6 s by default.</li> <li>Alarms in intervals. Range: 0 s-300 s, 0 s by default.</li> </ul> </li> <li>Alarm Details             <ol style="list-style-type: none"> <li>Includes: Alarm pictures with the target box, alarm video, devices, channels, alarm time, event name and event type.</li> <li>Alarm picture: 1 picture of the littered object.</li> <li>Picture overlay: Target box, target ID and detection region</li> </ol> </li> </ol>	<p><b>Wrong-way Driving Detection</b></p>	<p>Detects when a vehicle is driving in the wrong direction for longer than the defined threshold. Supports reporting on the event based on the lane and region they occur in.</p> <ol style="list-style-type: none"> <li>Intelligent Configuration:             <ul style="list-style-type: none"> <li>Lane number of detection region</li> <li>Duration. Range 1 s-300 s, 2s by default.</li> <li>Driving distance. Range: 0-1,023,200 by default.</li> </ul> </li> <li>Alarm Details             <ol style="list-style-type: none"> <li>Includes: Alarm picture with the target box, devices, channels, event time, event name, event type, lane number and plate number.</li> <li>Alarm pictures: 2 pictures, including 1 x picture of the vehicle driving in the wrong direction and 1 x picture taken 1 s after the alarm.</li> <li>Picture overlay: Target box, target ID, detection region and lane line</li> </ol> </li> </ol>
<p><b>Littering Detection</b></p>	<p>Detects when an object is littered by a pedestrian or a person from a vehicle and the litter disturbs traffic for longer than the defined threshold.</p> <ol style="list-style-type: none"> <li>Intelligent Configuration             <ul style="list-style-type: none"> <li>Duration. Range: 1 s-300 s, 6 s by default.</li> <li>Alarms in intervals. Range: 0 s-300 s, 0 s by default.</li> </ul> </li> <li>Alarm Details             <ol style="list-style-type: none"> <li>Includes: Alarm pictures with the target box, alarm video, devices, channels, alarm time, event name and event type.</li> <li>Alarm picture: 1 picture of the littered object.</li> <li>Picture overlay: Target box, target ID and detection region</li> </ol> </li> </ol>	<p><b>Illegal Backing Detection</b></p>	<p>Detects when a vehicle is illegally reversing for longer than the defined threshold. For example, when a vehicle illegally reverses on an expressway intersection.</p> <ol style="list-style-type: none"> <li>Intelligent Configuration             <ul style="list-style-type: none"> <li>Detection region</li> <li>Duration. Range 1 s-300 s, 3 s by default.</li> <li>Driving distance. Range: 0-1,023. It is 200 by default.</li> </ul> </li> <li>Alarm Details             <ol style="list-style-type: none"> <li>Includes: Alarm pictures with the target box, devices, channels, event time, event name, event types and plate number.</li> <li>Alarm pictures: 2 pictures, including 1 x picture of the vehicle illegally reversing and 1 x picture taken 1 s after the alarm.</li> <li>Picture overlay: target box, target ID and detection region</li> </ol> </li> </ol>

