

仅限海康威视HIKVISION使用 2025-05-20



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HikCentral Master V2.1.1

Datasheet

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Introduction

HikCentral Master is an AI Cloud-based and edge domain-oriented intelligent platform for application management. It focuses on sensing the collection, storage, processing, and intelligent application of data, integrating the Internet of Things (IoT), AI, data and other capabilities to collect, store, and analyze data across time and space in the edge domain scenario.

The platform provides the following capabilities:

- Unified management, collection, and on-demand push of IoT resources.
- Video-based general intelligent application and data application.
- Intelligent analysis based on videos.
- Data application and analysis based on IoT data.
- Interfaces in different languages, including English, Arabic, Russian, and Turkish.

Key Features

Security Monitoring

- Supports displaying the live video and playback footage of cameras; live view is provided through View and auto-switch.
- Supports embedding maps in the playback plugin of Web Client.
- Supports displaying cameras and checkpoint resources on the map, performing map related operations such as dragging, zooming, and aggregating resources, and performing operations on multiple cameras at the same time, including viewing live videos, playing back footages, and adding to favorites. Supports searching and filtering resources by keywords, capability set tags, and organization trees, and displaying search results on the map.
- The real-time dashboard supports double-clicking a camera to start viewing its live video; up to 9 cameras can be viewed at the same time. Supports displaying structured data generated by real-time video analysis in a visualized way, including face captures, vehicle captures, and vehicle captures. Supports receiving and displaying all face arming alarms, vehicle model arming alarms, and arming alarms of vehicle license plate number in real time.
- Supports managing AR scenes and custom tags.
- Supports showing live view of video and tags on scene. Supports capturing, recording, 3D positioning, manual tracking, panorama switch, PTZ control, and setting sequence No. of scene.
- Supports scene management, such as scene auto-switch.

- Supports managing and displaying tags. Supports tag operations, including dragging and dropping video window, quick closing details window, and filtering and searching tags. Supports calibrating tag position, displaying overlay tags, marking general devices, and editing tag style. Supports displaying, counting, and syncing tags. Support managing movable tags, checkpoint tags, and video tags.
- Supports scene switch, video display (scene and tag), FoV area, and linkage alarm.
- Supports scene FoV, scene switch, and scene positioning.
- Supports playback of scene videos, syncing playback, and controlling playback.
- Supports configuring auto-switch plan, and displaying live view of auto-switch.

Alarm

- Supports configuring device alarm, searching for alarm records, and viewing details of device alarm records.
- Supports configuring front-end and back-end VCA tasks. Support configuring user linkage, capture linkage, email linkage, recording linkage, PTZ linkage, video linkage, I/O linkage, and display video on video wall.
- Supports searching by event type, event camera, event level, event status, handling status, analysis type, and report time. Supports displaying alarm details.
- Supports statistics analysis, including back-end VCA capability analysis, back-end VCA task analysis, capability ranking statistics, total events, and event time period trend chart.
- Supports receiving emergency alarms, locating on map, and handling alarms. Supports live view, auto-switch, and two-way audio of alarm devices. Supports enabling alarm light or sounder, and viewing linked videos. Supports manually creating emergency alarms.
- Supports searching event records by event type, event time, event source, alarm event handling status, and creator. Supports displaying event details.
- Support displaying Top 10 event sources, counting number of events by day/month/year, and counting event by time.

VCA Search

- Supports searching captured face pictures and human body pictures according to face picture features and human body features respectively.
- Supports searching face pictures and human body pictures that reach the minimum similarity threshold.
- Supports searching list library based on information such as photos with the target person, gender, ID No., and date of birth range to confirm the personal information of the target person.

- Supports searching data view of vehicles by license plate No., time, and space, and displaying information of key vehicles, including vehicle basic information, vehicle arming information, arming alarm information, vehicle capture information, and traffic violation information.
- Supports real-time tracking target vehicles by license plate No., displaying historical routes of the current day on the map, and displaying real-time vehicle location information. Supports reporting vehicle violation events in real time, recognizing key locations passed and dwelling areas of the vehicle, and predicting the next target location of the vehicle.
- Supports searching historical routes of vehicles by license plate No., time, and checkpoint range, and adjusting the playback speed of vehicle routes.
- Supports searching vehicles by license plate No. (precise or fuzzy), time, checkpoint range, passing vehicle type, license plate type, vehicle type, vehicle color, total number of vehicles displayed, and passing time sorting type to display the search result of vehicle information.
- Supports searching vehicle pictures that reach the minimum similarity threshold.
- Supports vehicle statistics, including the statistics of total vehicles, passing vehicle capture quantity over time, passing vehicle capture details, top 10 cameras by passing vehicle quantity, alarm quantity of armed passing vehicles over time, alarm details of armed passing vehicles, and top 10 cameras by alarm quantity of armed passing vehicles.
- Supports face statistics, including the statistics of total face captures, face capture quantity over time, face capture details, top 10 cameras by face capture quantity, alarm quantity of armed face pictures over time, alarm details of armed face pictures, and top 10 cameras by alarm quantity of armed face pictures.
- Supports human body statistics, including the statistics of total human body captures, the human body capture quantity over time, human body capture details, camera capture quantity over time, and top 10 cameras by human body capture quantity.

