Smart IoT Integrated Management Server
UG-I500-H16(B)

Overview

The UG-I500-H16-IN is designed for general small and medium-sized campus scenarios. It adopts a new modular architecture, providing unified access, data processing, forwarding, and storage for IoT edge devices while enabling rapid integration of business subsystems to combine various campus management functions such as video management, pedestrian access control, vehicle access control, and security protection into a unified platform. The device supports the connection and management of various types of devices, such as IPC, NVR, Smart Box, video wall controller, face detection access control terminal, access controller, video intercom device, entrance & exit ANPR camera, visitor management terminal, and third-party device (e.g., alarm controller, access controller). Based on the basic video services, the device supports extended campus applications such as pedestrian access control, vehicle access control, and alarm management, and integrated security functions such as attendance management, O&M management, and map management. The system features easy deployment, flexible expansion, high stability and reliability, and is widely applicable in various LAN-based monitoring scenarios (e.g., industrial parks, buildings, school campuses, hotels, and venues) and WAN-based monitoring (such as chain stores).

Features

- Powerful access: Connect and manage 2,000 video channels.
- Powerful management: Connect and manage IPC, NVR, Smart Box, video wall controller, face detection access control terminal, access controller, video intercom device, entrance & exit ANPR camera, visitor management terminal, radar device, and third-party device (alarm controller, access controller), etc.
- Powerful storage: 16 x SATA disks, supports recording backup.
- Strong compatibility: Onvif, RTSP
- High expandability: Primary/replica device management expansion, forwarding and storage capacity expansion
- Rich functionalities: Basic functions including live view, playback, group sequence, view, video wall, e-map, 3D map, two-way audio, audio broadcast, and alarm linkage; expanded functions such as access control, visitor management, vehicle access management, personnel management, people counting, parking management, alarm system, and O&M.
- Flexible access: PC client (C/S, B/S), mobile client (iOS, Android).
- Exceptional stability: Linux system, dual-BIOS, dual power modules

- Security: Network fault tolerance, load balance, multi-IP address, secure password, IP address filtering.
- Sophisticated O&M: Server status, device/channel online status, log search, etc.
- Interfaces: 4 x GE ports, 24 x alarm input, 8 x alarm output, 2 x USB 2.0, 2 x USB 3.0, 2 x HDMI, 1 x VGA.

Specifications

Model	UG-I500-H16(B)
BOM	
BOM	0235CB3V
Device management	
Encoding devices	1000
Video channels	2000
Cloud devices	256
Onvif devices	1000
Smart channels	500 (including face detection, LPR, multi-target detection)
Access control devices	300
Video intercom devices (door station)	300
Video intercom devices (indoor station)	2000
IPSAN(VX-U)	10
Alarm controllers	800
Third-party integration protocols	3 sets, including 2 sets of SDK
Replica servers	10
Device management fuction	LAN devices: IPC, NVR, storage device, access control device, display control device, entrance & exit ANPR camera, radar, Smart Box, video intercom device, alarm controller, visitor management terminal Cloud devices: IPC, NVR, and face detection access control terminalView device info: name, IP address, device model, device status, etc.Access device's web interface for more operationsSupported protocols: Uniview private protocol, Onvif Protocols for connecting third-party devices such as alarm controllers, access controllers, visitor terminalsDevice connection mode: IP+Port, DDNS+Port, EZCloud
Media streaming	
Receiving bandwidth(Mbps)	650
Forwarding bandwidth(Mbps)	650
Storage bandwidth(Mbps)	650
Concurrent central storage channels	250
Concurrent central playback channels	30
P2P	
P2P Receiving	250

bandwidth(Mbps)	
P2P Forwarding bandwidth(Mbps)	250
Event and alarm	
Events/alarms without images per second	150
Events/alarms with images per second	15
Push events/alarms to clients per second (events/alarms per second)	15
Organization management	
Organizations	1000
Organization levels	26
User management	
Roles	500
Users	2000
Concurrent online users	200
User management	Add, edit, delete, search users View user listAssign one or more roles to a userConfigure user priority (used for PTZ control)Reset passwords of other users (only available to admin)Assign/withdraw roles
Personnel management	
Persons	50000
Vehicle and parking	
Vehicles	10000
Parking lots	4
Entrances and exits	8
Lanes	16
Data storage	
Alarm logs	10000000
Operation logs (retention period)	6 months
Access control events	10000000
People counting	10000000
Visitor records	10000000
Vehicle passing records	10000000
Attendance records	10000000
User login	
User login	Multi-client login Strong password policy, mandatory password reset at first loginUser lock/unlockLogin failure limit, locks the client IP for 5 minutes after 5 failed login attempts
Password management	
Password management	Allows user to change his/her own password