<p><b>Construction Detection</b></p>	<p>Detects when construction signs are in the area for longer than the defined threshold.</p> <p>1. Intelligent Configuration</p> <p>1) Parameters</p> <ul style="list-style-type: none"> <li>• Shortest duration. Range: 1 s–300 s, 5 s by default.</li> <li>• Alarms in intervals. Range: 1 s–65,535 s, 300 s by default.</li> <li>• Sensitivity. Range: 1–10. It is 5 by default.</li> <li>• Repeated alarm suppression. Supports on and off, off by default.</li> </ul> <p>2) Reports on events when the alarm starts, ends, and for the period it exists.</p> <p>2. Alarm Details</p> <p>1) Includes: Alarm pictures with the target box, devices, channels, start time, end time, event name and event type.</p> <p>2) Alarm pictures: 3 types of pictures, including 1 × picture of the construction sign, alarm pictures taken in intervals and 1 × picture after the sign has been removed.</p> <p>3) Picture overlay: Target box, target ID and detection region</p>	<p><b>Smoke Detection</b></p>	<p>Detects when smog appears and remains in the area for longer than the defined threshold.</p> <p>1. Intelligent Configuration:</p> <ul style="list-style-type: none"> <li>• Shortest duration. Range: 1 s–300 s, 5 s by default.</li> <li>• Sensitivity. Range: 1–10, 5 by default.</li> <li>• Alarms in intervals. Range: 1 s–300 s, 10 s by default.</li> <li>• Overlap threshold. Range: 0–100, 90 by default.</li> </ul> <p>2. Alarm Details: 1 × Alarm picture with the target box, devices, channels, event time, event name and event type</p>
<p><b>Obstacle Detection</b></p>	<p>Detects objects that act as obstacles, such as boxes, in the area for longer than the defined threshold.</p> <p>1. Intelligent Configuration:</p> <p>1) Parameters</p> <ul style="list-style-type: none"> <li>• Shortest duration. Range: 1 s–300 s, 5 s by default.</li> <li>• Alarms in intervals. Range: 1 s–65,535 s, 300 s by default.</li> <li>• Sensitivity. Range: 1–10, 1 by default.</li> <li>• Repeated alarm suppression. Supports on and off, off by default.</li> </ul> <p>2) Reports on events when the alarm starts, ends, and for the period it exists.</p> <p>2. Alarm Details</p> <p>1) Includes: Alarm pictures with the target box, devices, channels, start time, time object was removed, event name and event type.</p> <p>2) Alarm pictures: 3 types of pictures, including 1 × picture of the object acting as an obstacle, alarm pictures taken in intervals and 1 × picture after the object has been removed.</p> <p>3) Picture overlay: Target box, target ID and detection region</p>	<p><b>Crossing Line Detection</b></p>	<p>Detects when a vehicle crosses the solid yellow or white line for longer than the defined threshold.</p> <p>1. Intelligent Configuration:</p> <ul style="list-style-type: none"> <li>• Lane lines</li> <li>• Duration. Range: 1 s–300 s, 5 s by default.</li> <li>• Takes snapshots when a vehicle crosses the solid white line. It is off by default.</li> <li>• Sensitivity. Range: 1–10, 5 by default.</li> </ul> <p>2. Alarm Details:</p> <p>1) Includes: Alarm pictures with the target box, devices, channels, event time, event name, event type, lane number and plate number.</p> <p>2) Alarm pictures: 2 pictures, including 1 × picture of the vehicle crossing the solid line and 1 × picture taken 1 s after the alarm.</p> <p>3) Picture overlay: Target box, Target ID, Lane line and Target point</p>
<p><b>Accident Detection</b></p>	<p>Detects when vehicles collide, and the collision lasts longer than the defined threshold.</p> <p>1. Intelligent Configuration:</p> <ul style="list-style-type: none"> <li>• Alarms in intervals. Range: 1–3,600 s, 600 s by default.</li> <li>• Parking duration. Range: 1 s–300 s, 5 s by default.</li> <li>• Duration of pedestrian in area. Range: 1 s–300 s, 3 s by default.</li> <li>• Vehicle in traffic congestion. Range: 1-300, 14 by default.</li> </ul> <p>2. Alarm Details:</p> <p>1) Includes: Alarm pictures with the target box, devices, channels, start time, event name and event type.</p> <p>2) Alarm pictures: 2 pictures, including 1 × picture of the vehicle collision and 1 × picture taken 1 s after the alarm.</p> <p>3) Picture overlay: Target box and detection region</p>	<p><b>Speeding Detection</b></p>	<p>Detects when the speed of a vehicle exceeds the defined threshold, and remains above the threshold for longer than the defined time.</p> <p>1. Intelligent Configuration:</p> <ul style="list-style-type: none"> <li>• Lane number</li> <li>• Maximum speed. Range: 60 km/h–180 km/h. It is 120 km/h by default.</li> <li>• Shortest duration. Range: 1 s–300 s, 5 s by default.</li> </ul> <p>2. Alarm Details:</p> <p>1) Includes: Alarm pictures with the target box, devices, channels, event time, event name, event types, lane number, plate number, maximum speed and driving speed.</p> <p>2) Alarm pictures: 2 pictures, including 1 × vehicle speeding picture and 1 × picture taken 1 s after the alarm.</p> <p>3) Picture overlay: target box, target ID, and lane line</p>
<p><b>Fire Detection</b></p>	<p>Detects when a fire breaks out in the area, and lasts longer than the defined threshold.</p> <p>1. Intelligent Configuration</p> <ul style="list-style-type: none"> <li>• Shortest duration. Range: 1 s–300 s, 5 s by default.</li> <li>• Sensitivity. Range: 1–10, 5 by default.</li> <li>• Alarms in intervals. Range: 1 s–300 s, 10 s by default.</li> <li>• Overlap threshold. Range: 0–100, 90 by default.</li> </ul> <p>2. Alarm Details: 1 × alarm picture with the target box, devices, channels, event time, event name and event types</p>	<p><b>Driving Too Slow Detection</b></p>	<p>Detects when the speed of a vehicle falls below the defined threshold, and remains below the threshold for longer than the defined time.</p> <p>1. Intelligent Configuration:</p> <ul style="list-style-type: none"> <li>• Lane number</li> <li>• Minimum speed. Range: 30 km/h–120 km/h. It is 60 km/h by default.</li> <li>• Shortest duration. Range: 1 s–10 s, 1 s by default.</li> </ul> <p>2. Alarm Details:</p> <p>1) Includes: Alarm pictures with the target box, devices, channels, event time, event name, event types, lane number, plate number, maximum speed and driving speed.</p> <p>2) Alarm pictures: 2 pictures, including 1 × picture of the vehicle driving too slow and 1 × picture taken 1 s after the alarm.</p> <p>3) Picture overlay: Target box, target ID, and lane line</p>
		<p><b>Detection of Hazardous Material Transport Vehicle</b></p>	<p>Detects when a hazardous material transport vehicle crosses the detection line.</p> <p>1. Intelligent Configuration:</p> <ul style="list-style-type: none"> <li>• Sensitivity. Range: 1–10, 3 by default.</li> <li>• Hazardous material transport vehicle. It is tank car by default.</li> </ul> <p>2. Alarm Details:</p> <p>1) Includes: Alarm pictures with the target box, devices, channels, event time, event name, event type and plate number.</p> <p>2) Picture overlay: Target box, target ID, lane line and target point</p>

