भारतीय सूचना प्रौद्योगिकी संस्थान धारवाड़
INDIAN INSTITUTE OF INFORMATION TECHNOLOGY DHARWAD
[Institute of National Importance by an Act of Parliament]
Ittigatti Road, Near Sattur Colony, Dharwad 580009

Ref No.: IIITDWD/MMU/CCTV/NIT/ 783   Dated: 26/12/2023

NOTICE INVITING QUOTATION

The Indian Institute of Information Technology Dharwad in short [IIIT Dharwad] is an Institute of National Importance by act of Parliament under PPP mode imparting IT Education and engaged in Research Activities.

The Institute intends to invite sealed tenders for the work "Supplying, Installation, Testing and Commissioning Digital Surveillance System [DSS] Unit for existing CCTV Setup at Data Centre of IIIT Dharwad". The materials are listed in the sheet enclosed. In this connection, sealed quotations are invited by the undersigned subject to the terms and conditions enumerated here under from the manufacturers/ authorized dealers/ agencies so as to reach this office on or before 16.01.2024 by 3:00PM.

Name of the work	Supplying, Installation, Testing and Commissioning Digital Surveillance System [DSS] Unit for existing CCTV Setup at Data Centre of IIIT Dharwad
Estimated amount put to tender	₹ 8,60,000/-
EMD amount	₹ 43,000/-
Time for supply of item after release of purchase order	60 Days
Last date for submission of tender	16/01/2024, 3:00PM
Address for Submission of Tender	The Registrar, IIIT Dharwad, Ittigatti Road, Near Sattur Colony, Dharwad 580009
Date of opening of Technical bid	same day if possible
Date of opening of Financial bid	will be notified after evaluation of the technical bids

Note: EMD shall be remitted through RTGS/ NEFT and its acknowledgement shall be attached in the tender document.

Sd/-
Officiating Registrar

	SECTION 1: INSTRUCTION TO BIDDER (ITB)
1.	The bid should be submitted in two covers System-Technical Bid and Financial Bid via post/courier.

3.	**The Technical Bid should contain the following documents:**
	
	   a. License certificate for manufacture /supply of the item & Factory license [Manufacturer's Authorization Form (MAF) shall contain the specific tender number.]
	   b. List of Owner/partners of the firm and their contact numbers (Bidder Information)
	   c. The bidder must have office within/ near to Hubballi / Dharwad City.
	   d. Copy of GST certificate & PAN No.
	   e. Catalogue of the Product with detailed product specifications.
	   f. List Service Centres.
	   g. List of customers with contact details including satisfactory report for supply and installation of the materials from the customers end.
	   h. Warranty Period Offered for the tendered item to be specified. If the Warranty period is not conforming with the schedule of requirements given in section 3 of the document, the bid is liable to be treated as non-responsive and rejected.
	   i. Undertaking that the successful BIDDER agrees to give a Performance Security amounting to **3%** of the purchase order value in favour of "The Director, IIIT Dharwad".
	   j. The copy of the Balance sheet, Profit & Loss A/c., Trade or Manufacturing A/c for the last 3 years should be enclosed
	   k. The Bidder/Manufacturer shall have successfully executed similar work in the last three years.
	   l. Duly filled in the checklist should be submitted along with the Technical Bid.
	   m. Contract form given in SECTION 5 needs to be submitted.
	   n. Earnest Money Deposit (EMD): Notification No. F.9/4/2020-PPD from Ministry of Finance

4.	**Financial bid:** The bidders should submit their financial bid in the format that has been provided with the tender. After evaluation of technical bid, the technically successful bidders will be qualified for Financial bid.
5.	**Bid Evaluation:** On the due date, the Technical bids will be opened and referred to the Purchase Committee which is duly constituted by the Director, IIIT Dharwad. The committee will go through the technical aspects of the tender and recommend shortlisted firms. The recommendation of the committee is final and binding on all the parties. The committee may visit the manufacturing site to assess the capabilities to manufacture the tendered items as per the specifications. In case of any remarks/default noted, the EMD will be forfeited even if pre-qualified.
6.	**Quoting of Price(s):** Price quoted should be in Indian Rupees, free delivery to IIIT Dharwad including loading/unloading
7.	The Bid will be accepted only from the manufacturers (OEM) or its authorized supplier.
8.	The incomplete or conditional tender will be rejected.
9.	The Institute reserves the right to cancel at any time after acceptance of the tender with a notice. The Supplier shall have no claim to any payment of compensation or otherwise whatsoever, on account of any profit or advantage which might have derived from the execution of the supply.
10.	**Performance Security**: The successful bidder shall deposit performance security of 3% of the quoted price in the form of Bank Guarantee / Demand Draft / Fixed Deposit Receipt of any scheduled bank drawn in favour of The Director, IIIT Dharwad, payable at Dharwad. In case the bidder fails to deposit the said Performance Security within the stipulated period, including the extended period if any, the Earnest Money Deposited by the bidder shall be forfeited automatically without any notice. Please note the following points. a. Successful bidder should submit performance Security as prescribed above to the purchase

	Section, IIIT Dharwad, on or before 30 days from the date of issue of order acknowledgment.
	b. Performance Security shall be for the due and faithful performance of the contract and shall remain binding, notwithstanding such variations, alterations for extensions of time as may be made, given, conceded or agreed to between the successful bidder and the purchaser under the terms and conditions of acceptance to tender.
	c. The successful bidder is entirely responsible for the due performance of the contract in all respects according to the terms and conditions of the tender.
	d. The validity of the Performance Security must cover the warranty period plus two months.
	e. In case of imported goods, the Indian agent must furnish Performance Bank Guarantee in Indian Rupees only from Scheduled Bank.
11.	**The validity of bids:** The rate quoted should be valid for a minimum of 180 days. No claim for escalation of the rate will be considered after opening the Tender.
12.	Warranty/Guarantee & On-site skill support: On-site comprehensive warranty will be effective from the date of successful installation and commissioning. The OEMs/Authorized Distributors and Dealers must attach a certificate of sales and service facilities, escalation support for on-call service or station engineer, etc.
13.	Imports: In case, equipment is to be imported, the Indian agent should furnish authorization certificate by the principles abroad for submission of the bid in response to this Notice Inviting Tender.
14.	The Institute **reserves the right to cancel or reduce the quantity** included in the schedule of requirements at any time after acceptance of the tender with a notice. The Contractor/Supplier shall have no claim to any payment of compensation or otherwise whatsoever, on account of any profit or advantage which he might have derived from the execution of the work/supply in full but he did not derive in consequence of the foreclosure of the whole or part of the works.
15.	Cancellation of Tender: Notwithstanding anything specified in this tender document, IIIT Dharwad in its sole discretion, unconditionally and without having to assign any reasons, reserves the rights:
	a. To accept OR reject lowest tender or any other tender or all the tenders.
	b. To accept any tender in full or in part.
	c. To reject the tender offer not conforming to the terms of the tender.
	d. To give purchase preference to Public Sector undertakings when applicable as per Govt. Policy/ Guidelines.
16.	Delivery Period: The Delivery Period/Time shall be deemed to be the essence of the Contract and delivery must be completed not later than such date(s). If the Supplier does not perform its obligations within the Delivery Period/Date mentioned in the Contract, the same would constitute the breach of the Contract and the Institute shall have the right to cancel or withdraw the Contract for the unsupplied portion after the expiry of the original or extended delivery date or period stipulated in the Contract. Such cancellation of the contract on account of non - performance by the Supplier would entitle the Buyer to forfeit the EMD / Performance Security besides other actions such as debarment from the Institute as per GFR 2017
17.	Liquidated Damages: Timely delivery is the essence of contract and hence if the Supplier fails to deliver Goods within the original/extended delivery period(s) specified in the contract, the Institute will be entitled to deduct/recover the Liquidated Damages for the delay, unless covered under Force Majeure conditions aforesaid, @ 1% per week or part of the week of delayed period as pre-estimated damages not exceeding 5% of the contract value without any controversy/dispute of any sort whatsoever.
18.	**Terms of Payment:**
	a. Payment within 30 days from the date of delivery and Acceptance Certificate of concerned Department/Section/Purchase Section.
	b. Payment will be made by Standard Payment terms and conditions of IIIT Dharwad as per tender document only. Any request for a change in payment terms and conditions will not be accepted.
	c. If the above conditions are not acceptable then tender will be rejected.
19.	Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their bid as to the nature of the installation site, the means of access to the site and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender. A bidder shall be deemed to have