	Retrieve password via security questionsRetrieve password through email
Role management	
Role management	Add, edit, delete, search roles Configure function access permission, allow different roles to access specified functions onlyConfigure resource access permission, allow different roles to access specified resources onlyView role list
Alarm receiving	
Alarm receiving fuction	Receive Onvif/LAPI device alarms Trigger alarms manually in case of emergencyAlarm customization to integrate with third-party interfaces
Alarm subscription	
Alarm subscription	Alarm subscription by user Alarm subscription by external domain (higher platform can subscribe to alarms from the current platform)
Alarm functionality	
Alarm functionality	Receive smart events in real time (pedestrian/motor vehicle/non-motor vehicle detection events) Search motor vehicle/non-motor vehicle/face recordsSearch perimeter protection alarms (Cross Line, Intrusion, Enter Area, Leave Area)Search face recordsSearch personnel recordsSupport alarm pushReal-time pop-up alarm windowSearch historical alarms, acknowledge alarmsSearch alarm records by alarm time, alarm device, alarm type, alarm level, handling result, handling user, and alarm descriptionExport alarm records
Alarm linkage actions	
Alarm linkage actions	Pop up live video of the linked camera PTZPlay live video on video wallPlay recorded video of the linked cameraRecord videoBack up recordingOutput alarmSend emailSend textPlay audioOpen door
Data dashboard	
Data dashboard	Custom title and functional modules: device management, storage configuration, user management, basic configuration, media configuration, video monitoring, video wall, data statistics, data search, face detection, alarm configuration, etc.
E-map	
Map type	Supports image map and GIS online map Image format: JPEG, JPG, BMP images, maximum resolution 8190 x 8190Supports GIS map3D map: 3D/2.5D models support gltf and 3dtiles formats, maximum file size 512MB
Operation types	View live/recorded videos, images, and alarms on map, filter alarms by alarm level and alarm type View device status on mapSearch and locate devices on mapView alarm statistics of the dayChoose a camera on map to view live video from the 6 adjacent cameras; supports grid tracking in live view/playback
Personnel management	
Department management	Add, edit, delete, search departments
Personnel management	Record personnel info, including basic info, card info, room info, fingerprint info Custom personnel attributes
Card management	Enroll or withdraw cards

Room management	
Community management	Add, edit, delete, search communities, buildings, units, rooms Bind rooms with residents, including owners and tenants
Building management	Add, delete, edit, search buildings
Unit management	Add, delete, edit, search units
Room management	Add, delete, edit, search rooms Bind rooms with residents
System management	
Basic configuration	Switch temperature unit: Celsius/Fahrenheit
Time configuration	Server time configuration (NTP server) Holiday management
Hard disk configuration	Local disk, disk status/usage, disk health status Configure RAID with local disks; create, delete, rebuild RAIDs; RAID info (status, capacity)
Network configuration	Network configuration supports TCP/IP mode HTTP, alarm port configurationConfigure route by specifying NIC Supports single-domain dual-NIC configuration
Capacity expansion	
Primary/replica	Primary/replica configuration Automatic device allocationDevice connection capacity expansion: LAN networking: IPC, NVR, face detection access control terminal, radar, Smart BOX, entrance & exit ANPR camera, video intercom device); WAN networking: LAPI device connection (IPC, NVR, face detection access control terminal);Streaming bandwidth expansion: stream receiving/forwarding/storage bandwidthData type expansion: alarm, image, event (people counting, structured) receiving speed
Cascading(OpenAPI)	Resource cascading: obtain and summarize resources from lower platform Data cascading: receive full data reported from lower platformVideo cascading: view video resources on lower platformPTZ control: All PTZ control functions, including PTZ preemptionAudio: audio broadcast, two-way audio
System maintenance	
System restore	Default: Keeps the current network, user, and event configuration Factory default: Restores all factory defaults
System upgrade (server upgrade)	Image backup: backup and restore images, supports face images, vehicle images Local upgrade: upgrade through installation package
Diagnostic info	Export service operation logs
Configuration and data backup	Automatic database backup. Backup interval, one day, one week
Client configuration	
Video	Video processing mode: adaptive (default), fluency priority, real time priority Video stream transmission policy: adaptive Auto-switch to the sub stream when the number of windows exceeds the set valueVideo stream service selection policy: adaptive, direct connection first
Watermark	Watermark: Embeds custom watermark into live or recorded video
Snapshot fuction	Snapshot mode: auto (default), manual