Detection of Hazardous Material Transport Vehicle	<p>Detects when a hazardous material transport vehicle crosses the detection line.</p> <p>1. Intelligent Configuration:</p> <ul style="list-style-type: none"> <li>• Sensitivity. Range: 1–10, 3 by default.</li> <li>• Hazardous material transport vehicle. It is tank car by default.</li> </ul> <p>2. Alarm Details:</p> <p>1) Includes: Alarm pictures with the target box, devices, channels, event time, event name, event type and plate number.</p> <p>2) Picture overlay: Target box, target ID, lane line and target point</p>
Detection of Driving in Emergency Lane	<p>Detects when a vehicle enters the emergency lane.</p> <p>1. Intelligent Configuration:</p> <ul style="list-style-type: none"> <li>• Sensitivity. Range: 1–10, 3 by default.</li> </ul> <p>2. Alarm Details:</p> <p>1) Includes: Alarm pictures with the target box, devices, channels, event time, event name, event type and plate number.</p> <p>2) Picture overlay: Target box, target ID, lane line and target point</p>
Plate Number Recognition	Supports ANPR for parking, illegal lane change, crossing the solid yellow line, wrong-way driving, and area intrusion. It is recommended that the license plate width is more than 80 pixels
Report Generation and Export	Exports alarm information in Excel form, including device, device IP, channel name, event time, event name, event type, lane, license plate number, speed and more
Alarm Search	Supports searching for alarm information according to multiple options, such as device, channel, event type, capture time and more