	full knowledge of the site whether he inspects it or not and no extra charges consequent on any misunderstanding or otherwise shall be allowed. Submission of a bid by a bidder implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the installation to be done and local conditions and other factors having a bearing on the execution of the bid.
20.	If there are varying or conflicting provisions made in any one document forming part of the contract, the Accepting Authority shall be the deciding authority with regard to the intention of the document and his decision shall be final and binding on the bidder.
21.	The rate quoted by the bidder shall be firm throughout the contract period and there shall be no revision of the rates for any reasons whatsoever. It should be clearly understood that any claim for changes will not be entertained in any case once the bids are opened.
22.	One bid per bidder: Each bidder shall submit only one bid either by himself or by representing a firm.
23.	Cost of bid: The bidder shall bear all costs associated with the preparation and submission of his bid. The Institute in no case shall be responsible or liable for those costs.
24.	The bidder shall not make or cause for any alteration, erasure or obliteration to the text of the tender document.
25.	The Institute will declare a bidder ineligible, either indefinitely or for a specified period of time, at the sole discretion of the Institute, for the award of contract/ participating in any other tender, if at any time the Institute determines that he has furnished false information/ engaged in corrupt or fraudulent practices.
26	Determination of successful bidder: The technically qualified bidder whose offer is evaluated as the lowest total bid shall be the successful bidder subject to its meeting the statutory requirements.
27.	Price variation: The rate quoted by the bidder shall be firm throughout the contract period. No price variation clause is applicable to this contract.
28.	**CANVASSING:** a. Canvassing in connection with tenders is strictly prohibited and the Tenders submitted by the Tenderers who resort to canvassing shall be liable to rejection. b. Subject to the provisions concerning clarification of Bids, no Bidder shall contact the purchase committee on any matter relating to its bid from the time of the bid opening up to the time that the contract is awarded. c. Any effort by the Bidder or Bidder's representative however described to influence the purchase committee in any way concerning scrutiny, consideration, evaluation of the Bid(s) or decision concerning award of contract shall entail rejection of Bid and action against the bidder as deemed fit. d. The purchase committee will deal with the Bidder on a Principal basis, without involvement in any manner in India or abroad of any agent or consultant or associate or another person howsoever described.
29.	Legal Matter: All disputes are subject to Dharwad Jurisdiction only.
30.	The Institute **reserves the right to visit to the factory** before or after issue of supply order to satisfy itself regarding quality of production. In case of any remarks /default noted, the EMD will be forfeited even if pre-qualified.
31	The Institute **reserves the right to cancel or reduce the quantity** included in the schedule of requirements at any time after acceptance of the tender with a notice. The Contractor/Supplier shall have no claim to any payment of compensation or otherwise whatsoever, on account of any profit or advantage which he might have derived from the execution of the work/supply in full, but he did not derive in consequence of the foreclosure of the whole or part of the works.
32	**Amendment of Tender document:** At any time prior to the last date for receipt of bids, Institute may for any reason, whether at its own initiative or in response to a clarification requested by prospective bidder, modify the Tender document by an amendment.
33	The bids shall be written in English language and any information printed in other language shall be accompanied by an English translation, in which case for the purpose of interpretation of the

	bid, the English translation shall govern.
34	The bidder should be able to provide service within 1 hours from the time of complaint registered.
35	Manufacturer's Authorization Form (MAF) shall contain the specific tender number.
36	The Institute **reserves the right to accept or reject the item based on the specification and requirement.**
	The bidder should visit the site and check the existing CCTV set up and quote the requirement accordingly.

SECTION 2: CONDITIONS OF CONTRACT.	
1.	The rates should be quoted for preferably FOR destination from supply within India.
2.	In case of import both CIF and/ or FOB rate should be quoted. All components of expenditure to arrive at Hubli need to be explicitly specified.
3.	The bidder shall indicate the excise duty exemption for the goods if applicable.
4.	The rate quoted should be on unit basis. Taxes and other charges should be quoted separately, considering exemptions if any.
5.	Rate quoted should be inclusive of Testing, commissioning and Installation of equipment and Training.
6.	Payment: No advance payment will be made. Payment will be made only after the supply of the item in good and satisfactory condition and receipt of performance security by supplier. **In case of Imports, the payment will be made through LC / Sight Draft / After Installation, and performance security need to be submitted at the time of LC commitment / issue of sight draft.**
7.	Guarantee and Warrantee period should be specified for the complete period conforming to the section 3 of this tender document.
8.	Period requirement for the supply and installation of item should be specified conforming to the section 3 of this tender document.
9.	Manufacturer Authorization Letter should include the respective tender number
10	The bidder should be able to provide service within 1 hours from the time of complaint registered.
11	Authorized dealers should be having office within Dharwad district.
12	In case of dispute, the matter will be subject to Hubli-Dharwad Jurisdiction only.