	Snapshot format: JPG (default), PNGContinuous snapshot interval: 1-10s (default: 1s)Continuous snapshots: 2-10 (default: 3)Custom snapshot storage path
Recording	Storage path and format of local recordings
	Storage path and format of downloaded recordingsRecording format: MP4 (default), TS
Alarm fuction	Alarm sound configuration (custom audio)
	Audio playing count: 1-10Pop-up alarm settingAudio file format: WAV and MP3; max 30MB per file
Video intercom	Configure video intercom ringing duration
Live view	
Play control	Play live video by channel and view
	1 / 4/ 6/ 8/ 9/ 10 / 13 / 16 / 17 / 36 / 64 window display on single screenCustom window layout5-window layout in corridor modeMax. 3 auxiliary screensSave settings as a view for quick recall
Batch play	Camera sequence (multiple cameras play in a window in sequence), group display
	View sequenceCamera sequence supports configuring video resources and sequence interval
Snapshot	Captures the current video image and saves to PC
	Continuous snapshot, with custom snapshots and snapshot interval
Live view media service policy	Adaptive
	Direct connection first
Transport protocol fuction	Adaptive
Start/stop live view	Single-channel live video, multi-channel live video
Resume live view	Reestablish live video stream
	Restore live video in local domain (after a camera or XWARE device disconnection or a server restart)Restore inter-domain live video (after an external domain disconnection)
Stream encapsulation policy	RTP stream
Image clarity	Main stream, sub stream
Backend fisheye dewarping	Ceiling mount, wall mount, desktop mount
	Display mode: 360° panoramic, 180° panoramic, Fisheye, and PTZ
Panoramic linkage	Manual tracking, auto tracking
Smart live view	Smart live view in people counting, LPR, and multi-target detection
	Intelligent mark on live video Custom attributes
Playback	
Recording search	Search stored recordings
	Search recording backupsSearch front-end recordings and central recordingsSearch recordings by channel and time range
Transport protocol	TCP, UDP
Playback media service policy	Adaptive
	Direct connection first
Playback control	Start
	StopPauseResume1x forwardFast forward (16×, 8×, 4×, 2×)Slow play (0.5×, 0.25×, 0.125×)Fast rewind (1×, 2×, 4×, 8×, 16×)Drag progress bar to navigate through videoPlay next frameForward by frameSkip to play event/alarm recordings onlyPlay recording files, full-frame forward, extracted-frame rewindStart playback, forward 30s, rewind 30s, modifiable forward/rewind timeMulti-channel synchronous playbackPlayback via relayPlayback on 3 auxiliary monitors

Recording download	Download stored recordings and backup recordings to local PC
	Download recordings of max. 2 channels simultaneously
Recording download task	View, delete recording download tasks
Two-way audio/broadcast	
Two-way audio	Two-way audio with channel
	Two-way audio/broadcast on clientStart/stop two-way audioSupports two-way audio
Audio broadcast	Audio broadcast to channels
Performance specifications	Total number of two-way audio and broadcast channels cannot exceed 25
Networking	LAPI on LAN, LAPI (P2P) on WAN, Onvif on LAN
Audio	
Audio format	Two-way audio supports AAC
	Two-way audio supports G711a, G711u
PTZ	
PTZ control	Drag-to-zoom
	3D positioningConfigure preset positions; max. 255 per cameraGet presetsControl rotation directionLock/unlock PTZSet rotation speedZoom in/outFocus near/farAdjust iris
Control permission management	Enables high-priority users to preempt PTZ control from low-priority users
	Configurable preemption policy for users with the same priority levelAutomatically releases PTZ control when PTZ is not locked and there's no activity for a certain length of timeConfigurable auto release time
Patrol route configuration	The maximum number of commands in a patrol route is unlimited
	Patrol command duration, range: 5-300 seconds, default: 10 seconds, supports endless rotationPreset stay time; range: 5-30 seconds, default: 10 seconds
Patrol plan	Configure preset patrol
	Configure route patrolMax. one patrol plan per cameraMax. 8 patrol routes per patrol plan
Auto guard	Configure auto guard
	Automatically returns to the guard position after being idle for a certain length of time (time is configurable)Max. 8 time periods per auto guard schedule
Player function	
Player function	Local snapshot
	Local continuous snapshotSound volume controlDigital zoomLocal recording (live video only)
Local recording	
Recording to local PC	MP4 and TS formats
	Start/stop recordingAutomatically stops recording when the media stream stops
Local file playback	
Local file playback	MP4 and TS formats
	Start/stop recordingAutomatically stops recording when the media stream stops
Central storage	
Camera storage info management	Add, delete, edit, search storage configuration for video channels (excluding cloud device)
Storage configuration	Configure basic storage for video channels
	Configure recording schedule for video channelsEnable/disable recording schedule for video channelsEnable/disable central recording for video channels