Vehicle Driving Characteristics Search

- Supports analysis of vehicles driving along for identifying vehicles that frequently drive along with the target vehicles. It is used to target vehicles with a higher probability of following from multiple suspicious vehicles.
- Supports vehicle dwell analysis based on the target vehicle license plate number. It is used to analyze the dwell location of vehicles on the map, then filter locations by dwell duration and times to get locations where the suspect vehicle frequently appears.
- Supports nocturnal vehicle analysis to find out vehicles that hide during the day and appear during the night, then filter the vehicles with frequently nocturnal activities.

- Supports first-time entry vehicle analysis to find out vehicles that have entered a city or key areas of a city for the first time during the specified time period.
- Supports searching vehicles by drawing a track on the map and setting a time period.
- Supports cloned license plate analysis to find out the suspect vehicles with cloned license plates based on spatio-temporal analysis of same license plate number.

Arming

- Supports arming vehicles. Supports arming a single license plate or arming a vehicle list library. Supports searching, editing, disarming, re-arming, deleting, and verifying vehicle arming tasks.
- Supports arming the triggered person and arming the face picture list library. Supports searching, editing, disarming, rearming, deleting, and verifying face picture arming tasks.
- Supports recognizing vehicle arming alarm events by vehicle arming tasks. Supports searching for vehicle arming alarm records. Supports exporting the alarm records. Supports redirecting to the page of vehicle panoramic view when the user views the vehicle alarm records. Supports displaying details of alarm triggering vehicle by the alarm license plate No.
- Supports recognizing arming alarm events of face pictures by face picture arming tasks. Supports searching for arming alarm records of face pictures. Supports exporting the alarm records. Supports searching for alarm triggering persons by pictures and verifying identity when the user views the face picture alarm records.
- Supports configuring frequently appeared person alarm configuration. Supports generating the records of frequently appeared person when a person appears more than the configured time in the specific area during the specific time.
- Supports functions such as offline video management, analysis, and quick arming comparison; comparisons can be made based on face picture and vehicle arming tasks to find out the arming target in offline videos.

Enforcement

- Supports configuring violation type rules, including whether to enable a violation type and the violation duplication rule. Supports setting the duplication rule calculation time to natural day or custom day/hour/minute.
- Supports configuring the sequence and time range of violation data displaying, reasons that the verifier can select for denying violations, and violation verification guide/description.
- Supports configuring whether to enable further verification.

- Supports configuring the violation video playback duration.
- Supports searching for violations by license plate number, violation type, violation location, violation time period, verification status, verification conclusion, verifier, reasons for denying violations, license plate recognition status, vehicle color, and vehicle type. Supports filtering violation data by speeding ratio when you select segment speeding as the violation behavior.
- Supports violation verification, further verification, and discarding (deleting) records.
- Supports further verification of disputed violation.
- Supports searching for segment vehicle speed by start capture time, end capture time, segment name, speeding ratio, license plate No., and vehicle speed range. Supports displaying the search results in descending/ascending order of end capture time, average speed, and speeding ratio.
- Supports searching the configuration information of the segment speed by the segment name. Supports adding, deleting, and editing segment speed detection information. Supports setting speed ratio and forwarding (canceling) alarms.
- Supports configuring traffic control rules for vehicles with odd/even license plate No. and specific license plate color. Supports configuring holiday templates of rules, and enabling or disabling rules.
- Supports vehicle violation data of traffic control. Supports searching, verifying, reviewing, counting violations of traffic control.
- Supports searching for and viewing evidence files stored in the dock stations, and other operations including viewing records of evidence being viewed/downloaded, downloading evidence, marking evidence, archiving evidence, and deleting evidence, etc.
- Supports creating enforcement events, viewing created events, editing event details, linking/unlinking file with events, and ending events.
- Supports searching for a person or a device's historical tracks, and enforcement device alarm records including SOS alarm records and fence alarm records.
- Supports viewing the status information of enforcement devices by page, the storage usage of the current center storage, and the numbers of different files.
- Supports viewing the mobile enforcement statistics on the current day. Supports displaying statistics by week, month, or year, including duty attendance distribution, event trend, SOS alarm trend, and distribution of event types.
- Supports viewing the real-time locations of enforcement personnel, portable speed domes, and cameras on the map. Supports operations including starting live view,

playback, and two-way audio. Supports viewing the attendance information on the current day and the real-time information of SOS alarms and E-map fence alarms. Supports handling alarms.