SECTION 3: SCHEDULE OF REQUIREMENTS, SPECIFICATIONS AND ALLIED DETAILS

[To be filled up by the Department / IIIT Dharwad]	
Item(s) Name to be Procured	Supplying, Installation, Testing and Commissioning Digital Surveillance System [DSS] Unit for existing CCTV Setup at Data Centre of IIIT Dharwad
Type (Equipment/Software/Furniture/Others)	EQP
Brief Specifications of the Item(s) : (Attach Additional Sheet if necessary)	Enclosed
Quantity	Enclosed
Any other details/requirement	Enclosed in specification Sheet
Warranty Period (in months)	3 Years
Delivery Schedule expected after the release of a Purchase order (in Weeks)	60 Days
EMD	5% of the estimated amount
Performance Security to be given by Successful Bidder after release of : (in Rupees)	3% of Purchase Order

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SECTION 5:   CONTRACT FORM

[To be provided by the bidder in the business letter head]

1. (Name of the Supplier's Firm) hereby abide to deliver the by the delivery schedule mentioned in the section 3 tender document for supply of the items if the purchase order is awarded.
2. The item will be supplied conforming to the specifications stated in the tender document without any defect and deviations.

3. Warranty will be given for the period mentioned in the tender document and service will be rendered to the satisfaction of IIIT-Dharwad during this period.

 Signature of the Bidder: _____

 Name   and Designation: _____

 Business Address   : _____

 _____

Place: **Seal of the Bidder's Firm**
Date:

DECLARATION

(Shall be on the Company's Letter Head only)

I/we have not tampered/modified the tender forms in any manner. In case, if the same is found to be tampered/modified, I /we understand that my/our tender will be summarily rejected and full Earnest money deposit will be forfeited and I /we am/are liable to be banned from doing business with IIIT-Dharwad and / or prosecuted.

Signature of the Bidder: _____

Name   and Designation: _____

Business Address   : _____

_____

Place :   **Seal of the Bidder's Firm**
Date :

EMD DECLARATION FORM

Proforma for Earnest Money Deposit (Bid Security) Declaration

Whereas, I/We………………… (name of Agency) ………………have submitted bids for the work of

I/We hereby submit following declaration in lieu of submitting Earnest Money Deposit.

(1) If after the opening of tender, I/We withdraw or modify my/our bid during the period of validity of tender (including extended validity of tender) specified in the tender documents,

Or

(2) If, after the award of work, I/we fail to sign the contract, or to submit performance guarantee before the deadline defined in the tender documents,

I/we shall be suspended for one year and shall not be eligible to bid for tenders in the Institute from date of issue of suspension order.

(Signature of the Bidder, with Official Seal)

Ref No.: IIITDWD/MMU/CCTV/NIT/ 783   Dated: 26/12/2023

PRICE BID

Date:

To,
The Registrar
IIIT Dharwad

Sl. No	Particulars	Unit Rate	Qty	Total Amount in₹
1	Smart Surveillance Management Centre [Digital Surveillance System]		1	
2	Hard Disk Drive HDD		7	
3	Supply and Configuration of SSMC, PTZ camera and commissioning		1	
4	keyboard & Mouse		1	
5	24 Inch IPS Full HD Monitor		1	
	Total in ₹ including GST			

Note: The bidder should visit the site and check the existing CCTV set up and quote the requirement accordingly.

Seal and signature of the Bidder

Technical Specification and Requirement

SL No	Item Name	Quantity	Parameter	Required Specification	Offered Specs.	Remarks
				Hardware		
1			Main Processor	Intel i5-6600, 64 bits 4 Core Processor		
2			Operation System	Embedded Linux		
3			Memory	8 GB		
4			System Disk	Seagate 7200 RPM Enterprise Class HDD 1 TB		
5			Motherboard	Embedded board (7 × 24 operation)		
6			Hard Disk Hot Swap	Support hot swap and online replacement		
7			Hard Disk Compatibility	SAS/SATA disk		
8			Number of Network Ports	4 Ethernet ports (100/1000 Mbps)		
9			USB	2 × USB 2.0 on front panel; 2 × USB 3.0 on rear panel		
10			HDMI	3 HDMI ports		
11			VGA	1 VGA port		
12			HDD Installation	Support 15 HDDs (3.5") for video or picture storage (8 TB per HDD)		
13			Storage	Up to 200 TB per server		
14			HDD Mode	Single		
15	Smart Surveillance Management Centre	1	Bandwidth of Video Storage per Server	600 Mbps		
16			Power	Maximum power 315 W; stable power 210 W		
17			Working Environment Temperature	0 °C to 40 °C (32 °F to +104 °F)		
18			Working Environment Humidity	10%–80% (RH), non-condensing		
19			Video Devices and Channels	500 devices; 1,000 channels		
20			P2P Devices	32 devices		
21			Add devices by ONVIF	500 devices; 1,000 channels		
22			Face Recoginition Devices and Channels	20 devices; 100 channels		
23			ANPR Channels	100 channels		
24			Video Metadata Channels	100 channels		
25			Access Control Devices	200 devices; 500 doors		
26			VDP	2,000 devices		
27			People Counting Channels	32 channels		
28			Heat Map Channels	32 channels		
29			Organizations	10 levels; 999 organizations in total		
30			Roles (User Permission)	100		
31			Users	50 online users and 200 total users		
				VMS Software		
A			Center Management Service			
1			System maximum capacity for devices management and sub server management:			

2				Manages maximum 2000 resources including encoder, access control device and alarm controller for single service		
3				Manages maximum 1000 video channels.		
4				Manages up to 200 TB central storage per server.		
5				Manages maximum 200 access control devices and 500 access control channels for single service		
6				Manages maximum 600 access control devices and 1500 access control channels for distributed services		
7				Supports up to 2000 VDP devices.		
B				**Service Manager: An application that manages the following services:**		
1				NGINX Proxy Service (NGINX): Provides access to the platform.		
2				System Management Service (SMC): Manages services and provides access to various functions		
3				Redis Data Cache Service (REDIS): Stores data that is frequently accesse		
4				MySQL Database Service (MySQL): Stores data for a long time		
5				System Config Service (CFGS): Monitors system resources and synchronizes configurations across the distributed environment.		
6				MQ Push Notifications Service (MQ): Pushes messages among clients and platforms.		
7				Media Gateway Service (MGW): Acquires video streams for video walls.		
8				Protocol Conversion Proxy Service (PCPS): Accesses third-party video devices.		
9				Device Management Service (DMS): Accesses video devices.		
10				Alarm Distribution Service (ADS): Filters and distributes alarms from devices.		
11				Device Auto Registration Service (ARS): Accesses devices added through automatic registration		
12				Image Transmission Service (PTS): Accesses ANPR devices and transfers images between the devices and the platform		
13				Alarm Controller Access Service (MCD): Accesses alarm controllers and LED devices		
14				Device Search Service (SOSO): Searches for and obtains configurations from devices in local networks		
15				Video Intercom Service (SC): Manages audio talks among PC clients and app, and video intercom devices.		
16				DA Management Service (DAMS): Manages DA_BSID		
17				Link Management Service (DA_BSID): Downloads files from devices, manages the sleep and wake status of low-power consumption cameras that uses 4G network, and redirects to the webpage of devices added through automatic registration.		
18				Access Control Management Service (ACDG): Manages MCDDOOR.		
19				Access Control Connection Service (MCDDOOR): Accesses access control devices		
20				Video Storage Service (SS): Stores and forwards recorded videos on the platform		
21				Video Decoding to Wall Service (VMS): Accesses decoders outputs videosto video walls.		
22				Object Storage Service (OSS): Stores files of the platform.		
23				Media Forwarding Service (MTS): Forwards real-time video streams		
C				**Accessibility and Management Capabilities**		
1				Support up to 200 users to log in Server at the same time using a PC client or a mobile client.		