Recording backup	Configure manual backup for video channels
	Configure scheduled backup for video channels
Video wall	
Video wall resource management	Add, edit, delete, search video wall resources
	1-10/13/16 windowsSupports video wall preview
Video wall configuration	Open/close windows, roam, overlay, zoom in/out; always display on top/bottom, split window, switch to full screen
	Scene configurationScreen control: turn on/off screens through UA, UA-A, MODBUS protocols, turn off screens (with delay), turn on/off screens at a set time
LED/LCD splicing screen control	Supports small pixel pitch LEDs
Virtual LED enhancement	Set scrolling LED
	Set background transparency: opaque (0%) and transparent (100%)
Live view on video wall	Start/stop main/sub streams of video channels on video wall
	Start/stop main/sub streams output from video wall controllers on video wall
Playback on video wall	Control playback progress on video wall
	Stop playback on video wall by closing the Web/CS clientPlay recordings from lower platform on video wall
Single-window camera sequence	Start, stop, pause, play previous/next
Scene operations	Start scene
Media service policy	Adaptive
	Direct connection first
Stream transmission protocol	TCP, UDP
Network keyboard control	Live view on video wall
	PTZ control
Video wall type	DX video wall: created using channels of decoder/video wall controller
	Start live video by dragging cameras to video wall; supports live view, camera sequence on video wallMulti-DC video wallStart live video by dragging cameras to video wall, supports live view, camera sequence on video wall
Access control	
Permission group management	Add, delete, edit, search access permission groups
	Sync permissions to access control devices, automatically (default) or manuallyAssign permissions by person, door, department, building
Authentication mode	Open door by face detection, card, password
	Open door by fingerprint
Schedule template	Add, delete, edit, search schedule templates
	Configure holiday templates
Advanced application	Supports keep-open and keep-closed configuration
Real-time monitoring	
Live video	View live video from access control devices, show real-time access info
Remote control	Open/close door remotely
Access control event	

People passing records	Get people passing records from device View, export people passing records
Face management	
Image preprocessing	Supports image correction
Face feature management	Extract features through access control devices, sync features
Face library management	Add, delete, edit, search face libraries; sync face libraries to devices; add, delete, edit, search personnel info
Personnel info management	Manage special groups, including important persons and high-frequency persons
Visitor management	
Visitor registration	Visitor registration, visitor sign-out, and visitor data export through the client
Visitor pre-registration	Pre-register visitors on mobile client (requires the app to enable Cloud-Edge mode)
Visitor review	Review visitor on mobile client (requires the app to enable Cloud-Edge mode)
Visitor info	Enroll face photos of visitors Enroll license plates (used with access control and entrance & exit ANPR cameras)Configure visitor permissionsCustomize attribute fields
Visitor records	
Visit records	View, export visitor records
Alarm subsystem resource	
Zone management	Add, delete, edit, search zones
Alarm subsystem operation	
Control device on the client	Arm/disarm, bypass/unbypass
Video intercom configuration	
Device type	Indoor station, door station, zone station
Device operation	Link device with room, link room with indoor station, open door remotely through door station
Call recipient management	Add, delete, edit, search call recipients
Contacts	Contacts management, use contacts to call indoor stations
Video intercom call answering	
Call answering	Door station calls management center, indoor station calls management center, management center calls indoor station
Call records	View call and answer records
Video intercom alarm	
Alarm receiving	Receive alarms from indoor stations and door stations
Attendance configuration	
Attendance rules	Set automatic attendance calculation time (default: 5 a.m.)
Staff schedule	Set time periods, manage shifts and schedules (assign shifts to staff members/departments)
Holiday	Holiday configuration
Attendance handling	
Leave	Handle leaves/business travels
Re-sign in&out	Re-sign in or out, view re-sign in&out records
Attendance statistics	
Original data	Search, export original attendance data
Attendance details	Search, export detailed attendance data, calculate attendance
Attendance summary	Summarize, export attendance data