### Traffic Event Detection Application Scenes

Scene Attribute	Widely used in traffic management, road operations and maintenance scenarios such as expressways, urban expressways, viaducts, tunnels, and cross-sea bridges
Camera Installation	Front installation (recommended) and side installation
Camera Installation Height	6–12 meters recommended, two or three lanes can be captured
Camera installation Angle	Recommended pitch angle is between 10°–15°, covering about 50 m–100 m (164.04 ft–328.08 ft) and lane inclination angle < 30° when side-mounted

### Traffic Event Detection Performance

Video Resolution	2MP or 4MP
Analysis Capability	The server supports 32-ch 2 MP or 4 MP video stream. One server can have up to 32 channels, and 20 rules can be configured for each channel. Littering, smoke and heat detection can be set for up to 16 of the 32 channels. In global mode, one intelligent analysis card supports 16-ch 2 MP or 4 MP video stream. One card can have up to 16 channels, and 20 rules can be configured for each channel
Traffic Event Detection Type	Includes parking, pedestrian on vehicle lane, non-motor vehicle, traffic jam, traffic flow statistics, littering, area intrusion, illegal lane change, wrong-way driving, construction, obstacle, traffic accident, fog, smoke, fire, crossing solid line, speeding, driving too slow, truck entering prohibited area, hazardous material transport vehicle and driving in emergency lane
Traffic Parameters	Traffic flow, average speed, time occupancy rate, space occupation rate, space headway, time headway and queue length

Parking Detection	According to test data (2 MP access), the detection rate is 90%, and the effective rate is 90%
Pedestrian Detection	According to test data (2 MP access), the detection rate is 90%, and the effective rate is 90%
Non-motor Vehicle Detection	According to test data (2 MP access), the detection rate is 90%, and the effective rate is 90%
Traffic Jam Detection	According to test data (2 MP access), the detection rate is 90%, and the effective rate is 90%
Traffic Flow Statistics	According to test data (2 MP access), the traffic accuracy rate is over 90%.
Visibility Detection	Subject to actual test
Littering Detection	According to test data (2 MP access), the detection rate is 80%, and the effective rate is 80%
Area Intrusion Detection	According to test data (2 MP access), the detection rate is 90%, and the effective rate is 90%
Illegal Lane Change Detection	According to test data (2 MP access), the detection rate is 90%, and the effective rate is 90%
Wrong-way Detection	According to test data (2 MP access), the detection rate is 90%, and the effective rate is 90%
Reversing Detection	According to test data (2 MP access), the detection rate is 90%, and the effective rate is 90%
Construction Detection	According to test data (2 MP access), the detection rate is 90%, and the effective rate is 80%
Roadblock Detection	According to test data (2 MP access), the detection rate is 90%, and the effective rate is 90%
Traffic Accident Detection	Subject to actual test
Fire Detection	Subject to actual test
Smoke Detection	Subject to actual test
Crossing Line Detection	According to test data (2 MP access), the detection rate is 90%, and the effective rate is 90%.
Speeding Detection	Subject to actual test
Driving Too Slow Detection	Subject to actual test
Detection of Trucks Entering Prohibited Area	Subject to actual test
Detection of Hazardous Material Transport Vehicle	Subject to actual test
Detection of Driving in Emergency Lane	Subject to actual test
Alarm Video	<ol style="list-style-type: none"> <li>1. Max. 192-channel 4 MP cache, each card with 32 channels</li> <li>2. Up to 32 task video (within 4 MP) can be written to HDDs at the same time. When the limit is exceeded, an error log is printed, showing the reason why the recording was stopped.</li> <li>3. Supports playing back video of up to 4 channels at the same time</li> </ol>

### Port

Network	2 × 10,000/1,000 Mbps gigabit Ethernet ports
USB	2 front USB3.0 ports and 3 rear USB3.0 ports
VGA	2
DVI	1
PCIe	8 × standard PCI e