2				There is no license limit on the number of client connections		
3				Support active directory to facilitate the use of domain users to log in to PC Client.		
4				Administration functions and operation functions are performed separately in the following clients: a) PC Client: All security operator features shall be accessed through the Control Client connected to Server via LAN, WAN, or Internet. b) Mobile Client: Basic security operator features shall be accessed through the Mobile Client connected to Server via LAN, WAN, or Internet.		
5				Supports H.264, H.264+, H.265, and H.265+ encoding formats.		
6				Supports Downloading logs from Server		
D				**Operating System**		
1				Operating System for PC Client 1. Windows 10 20H2 Pro (32-bit) 2. Windows 10 20H2 Pro (64-bit) 3. Windows 10 20H2 Pro (64-bit) (Virtual machine) 4. Windows server 2019 standard (64-bit) 5. Windows 11 21H2 Pro (64-bit)		
2				Operating System for Mobile Client 1. iOS: iOS10.0 or later 2. Android: Android 5.0 or later		
E				**System Design Criteria**		
1				High Scalability: Provide component-based system architecture to support scaling of VMS from small systems (up to 100 devices) to very large systems (several thousand devices) for single-site or multi site deployment, whereby: 1. For Small Systems: All software components can be installed on the same server if the server is able to handle the combined load. 2. For Large Systems: Software components can be installed on separate dedicated servers to scale and distribute the load.		
2				High Availability and Impressive Performance: Provide the following capabilities to ensure high VMS availability and performance. 1. Storage solution shall be configured with RAID10 for Live database and RAID5 or RAID6 for archive database.		
3				Operating Systems: Provide server and client software Microsoft Windows applications.		
4				Network Addressing: Support both IPv4 and IPv6 addressing.		
5				Video Standards: Provide simultaneous live streaming and recording of video from IP cameras and IP video encoders without any software limitations on the number of cameras per Recording Server, with support for the following codecs and options: 1. Codecs: a. H.264 and H.265 b. MPEG-4 and MPEG-4 ASP c. MJPEG		
6				Audio Standards: Provide simultaneous digital two-way audio streaming and recording of audio from IP speaker and IP microphone devices without any software limitations on the number of devices per Recording Server, with support for the following codecs and options: 1. Codecs: a. AAC b. G711 c. G726		
7				PTZ Control Priorities 1. Provide different PTZ priority levels for control of rights between different users and automatic scanning and touring schemes. 2. PTZ Scans and Tours shall pause for higher-priority manual or event-based camera control, and resume after manual session timeout and completion of event camera control period.		

8				Multiple Languages: Provide support for multiple languages:Arabic, Bulgarian, Czech, Danish, English (United States), Finnish, French, German, Hungarian, Italian, Japanese, Korean, Macedonian, Polish, Brazilian Portuguese, Russian, Simplified Chinese, Spanish, Thai, Traditional Chinese, Turkish, Ukrainian, Vietnamese, Hebrew.		
F				**System Security**		
F.1				User Authentication		
1				The system requires password strength to be greater than medium.		
2				Password strength includes three levels: Weak, Medium, Strength		
3				An IP will be locked out from logging in to the platform after 5 failed attempts.		
F.2				User Rights Management: Provide common and central detailed management of user rights, using roles and users:		
1				User Rights: Define roles, add and delete users, manage permissions for roles and users, generate user rights management reports.		
2				Roles: Define role permissions that determine which system features may be accessed by users.		
F.3				Confidentiality		
1				Encrypted transmission of sensitive information		
2				Web client is accessed via HTTPS by default.		
3				User password saved with MD5.		
4				TLS1.2 is used by default. You will be notified of the security risks if you enable TLS1.0 or TLS1.1.		
G				**Logging**		
G.1				Logs user activity, alarms, system information, errors, warnings, and logs about other related information.		
1				User Logs: Logs user activitiesin client applications including, but not limited to, user system login and access, configuration changes, and other actions		
2				Alarm-Triggered Logs: Log alarms that have been detected and triggered by video monitoring devices.		
3				Log Search: Logs can be searched and filtered based on user, time, operation time, video source, and more		
4				Log Exporting: Logs can be exported as .csv (comma-separated-values) files.		
H				**PC Client**		
H.1				The client can automatically discover platforms on the current network and display them for you to connect to		
H.2				Languages: Arabic, Bulgarian, Czech, Danish, English (United States), Finnish, French, German, Hungarian, Italian, Japanese, Korean, Macedonian, Polish, Brazilian Portuguese, Russian, Simplified Chinese, Spanish, Thai, Traditional Chinese, Turkish, Ukrainian, Vietnamese, Hebrew.		
H.3				You can use a domain user account and normal user account to log in to the PC client to achieve the following functions.		
H.3.1				Client Login		
				1. The client displays IP addresses and port numbers of platforms in a drop-down list		
				2. The client remembers the information of the platformsthat you have logged in to.		
				3. The client discovers IP addresses and port numbers of platforms on the same network.		
H.3.2				Homepage		
				1. Displays account name, platform model, platform version, client version, software license		

				agreement and company copyright, time and UTC time zone of the PC client.		
				2. Lock and unlock client.		
				3. Support changing passwords		
				4. Notification Center: Displays system messages, such as an export task is complete, or the information of a device was edited or deleted.		
H.3.3				System Overview		
				1. Display permitted device information of the user: Total devices, online devices, and offline devices.		
				2. Display event information under login user permissions: Total events, processed events and pending events.'		
				3. Client PC status: Network, CPU, and RAM.		
H.3.4				Main Panel		
				1. Applications: Monitoring center, event center, DeepXplore, access management, parking lot, intelligent analysis, and maintenance center.		
				2. Configuration: Configurations related to basic settings, application and the system		
				3. Management: Download center, local images and videos, logs, help and quick commands.		
H.3.5				Notification Center		
				Users can view system messages, such as the information of a device was edited or deleted. The permissions of a user will determine what messages can be seen. For example, if user A does not have the permission of device A, then user A will not get the message when device A is deleted		
H.3.6				Basic Configuration		
				Device group management via organization		
				Device initialization: Initialize Dahua's device.		
				Multiple ways for adding devices: Auto search, IP, Domain, IP segment, P2P, automatic registration (for 3G, 4G, and DHCP devices). Supports importing devices in batches using a template		
				Access of various kinds of devices:Network camera, network speed dome, NVR, DVR, access controldevice, video intercom, alarm controller, decoder, and third-party devices through ONVIF protocol, and more.		
				Device information editing: Support changing Dahua devices'IP addresses, modifying time zones one by one or in batches, and obtaining device information		
				Bind the associated camera: Link cameras when configuring events		
				Support managing channel features one by one or in batches. Channel features can be configured with the following functions: Intelligent Alarm, Electric Focus, IR Temperature Analysis, Face Detection, Face Recognition, Metadata Attribute Report Capability, Fisheye, Main Sub Track, People Counting, Privacy Mask, General Heat Map, Advanced Heat Map, Entrance ANPR, Road ANPR, and Face & Body Detection.		
				Device search: Support filtering devices according to the add mode (IP address, auto registration, IPsegment, domain name, and P2P) and access protocol (ONVIF).		
				Increased port for ONVIF devices to ensure successful streaming even when ONVIF device is connected to WAN and the platform is connected to LAN.		
				Supports voice intercom when using devices added through ONVIF Profile T protocol.		