Attendance data	
Data export	Export attendance data to an Excel file
Data sync	Sync data to third-party database (MySQL, PostgreSQL, SQLServer)
Vehicle management	
Vehicle library management	Add, delete, edit, search vehicle libraries
Vehicle info management	Add, delete, edit, search vehicles
Rea-time data	
Real-time monitoring function	Smart live view (displays live video of LPR camera), open gate remotely, show the captured vehicle info
Historical data	
Vehicle passing records function	Search, export vehicle records
Data search	Search data by attribute, event type, etc. Search face records by image (using NVR's image search capability)Search and display the trajectory of a person on the e-map with a face image; play the recorded video of a specified camera
Alarm records	Search alarm records by monitoring type, time, etc.
Vehicle application	
Vehicle statistics	Counts the number of speeding vehicles based on speeding events reported from radar-video fusion camera Counts the number of passing vehicles based on the vehicle passing events reported from entrance & exit ANPR camera + radar-video fusion camera
Vehicle application	Search for a specified vehicle Draw and display vehicle trajectory on e-map
System parameter configuration	
Parameter configuration	Supports adding speeding vehicles to blocklist automatically
Face monitoring	
Monitoring task	Monitoring by face libraries through private protocol Monitoring by faces through VIID
Real-time data	
Real-time monitoring	Smart live view (displays live video of face detection camera), show captured person info, show match/not match alarms generated by monitoring tasks
Counting resources	
Counting area management	Including people flow counting area and crowd density detection area Add, delete, edit, search areas
Counting operation	
Real-time statistics	Real-time statistics: display the live video of people counting cameras, show counting results People flow counting: display the number of people entered/exited/allowed/present, and passage statusCrowd density detection: display the number of people allowed/staying, and area status
Report statistics	(Only available to people flow counting) Display counting statistics by month/day/hour/minute; display statistics as a chart or table
Basic parking lot	

Parking lot device	Entrance & exit ANPR cameras
Parking lot management	Parking lot management Lane management
Device O&M	
Device diagnosis info	Device diagnosis, export diagnostic info
Resource status display	Current online/offline status Last offline timeTotal number of offline occurrences within a specified period (max. 30 days)Total offline duration within a specified period (max. 30 days)
Basic function	
Device management	View edge channels
Live view	P2P and TURN between edge service and app
Playback	P2P and TURN between edge service and app
Alarm	Cloud receives alarms from edge service and pushes to app
Cloud-edge function	
Cloud access control	Access permission management
Cloud visitor management	Enroll visitors remotely, enroll visitors through invitation Review visitors remotely
Basic data sync	
Organization	Sync basic organization data
Personnel	Sync basic personnel and department data
NDAA	
NDAA	Support
Hardware parameters	
Main processor	Intel Core i3-8100 @3.6GHz
Operating system	Ubuntu-24.04.2
Memory	32GB
System disk	SSD 128GB
Storage disk	SATA x 16 eSATA x 1, miniSAS x 2
Video output	HDMI x 2, VGA x 1 (local decoding currently unavailable)
Network interface	GbE x 4
USB	USB2.0 x 2, USB3.0 x 2
Alarm input/output	24 x alarm input, 8 x alarm output
Audio interface	RCA 1 x input, 1 x output
Serial interface	RS232: RJ45 x 1 RS485: RJ45 x 1
Weight	< 13 kg
Operating temperature	-10°C to +55°C
Operating humidity	10% to 90% (non-condensing)
Total consumption	≤ 150W (not including hard disk)
Power supply	Standard: one power module Optional: 1+1 redundancy

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