Other Port	1 RJ-45 management network port
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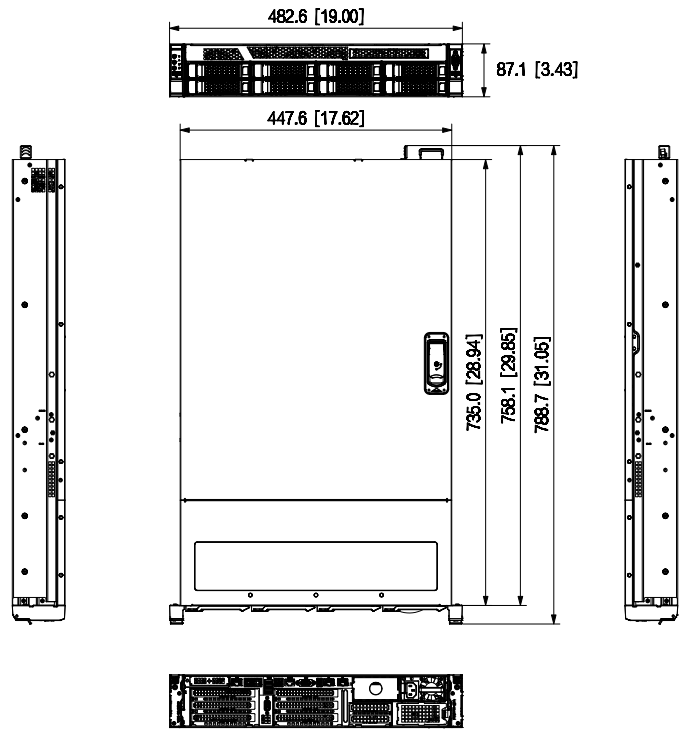
General

Power Supply Mode	100 V-127 V/200 V-240 V, 50 Hz/60 Hz, 10 A/5 A
Power Redundancy	Dual power redundancy
Power Consumption	205 W (without HDD, idling) 620 W (all HDDs connected, with 6 intelligent analysis card)
Operating Temperature	+10 °C to +35 °C (+50 °F to +95 °F)
Operating Humidity	10%–90% (RH), non-condensing
Storage Temperature	–40 °C to +60 °C (–40 °F to +140 °F)
Storage Humidity	5%–95% (RH), non-condensing
Gross Weight	35.0 kg (77.16 lb)
Net Weight	27.5 kg (60.62 lb)
Dimensions	87.0 mm × 438.0 mm × 735.0 mm (3.43" × 17.24" × 28.94" ) (H × W × D)
Packaging Dimensions	273.0 mm × 754.0 mm × 1069.0 mm (10.75" × 29.68" × 42.08") (H × W × D)
Installation	Standard 19" rack installation with guide rail
Mean Time Between Failures	69.6 years
Certification	CE-LVD: EN 62368 CE-EMC: EN 55032: 2015; EN 61000-3-2: 2019; EN 61000-3-3: 2013+A1: 2019; EN 50130-4: 2011/A1: 2014; EN 55035; 2017; EN 55024: 2010+A1: 2015 FCC: 47 CFR FCC Part15, Support B, Class A

Filter

Product Type	All-in-one server integrating software and hardware
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Dimensions (mm[inch])



Ordering Information

Type	Model	Description
Dahua 2U Intelligent Video Analysis Server for Traffic Event Detection	DHI-IVS-TB8000-2E-GU2	Dahua 2U Intelligent Video Analysis Server for Traffic Event Detection
	DHI-IVS-TB8000-3E-GU2	Dahua 2U Intelligent Video Analysis Server for Traffic Event Detection
	DHI-IVS-TB8000-4E-GU2	Dahua 2U Intelligent Video Analysis Server for Traffic Event Detection
	DHI-IVS-TB8000-5E-GU2	Dahua 2U Intelligent Video Analysis Server for Traffic Event Detection
	DHI-IVS-TB8000-6E-GU2	Dahua 2U Intelligent Video Analysis Server for Traffic Event Detection