				Shortened the period between ONVIF devices go offline, and the platform detects that they are offline		
				Add devices to the platform ¯ When adding a device, you can filter the supported device types based on the add mode and access protocol. The system displays only supported information of selected device. ¯ When you select a device type in the second step, you can only select from the supported device types. ¯ The platform displays only the resources supported by the device type. ¯ When you edit a device, the system sorts corresponding resource information based on business priority.		
				Displays an icon that is used to go to the webpages ofdevices		
				When adding a single device by searching for an IP address, thewindow will automatically close after the device is added.		
				Obtains the channel names of EVS.		
				Acquires video streams from ONVIF devices in a LAN and WAN networks.		
H.3.7				**Device: Device Configuration**		
				Device parameter configuration: Door parameters, such as reader direction, door status, NO/NC period, unlock length, method, and more.		
				Recording plan: Configure center recording plans for video channels one by one or in batches, or a recoding plan for each video channel.		
				Backup plan: Configure a file backup plan of MPT devices, and a video backup plan for each video channel.		
				Remote device management: Remotely restart access controllers; remotely open device web browser page.		
H.3.8				**Role and User Management**		
				Three types of roles: platform administrator, administrator, and normal user.		
				Manage the user's permission by role (device, control, and menu permissions		
				User can be assigned with the roles to obtain the corresponding permissions		
				Supports importing domain users and assigning roles to them		
				Update domain users		
				Log in to multiple clients at the same time with the same user		
				Set user parameters: PTZ permissions for user, password expiry date, password validity, forced password change at first login, user email.		
				Users can be restricted by MAC addresses and expiry information.		
				Users can be locked to prevent them from logging in to the platform.		
				When users forget their passwords, users with higher permissions can help reset their passwords. When the system user forgets the password, resetting through security questions is supported.		
				Supportsresetting password through email: If the platform has been configured an email server and an email address has been configured in a user, this user can reset its password through the email address.		
H.3.9				**Storage**		
				Supports edge storage and central storage, which extends storage via iSCSI.		
				The images of faces, license plates, metadata events, and alarms can be		

				stored on EVS. ˉ Rule 1: If an image is captured by the platform in an alarm, the image can only be stored on the platform no matter the image is captured by the alarm source or a linked channel. ˉ Rule 2: If a device (such as an IPC) is connected to the platform through EVS and an event image (alarm, face, license plate, and target detection event) is generated by the event source, you can select a location to store the image. ˉ Rule 3: If a device (such as an IPC) is directly connected to the platform and an event image (alarm event, face, license plate, target detection event) is generated by the event source, the image can only be stored on the platform.		
				Alarm recordings can be stored on devices such as EVS, IVSS, NVR, and DVR ˉ Rule 1: If a device (such as an IPC) is connected to the platform through IVSS, EVS, NVR, or DVR, you can normally view alarm videos on the platform, but they are linked to the ones stored on the devices. ˉ Rule 2: If a device (such as an IPC) is directly connected to the platform, alarm videos can only be stored on the platform. ˉ If you store alarm recordings on devices, we recommend you configure a 24-hour device recording plan. ˉ When you configure events, you can view the storage location of recordingsof channels. ˉ You can configure and obtain the retention time of videos and images stored on EVS		
				Notification of storage exceptions. ˉ The platform will notify you when read/write exceptions or faults occur in an IPSAN or local disk. ˉ You can search for records of read/write exceptions or faults in the Maintenance Center.		
				Support IP SAN in normal mode and user mode.		
				Network disks store videos, images and files.		
				Server local disks store videos, images and files as well as evidence files.		
				Disk quota: Group the disk, and cameras can be allocated to different disk groups.		
				Flexible storage: Images of faces, license plates, metadata events and alarms are stored to EVS. Alarm videos can be stored to storage devices such as EVS, IVSS, NVR and DVR.		
				The storage capacity of the platform can be up to 200 TB		
H.3.10				**Authorization**		
				Displays the number of resources that you can add to the platform, such as 100 video channels can be added to the platform besides the 50 video channels that have been added		
				Video channels of access control devices will also be considered as general video channels.		
H.3.11				Resource Monitoring		
				Supports saving webpage information in views.		
				Displaysthe buttonsfor access control functions in the upper-right tool bar only when you are viewing the real-time video of an access control channel		
				Real-time videos can be viewed directly on maps. ˉ Double-click a video on a map to open the real-time video of a device in an available window. ˉ When the monitoring center is fully occupied, the system selects an available window from another monitoring center tab to open the real-time video of a device.		

				Zoom level will be kept when you pause a playback.		
H.3.12				**System Configuration**		
				Delete a sub server		
				Enable and disable a sub server.		
				Support N+M redundancy		
				Manually or automatically assign devices to different servers to balance the server load.		
				Two network cards and LAN and WAN mapping can be deployed at the same time.		
H.3.13				**License**		
				Displays the number of resources that you can add to the platform, such as 100 video channels can be added to the platform besides the 50 video channels that have been added.		
H.3.14				**System Settings**		
				Configuring the data storage duration of logs, alarms, face recognition, vehicle records, access control record, video intercom record, and more		
				Time synchronization: Synchronizes time for the client and device based on the time of the server.		
				Email setting: After an email server has been configured, emails can be sent to users when setting alarm linkage or processing alarms.		
				Domain user configuration: After parameters of domain users are configured, you can import domain users rapidly in User Management.		
				After an CA certificate is configured, when accessing the platform through a browser, the browser will validate the certificate. If the certificate is installed in the browser, the browser will consider the platform as secure, and will grant it access		
				Device login modes: Security mode and compatible mode.		
				Connects and sends operator logs to the log server for backup at 3 am every day		
				Configure independently installed data to record business data.		
				Supports turning on or off the push notification function and adding devices through P2P		
				Supports configuring display duration for alarm pop-up windows. This configuration only applies to the current client.		
				File security: You can configure whether authentication is needed when downloading data, and whether export files need encryption		
H.3.15				**Backup and Restore**		
				Automatically back up system database (by day, week or month).		
				Manually back up system database.		
				Restore system database from server or local file		
H.3.17				**Application Configuration**		
				Configure center recording plans for video channels one by one or in batches.		
				Configure a recording backup plan for a video channel.		
				Motion detection recording plan. ⁻ The platform records videos on motion detection events reported by devices. ⁻ The platform can record motion detection videos based on the motion detection recording plans.		
				Device recording management. ⁻ The platform can obtain the recording plans of EVS, or configure and send recording plans to EVS. In either way, the recording plans on the device and the platform are the		