- Supports setting different icons for body cameras from different departments. Supports starting recording videos on the body camera remotely. Supports managing face pictures for logging in to the dock station.
- Supports taking body cameras away from dock stations via AD domain account authentication. Supports batch upgrading body cameras via dock stations.
- Supports viewing intelligent vehicle lighting bars on the map. Supports viewing a single intelligent vehicle lighting bar's tracks on the current day and in real time. Supports watching live videos streamed from linked cameras and police vehicles.

Traffic Order Management

- Supports configuring areas, intersections, road segments, and road information, and automatically loading road segments by uploading the OSM road network file.
- Supports configuring area traffic congestion status, intersection service level, and traffic congestion status of road segment, for evaluating the congestion status of road network.
- Supports configuring the level of traffic events.
- Supports real-time traffic monitoring by intersection, road segment, and area. The real-time monitoring displays the statistics of ranking / congestion status / traffic trend prediction / historical congestion status. Supports viewing cameras linked with intersections / road segments or all cameras, and performing live view / playback accordingly. Supports displaying checkpoints and guidance screens on the map. Supports displaying the statistics of intersections / road segments in congestion level. Supports subscribing to the congestion data of traffic events uploaded by devices, and displaying the data at checkpoints linked with devices. A red icon will appear on the checkpoint for indicating the traffic congestion, and will disappear if no operation is performed within 15 minutes. For each checkpoint, only the latest event record will be displayed.
- Supports displaying real-time traffic events in the real-time status monitoring of road segment for allowing the user to handle traffic events in time. Supports playing back the latest traffic events for allowing the user to handle traffic events.
- Supports jumping to the information release module to configure road segment related materials and programs. Supports quickly releasing and canceling releasing of content.

- Supports viewing traffic flow statistics by statistics time (day (5 min/ 10 min / 30min / 1 hour) / week (each day of the week) / month (each day of the month) / year (each month of the year)), checkpoint (specify lane for a single checkpoint), intersection (specify lane direction for a single intersection), road segment, etc. Supports viewing traffic statistics by 11 statistics objects: the lane speed, time headway, arrival flow, queue length, delay per vehicle, turning flow, free flow duration, space headway, space occupancy rate, time occupancy rate, traffic volume (number of small-sized vehicle / medium-sized vehicle / large-sized vehicle / non-motor vehicle and motorcycle). Supports displaying traffic statistics by bar chart / line chart / list, according to the selected statistics mode and time. Supports exporting traffic statistics by filtering conditions.
- Supports searching and exporting traffic events information by checkpoint, intersection, road segment, and area. Supports video playback for filtering false alarms of traffic events. Supports verifying a single traffic event or filtering it as a false alarm.
- Supports counting the traffic event statistics by event status, statistics range (checkpoint, intersection, road segment, or area), time, and type. Supports displaying the statistics by day, month, and year.
- Supports visualized orchestration of layout, content, loop and mode of page and window, for content release on selected guidance screens.
- Supports controlling on a single or multiple terminals by command.
- Supports reviewing the unreleased materials, programs, and tasks.
- Supports displaying the number of violation events of the current day and of this month, number of traffic events of the current day and of this month, number of checkpoints/devices, number of on-duty officers / officer vehicles, passing time and congestion level of arterial road, peak-hour congestion trend and corresponding weather, service level / delay / saturation of key intersections.

Device Maintenance

- Supports displaying an overview of device running status, including total number of cameras, total camera online rate, video image normal rate, recording normal rate, and so on in the selected area.
- Supports displaying device health data through online detection, video quality diagnosis, recording check, encoding device check, decoding device check, and storage device check.
- Supports displaying alarm data found during device status check, including device and camera offline, video quality exception, and recording exception; supports alarm search and alarm handling.

- Supports displaying the current resource health status in a visualized way and providing multi-type statistics charts including area maintenance statistics, camera image quality statistics, camera video integrity statistics, high-performance camera statistics, camera online status statistics, camera recording storage qualification statistics, and offline duration statistics.

System Requirements

For high stability and good performance, the following system requirements must be met.

Feature	Description
OS for Server	AlmaLinux 9.0, HikOS Enterprise 1.0 and 1.1, and Red Hat 9.0
OS for Control Client	Microsoft® Windows 10, Windows11(64-bit)
Browser Version	Chrome 89 and later (Google Chrome 114.0.5735.199 is recommended)

Software Specification

The following table shows the maximum performance of the HikCentral Master server.