				same. ˉ For devices not installed with the latest version, the original configuration logic for device recording plans remains unchanged. The platform only sends recording plans, but not obtain the changes of device recording plans.		
				Increased the maximum number of from 100 to 1,000 when configuring generalrecording plans and motion detection recording plans for multiple channels at the same time.		
H.3.18				**Event Management**		
				You can monitor and process over 200 types of alarms right in the event center. In addition to predefined alarm types that are triggered by devices, manual alarms are available for situations such as taking a snapshot or sending an email to the administrator when you see something important, or custom alarms for events that are supported by devices but not yet by the platform.		
				Supports DHOP events		
				For pre-recording, the pre-recorded video can be cached by the platform, or stored on the device. When the event occurs, the pre-recorded video is written to the central storage		
				Combined events can be used to trigger an alarm according to the relationship of the time of trigger oftwo alarms.		
				Supports configuring a holiday template so that an alarm will not be triggered during the defined period.		
				Supports configuring trigger intervals for alarms so that only one alarm will be triggered during the defined interval		
				Supports configuring the stream type of the real-time video when an alarm is triggered		
				For events whose recorded videos are stored on the platform, the platform will obtain the pre-recorded portion in the cache and add it to the event video.		
				Supports up to 100 icons for soft trigger events.		
				After you select a category of events, all events under that category are selected by default.		
				Supports confirmation when clearing real-time events		
				Parking lot events. ˉ The default email template contains plate number and vehicle group. ˉ Event details contain information such as plate number and vehicle group		
				Supports configuring plate number and vehicle group in the email template.		
				Vehicle arming events can display plate numbers		
				When searching for historical events: ˉ Multiple event categories can be selected at the same time. ˉ After you select an event category, all events under that category are selected by default. ˉ No limit is set on the number of selected events. However, a search timeout occurs if the search range is too large		
				Supports configuring multiple temperature monitoring rules for a thermal channel. The rules can also be displayed when viewing real-time video.		
				Sequence numbers are displayed in the list of alarms that are searched to help you know the number of alarms on each page.		
				Alarm linkage videos. ˉ When the same alarm source reports the same event, the real-time video will be replaced. When different alarm sources report the same event, the platform will find an available alarm window. If there is no available alarm window, the earliest real-time		

			alarm video will be replaced.		
H.3.19			**Map Configuration**		
			Google online map, Google offline map, raster map, and satellite map		
			Submaps can be added on a map. A submap can be up to 8 levels deep		
			Displays all alarmsin a list. Click an alarm to locate the alarm source.		
			Google Maps will be in the same language as the client.		
			Supports canceling operations such as selection and visible range by pressing Esc.		
			Supports double-clicking a channel to open its real-time video		
			Tips are provided for visual area, initial angle, moving resources, selecting a single or multiple channels, adding submaps, measuring length and area, adding marks, and more		
			For selecting channels, adding submaps, measuring length and area, and adding marks, you can perform multiple operations until you press Esc to cancel the function.		
			View the visual area of a device. ˉ When using the visual area function, all cameras that support it are selected by default. ˉ Double-click a camera to adjust its visual area.		
			When you click a channel and the pop-up card is not fully visible, the system automatically adjusts its location to show a full card.		
			The platform only loads the part of the map that is visible in the current page to display icons of channels faster.		
H.3.20			**Person and Vehicle information: Personnel List**		
			Add, edit and delete person and vehicle groups		
			A group can only be accessed by the selected roles and their users.		
			Upload face images by selecting files or taking pictures.		
			Import face images in batches.		
			Import personnel information (ID, Card, fingerprint, IR face, or vehicles) from devices or files in batches.		
			More information can be customized for people.		
			Import domain users as persons by group and by user, and automatic synchronization of person information.		
			Grant people or person groups access to doors by access rules. If you grant access to a person group, the access will also be granted to all people in the group.		
			Issue the card, fingerprint via USB reader or devices.		
			Issue cards in batches.		
			Card, password, fingerprint and face authentications.		
			Person classification: Classify person into normal, VIP, visitor, patrol, blocklist to facilitate person management.		
			Add the person's face to the face comparison group		
			Add the vehicle information of the person to the entrance and exit vehicle group, and configure the number of parking spaces for the person		
H.3.21			**Person and Vehicle information: Vehicle List**		
			Add, edit and delete person and vehicle groups.		
			Add, edit, and delete vehicle.		
			Import vehicles in batches according to templates.		
			Bind people information to vehicles.		
			Add vehicles to the entrance and exit vehicle group or the vehicle arming group		

			Export vehicle information		
H.3.22			**Watch List: Face Watch List**		
			Face watch list management		
			Add, edit and delete face comparison group.		
			A group can only be accessed by the selected roles and their users.		
			Add face one by one, or import faces from the personnel list.		
			Send face comparison group to face recognition devices, and configure the similarity		
			For devices connected to the platform have face recognition capability (such as IVSS), the face comparison database will be sent to the device. For devices do not have such capability (such as EVS), the face comparison database will be sent to the face recognition camera connected to the device.		
			Supports sending face comparison groups to face recognition IPC cameras connected to EVS. ˉ The platform separates sending and arming face comparison groups. ˉ If a device, such as IVSS, supports face recognition, the platform sends face comparison groupsto the device. ˉ If a device, such as EVS, does not support recognition, the platform sends face comparison groups to the channels connected to the EVS		
H.3.23			**Watch List: Vehicle Watch List**		
			Vehicle watch list management.		
			Add, edit and delete vehicle watch list.		
			Import vehicles from the vehicle list.		
			Set start time and end time for vehicle restricted list		
H.3.24			**Intelligent Analysis**		
			To improve services and profitability, understanding how many people are in an area at any time, where people go to the most, and when peak numbers occur with people number analytics and heat maps can provide valuable and actionable insights		
			Supports displaying the number of people that passed by		
			Supports turning off calibrating the number of people staying every day		
			Supports AI heat maps		
			Supports sending historical people flow data on a regular basis to one or more email addresses Daily report Weekly report Monthly report		
			Regular heat maps are combined to ensure that heat map search and display on the platform are the same as these on devices.		
			Allow you to search for real-time data of regular heat map devices on an hourly basis.		
I			**Applications**		
I.1			**Monitoring Center: Live View**		
			With the highly customizable live view function, you can view real-time videos in any way you want. With up to 4 live view pages, you can watch real-time videos from up to 256 channels at the same time, enabling you to keep close attention to more areas.Additionally, the layout can be arranged to display different videos in different sizes, so that areas that are more important can be displayed in a more visible way. On special occasions, you can		

			directly operate on devices, such as talking to nearby people through a camera, or unlocking the barrier of a turnstile to let people in. When something important happens, such as a robbery, the manual recording is only one click away to save that particular part of the video as evidence		
			Supports displaying the recording status of a device connected to IVSS when you are viewing its real-time video		
			E-PTZ target tracking in multi-window modes. ¯ 2 window modes. ¯ The tracking function can be disabled. ¯ The camera will be tracking the target until it disappears.		
			Multiple-monitor Support: You can see multiple monitors where each monitor shall show multiple floating or full-screen windows for display of views or individual view items		
			View window aspect ratios: Support multiple views in 4:3 and 16:9 display settings in both landscape and portrait orientations.		
			Public view groups: Only specified roles and their users can access the resources in them. Only administrators have permission to configure public views		
			Private view groups: Private views are configured and owned by each user, and can be shared to other users.		
			View layout persistence: Same view layout in both live and playback modes		
			View arrange and restoration: Support simple drag-and-drop re-arrangement of cameras in views for optimized monitoring of incidents, including replacement of individual cameras with different cameras, with single-click restore of original view layout.		
			View creation: Views that display up to 100 view items including cameras, web pages, images, text and interactive items. View capabilities include, but are not limited to:		
			Camera View Item: Live and recorded camera video displayed in resizable view windows, utilized in several workspaces within the application. Each camera view item contains the following: Video Status Indicator: A round dot indicating one of four states: Green: A connection to the camera is established. Red: Video from the camera is being recorded. Yellow: Playing back recorded video. Gray: The video has not changed for more than two seconds.		
			Motion indicator: An icon of a moving person that appears only when motion is detected since it was last cleared		
			Bounding box display: Display of metadata bounding boxes as provided by supported cameras and integrated analytics in live and playback views.		
			Intelligent area overlay: When viewing real-time videos or playing back videos, detection area and exclusion area can be overlaid on the window		
			Update on motion only: Optimizes CPU use by allowing motion detection to control whether the image should be decoded and displayed.		
			PTZ Camera View Item: PTZ camera view item can be configured to provide virtual joystick camera control and PTZ navigation overlay buttons on the video image.		
			Overlay Buttons: Used to add manually controlled speakers, events, outputs, PTZ cameras and to start/stop recording		
			Camera Navigator: User-defined views of specific sets of cameras in relation to each other, for example, according to floor plan, to enable visually tracking people and objects as they move from one camera's field of view to another. Camera		

			Navigator function provides an add-on to the Map with no special configuration needed.		
			Carousel: Allow a specific view item to automatically sequence rotate through pre defined set of cameras that are not necessarily present in the view at the same time. Operators may select default or custom display times for each camera, and they are able to manually switch to the next or previous camera in the carousel list.		
			Hotspot: Global hotspot function shall allow users to work in detail with any camera selected from any view. Local hotspot function shall allow users to work in detail with a camera selected from the same view.		
			Matrix: Shows live video from multiple cameras in any view layout with customizable rotation paths, remotely controlled by the computers sending matrix remote commands		
			Navigable Map Pages: Static or active map pages may be used to provide a good overview of premises, and for switching between different views, such as map page displaying a floor plan.		
			Manual PTZ Control: Manual PTZ control options:		
			Send Video to Destination: Option to send current camera to the following destinations:		
			View item in an existing window		
			New floating window. Digital Zoom: Magnification of video to facilitate detail viewing. Bookmarks: Create quick or detailed bookmarks, to facilitate incident review and documentation		
			System generated headline for quick bookmark		
			Optional headline and description information for detailed bookmark. Independent Video Playback:		
			Playback of video in multiple camera view items, each on its own independent timeline.		
			Option to initiate playback mode and synchronizing playback timeline with current time in independent playback.		
			Recorded Sequences Overview: Recorded sequences of video and audio are shown in the timeline. The timeline displaying light-red to indicate recording, red for motion, light green for incoming audio, and green for outgoing audio. If there are additional sources of data available, these are displayed as other colors		
			Bookmarks Overview: Bookmarks are shown in the timeline with instant preview of the recorded video.		
			Integrated Time Interval Selection: Integrated function to select a time interval for export or video and audio retrieval from edge storage devices.		
			Multi-Window Timeline: Ability to use one timeline to control playback of cameras in multiple view windows.		
			Recording Search: Search listing of camera sequences or bookmarks. Preview: Search results may be previewed. Print: Print of still image from the selected video clip may be initiated. Export: Export of selected video clips may be initiated, reducing time needed to prepare forensic video material		
I.2			Monitoring Center: Playback		
			The playback function allows you to play back videos stored on the server or devices in the layout that you have tailored to your needs. To help you efficiently wade through tons of videos, you can play them 64X faster to skip the part you are not interested in, and focus on the important content by slowing down to 1/64X minimum. Besides, you can also add tags to mark any important content for later review, and lock it to		

			prevent it from being overwritten when the disk space is full. The filter function can also be very helpful when you only need to deal with a specific type of videos, or a type of target that appear in one or more areas.		
			Supports playing back videos from multiple channels synchronously		
			Supports acquiring playback streams directly from devices.		
			Supports acquiring real-time video streams and playback streams directly from devices added through P2P		
I.3			Monitoring Center: Video Wall		
			Video wall is used to display videos on a large screen that consists of many smaller screens. The layout of the video wall is also highly customizable so that you can display real-time videos or recorded ones on it and be able to magnify every little detail. With the task function, you can display videos from different channels on the video wall at the specified time or in a loop.		
			Display modes. ¯ Image and video modes are supported. ¯ In video mode, you can open the real-time videos of all the channels bound to the video wall at the same time.		
I.4			Monitoring Center: Map		
			The map is a very useful function that allows you to keep track of anything with its location information. For example, you can mark a device on the map and be able to immediately know its location when it triggers an alarm and flashes red on the map, or add a submap of an area to the map, such as a plan view of a public square, to know where exactly a person is in the public square		
			Support satellite map		
I.5			Event Center		
			Real-time and history event information.		
			Event display: Displays alarm schemes; event statistics by day, week and month; event information statistics, which include total events, processing and processed.		
			Alarm details: Live video, record and pictures from related camera, event source location on the map.		
			Process events one by one or in batches: Acknowledge the event, forward the event to relevant user, fill out the handling comments, and manually send event email to relevant person.		
			Mandatory remarks for processing events. When a user is processing an event, the user must enter remarks.		
			Pre-processing remarks for events. When users are processing an event, the defined remarks will be filled in by default.		
			Arming control for event source.		
			Search event by event source, event time, status, handle user, priority.		
			Export the event list.		
			Refresh alarms as scheduled.		
			Count events according to priorities: High, Medium and Low.		
			Event trend report.		
			Analyze event resources and types of the top occurrence frequency.		