Component	Feature	Max. Performance
Basic Functions	User	50,000 users.
	Department	10,000 departments.
	Role	10,000 roles.
	Area	20,000 areas under 5 levels, and 50 subareas can be added under each level.
	Device Access	One DAC Server: 5,000 (added via SDK or ISUP).
Video	Live View	One DAC Server: Concurrent live view of up to 300 mainstream channels (bit rate: 2 Mbps).
	Playback	One VOD Server: Concurrent playback of 300 mainstream channels (bit rate: 2 Mbps).
Capture	Captured Face Pictures, Human Bodies, Vehicles, Etc. via IAC Direct Storage (Main Stream Solution)	One IAC Server: 1500 pictures (Max.)/secs.
	Captured Face Pictures, Human Bodies, Vehicles,	One IAC Server: 100 pictures (Max.)/secs, picture size: 400 KB.

	Etc. (IAC Storage via Platform)	
Vehicle	Lane	2000 lanes.
	Traffic Control Rules	100 rules (Max.)
	Vehicle Blocklist Alarm	1,000,000 arming lists.
	Traffic Violation Data	10,000 pieces/day.
Person	Face Picture Blocklist Alarm	3,000,000 face picture models.
Enforcement	Evidence File Storage	200,000,000 per year
	Evidence File Upload	500,000 per day
	Enforcement Event Storage	1,000,000 per year
GPS	GPS Data Storage	400 alarm lights 300 (Max.) per second
Information Release	Traffic Guidance Screens	10,000 (Max.) 500 per node
AR	Device Linked to Scene	10,000
Road Network	Intersection	40
	Road Segment	20

The following table shows the max. performance of a big data server (for reference only; for product selection, go to the online product selection system). Max. 5 big data servers are allowed in the cluster. In cluster mode, the total data storage size for 5 nodes is 2.5 times of that of a single node.

Component	256-GB Big Data Server 256	512-GB Big Data Server 512
Face Picture Only (Model Included)	1.6 billion (max.); increment per day: 10 million (max.); storage period: 7 to 365 days, 180 days by default; hot data of face picture search: 12 million.	1.6 billion (max.); increment per day: 10 million (max.); storage period: 7 to 365 days, 180 days by default; hot data of face picture search: 70 million.
Vehicle Only (Model Included)	2.2 billion (max.); increment per day: 10 million (max.); storage period: 7 to 365 days, 180 days by default; hot data of vehicle picture search: 12 million.	2.2 billion (max.); increment per day: 10 million (max.); storage period: 7 to 365 days, 180 days by default; hot data of vehicle picture search: 70 million.

Human Body Only (Model Included)	1.2 billion (max.); increment per day: 10 million (max.); storage period: 7 to 365 days, 180 days by default; hot data of human body search: 10 million.	1.2 billion (max.); increment per day: 10 million (max.); storage period: 7 to 365 days, 180 days by default; hot data of human body search: 60 million.
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Hardware Specification

The following table shows the recommended hardware configuration for standard servers.

Processor	Intel® Xeon™ Silver 4410Y (2.0G Hz, 30MB Cache, 12 Cores, 24 Threads) × 2 pieces
Memory	Recommended: 32GB RDIMM, 4800MT/s × 2 pieces (Total 64GB RAM)
Storage	2TB 7.2K RPM 3.5"HDD × 4
RAID	PERC H355 adaptor LP (support RAID 0/1)
NIC	1GbE × 6

256-GB Big Data Server

Processor	Intel® Xeon™ Silver 4410Y (2.0G Hz, 30MB Cache, 12 Cores, 24 Threads) × 2 pieces
Memory	Recommended: 32GB RDIMM × 8 pieces (Total 256GB RAM)
Storage	960GB SSD×2 1.6T NVME PCIE SSD×4 8T SATA × 6, 3.5" Enterprise SATA 7.2k HDDs
RAID	H750 8GB RAID Card
NIC	1GbE×2+10GbE×2

512-GB Big Data Server

Processor	Intel® Xeon™ Silver 5418Y (2.0G Hz, 45MB Cache, 20 Cores, 40 Threads) × 2 pieces
Memory	Recommended: 32GB RDIMM × 16 pieces (Total 512GB RAM)
Storage	960GB SSD × 2 1.6T NVME PCIE SSD × 4 8T SATA × 6, 3.5" Enterprise SATA 7.2k HDDs
RAID	H750 8GB RAID Card
NIC	1GbE×2+10GbE×2

The following table shows the recommended hardware configuration for the client.

Processor	Intel® or AMD quad-core, 2.0 GHz and above (minimum configuration for video service) Intel® i5-9400/F (recommended configuration for video service) Intel® Core(TM)i7-9700K CPU + 32GB + 8GB video memory (recommended configuration for traffic dashboard service)
Memory	Minimum configuration: 8 GB and above Recommended configuration: 16 GB and above
Graphics Card	NVIDIA GeForce GTX1050TI (for video service) NVIDIA GeForce GTX 1060 (for AR service) NVIDIA GeForce GTX 2070 SUPER (for traffic dashboard service)
NIC	1GbE and above

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