I.6			DeepXplore		
			Powered by AI technologies, you can easily search for targets and recordings, and generate tracksto locate their whereabouts with simple search conditions.		
I.7			Maintenance Center		
			By just visiting one page, you can stay up to date with information on alerts, devices, servers and more to instantly recognize issues such as offline devices and abnormal servers. Scheduled reports are also sent based on the information collected to give you a full picture of how your system is running.		
I.8			Intelligent Analysis		
			View the real-time number of people in the group and the number of people allowed to enter.		
			Search for history people flow statistics of cameras and people counting groups by day, month, week and year and export reports.		
			Generates and exports thermal maps.		
			Analyzes the number of people staying in the region and exports the report.		
I.9			Download Center		
			Download record from central storage or device, supports avi, dav, mp4, asf		
			Download record by timeline, files or tags		
			Supports multi-task download		
			Restore face images from face privacy mask		
J			**Local Setting**		
			General: Configure the window size of the client, synchronize the time of the client with the server, auto startup and login in after restart, set CPU threshold, client auto lock and encrypted transmission of audios and videos.		
			Video: Customizable split screens, select display mode of video window, stream switching rules, the way to obtain real-time stream, play mode and decoding mode. Select video stream type ofinstant playback and the interval and number of snapshots.		
			Select default stream type, stream switching type, video play duration and the way of video on wall.		
			Configure default or custom alarm tone, and the way to open alarm-related videos and alarm flashing on the map		
			Video and image storage configurations for file storage		
			Select PC keyboard or joystick USB keyboard with shortcut keys.		
J.1			Log		
			Operator, device,system, and service logs		
			Search and export logs		
			Download logs are generated by file, with each including detailed device name, IP address, channel name, channel number, start and time of the video, and file name.		
			Live view logs include detailed device name, IP address, channel name, channel number, and start and end time of live view		
K			Others		
			Supports connecting Joystic Keyboard		
			Supports connecting Videowall		

SL No	Item Name	Quantity	Parameter	Required Specification	Offered Specs.	Remarks
				Supports basic maintenance operations, including reboot the device, shut down the device, restore the device to default settings, and reset password.		
				System update (overwrite installation). Update through web or by ConfigTool. Back up data before update.		

SL No	Item Name	Quantity	Parameter	Required Specification	Offered Specs.	Remarks
			Image Sensor	½.8" STARVIS CMOS or better		
			Effective Pixels	1920(H) x 1080(V), 2 Megapixels		
			RAM/ROM	min 1024M/128M		
			Scanning System	Progressive		
			Electronic Shutter Speed	1/1s~1/30,000s or better		
			Minimum Illumination	Color: 0.005 LUX@F1.6; 0Lux@F1.6(IR on)		
			S/N Ration	More than 50dB or better		
			IR Distance	Distance upto 100 m (328 ft)		
			IR On/Off Control	Auto/Manual		
			IR LEDs	5		
			Focal Length	4.8mm~`120mm		
			Max Aperture	F1.6~F4.4		
	2MP PTZ 25X IR Distance 100 Mtr Range	1	Angle of View	H: 59.2° ~ 2.4 °		
			Optical Zoom	min 25x or better		
			Focus Control	Auto/Manual		
			Pan/Tilt Range	Pan: 0° ~ 360° endless; Tilt:- 15° ~ 90°, auto flip		
				180°		
			Manual Control Speed	Pan: 0.1° ~ 200° /s; Tilt 0.1° ~ 120° /s		
32			Preset Speed	Pan: 240° /s; Tilt 200° /s		
			Presets	300		
			PTZ Mode	5 Pattern, 8 Tour, Auto Pan, Auto Scan		
			Speed Setup	Human-oriented focal Length/Speed adaption		
			Power up Action	Auto restore to previous PTZZ and lens status after power failure		
				Activate Preset/ Sca/ Tour/ Pattern if there is no command in the specified perios		
			Idle Motion			

				Tripwire, Intrusion, Abandoned/Missing, Face Detection		
			Intelligent features			
			Audio Interface	One or more		
			Alarm I/O	2 or more		
			Ingress Protection	IP66		
			Compression	H.265/H.264/MJPEG		
			Streaming Capability	3 streams or more		
			Resolution	min 1080P , Full HD		
			Bit Rate Control	CBR/VBR		
				H.265/H.264: 448K~8192kbps, <MJPEG:		
			Bit Rate	5120K~10240Kbps or better		
			Day/Night	Auto(ICR) / Colour / B/W		
			Backlight Compensation	BLC / HLC / WDR(120dB)		
			White Balance	Auto, ATW, Indoor, Outdoor, Manual		
			Gain Control	Auto / Manual		
			Noise Reduction	Ultra DNR (2D/3D)		
			Motion Detection, Regios of Interest, Defog			
				Supported		
			Digital Zoom	16x or better		
			Flip	180°		
			Privacy Masking	Up to 24 areas		
			Compression	G.711a/G.711u(32 kbps)/PCM(128kbps)		
			Ethernet	RJ-45(10Base-T/100Base-TX) or better		
				IPv4/IPv6, HTTP, HTTPS, SSL, TCP/IP, UDP, UPnP, ICMP, IGMP, SNMP. RTSP, RTP, SMTP, NTP, DHCP, DNS, PPPOE, DDNS, FTP, IP Filter, QoS,		
				Bonjour, 802.1x		
			Protocol			
			Interoperability	ONVIF, PSIA, CGI		
			Streaming Method	Unicast/Multicast		
			Camera Internal Storage	Micro SD Card 128 GB		
				CE: EN55032/EN55024/EN20130-4		
				FCC: Part15 subpartB, ANSI C63.4-2014		
			Certifications	UL: UL60950-1+CAN/CSA C22.2, No. 60950-1		

33	Hard Disk Drive HDD	7	Hot Swappable WD 8TB AV Hard Drive			
34	Configuration of SSMC, PTZ camera and commissioning	1	Configuration of SSMC and PTZ Camera and commissioning. Must & should support , work and compatiable with exisiting DSS			
35	keyboard & Mouse	1	Logitech Wireless keyboard and Mouse			
36	24 Inch IPS Full HD Monitor	1	Should Support both HDMI and VGA			
37	Warranty	3 years	Minimum 3 years of warranty, Next Business day support with 24x7x365 If required engineer should be available on-site on same / next business day.			

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