



The Registrar, Nalanda University on behalf of the Hon'ble Vice Chancellor, Nalanda University invites Limited Tender enquiry for Supply, Installation, Testing and Commissioning (SITC) of CCTV camera system in Nalanda University, Rajgir.

Nalanda University has been established as an International University pursuant to the decisions taken in various East Asia Summits by an Act of Indian Parliament entitled "The Nalanda University Act, 2010 (No. 39 of 2010)". The University invites sealed Tender in Two Bid System (Technical and Financial) from interested parties for Supply, Installation, Testing and Commissioning (SITC) of CCTV camera system in the interim campuses of the Nalanda University, Rajgir as per specifications detailed in Schedule I & II.

The University campuses consist of the following:-

1. Interim University Campus, Rajgir
2. Tathagat Residential Hall(TRH), Rajgir
3. Maitreya Residential Hall, Rajgir
4. Ajatshatru Residential Hall, Rajgir
5. Nagarjuna Residential Hall, Rajgir
6. Ananda Residential Hall, Rajgir

1. **Estimated Cost:** Rs. 24,50,000/- (Rupees Twenty Four Lakhs Fifty Thousand Only)
2. **Earnest Money Deposit (EMD):** Rs. 50,000/- (Rupees Fifty Thousand Only). Demand Draft in favour of Registrar, Nalanda University, payable at Rajgir
3. **Tender Processing Fee:** Rs. 500/- (Rupees Five Hundred Only). Demand Draft in favour of Registrar, Nalanda University, payable at Rajgir
4. **Period of Work Completion:** Within 15 days from issuance of Work Order.
5. **Date of Publishing Tender:** 30th November 2017
6. **Last date and Time of Submission of Bid:** 07.12.2017(Thursday) at 3.00 PM
7. **Last date and Time of Opening of Technical Bid:** 07.12.2017(Thursday) at 3.30 PM
8. **Venue for deposit of Tender (only hard copy):** Interim University Campus, Rajgir
9. **MODE OF SUBMISSION OF QUOTATIONS:** The quotation may be sent by registered post or may be dropped in the Tender Box of the Nalanda University, Rajgir, placed in the Reception Section on or before due date & time of receipt of bids as indicated above.

Quotations which do not reach this University latest by 3:00 PM will be summarily rejected and Nalanda University will not be responsible for any delay in receipt of quotation by post. Bidder can submit the price for any



category. It is mandatory to fill whole items of any category. No piece meal quote shall be accepted.

10. Bidders shall inspect and examine the site and its surroundings and shall satisfy himself/herself before submitting tender
11. The Bidders shall submit the detailed tender document in two envelopes separately duly sealed. The envelopes shall bear the following inscriptions:

The Envelop – 1 super scribed as “Technical Bid” for CCTV Camera System”

The Envelop – 2 super scribed as “Financial Bid” for CCTV system”

Both the sealed envelopes should be placed in another sealed cover which should be clearly super scribed as “Tender for Supply, Installation, Testing and Commissioning (SITC) of CCTV camera for the Nalanda University” and addressed to the Registrar, Nalanda University and submit on or before 07/12/2017 by 3 PM. A Drop box earmarked for the purpose is kept at the Reception of Nalanda University.

The bidder should have to submit the relevant documents etc. after page numbering signed and stamped at all the documents and tender document. The bidder shall sign on all the documents, certificates submitted by them owing the responsibility for their correctness/authenticity.

12. Minimum eligibility :

- i. Bidders should have registered office/branch office at Patna/Gaya/Bihar Sharif.
- ii. Bidders if not OEM, should have authorization from manufacturers and submit the authorized certificate.
- iii. Bidder should have a minimum three years of experience in supplying CCTV, networking, Computer Hardware in bulk to Departments/Ministries of the Government of India/PSUs.
- iv. Bidders should have minimum turnover of Rs. 1 crore on an average in the last three financial years.
- v. Bidders should have successfully completed similar works during the last 7 years ending previous day of the last day of submission of tender and submit the completion certificate and copy of work order as per the following:
 - a. Three similar completed works costing not less than the amount equal to 40% of the estimated cost i.e. Rs. 9,80,000/-
or
 - b. Two similar completed works costing not less than the amount equal to 50% of the estimated cost. i.e. 12,25,000/-
or
 - c. One similar completed work costing not less than the amount equal to 80% of the estimated cost i.e. 19,60,000/-
- vi. The bidder shall not have been black-listed/debarred by any State/Central Government Department or Public Sector Undertaking or any autonomous body. The bidder shall submit a duly notarized



NALANDA UNIVERSITY, RAJGIR

- affidavit, stating on oath that the bidder has not been blacklisted / debarred during last five years. Applications received without such affidavit in original shall stand automatically rejected. NU shall be entitled to forfeit the EMD and Tender Processing Fee on account of any such rejection.
- vii. The bidder must have infrastructure support i.e. service center/franchise/OEM service center. The bidder must submit the details of their infrastructure with reference to locations, technical manpower availability, inventory of spare, etc. and also indicate their business model for providing warranty and after sale support.
 - viii. The Bidders are required to submit in technical bid enclosing there with photocopies of the following documents, failing which their bids will be summarily rejected and will not be considered any further.
 - a) Registration Certificate of the firm/proprietorship, etc.
 - b) Copy of GST Registration Certificates;
 - c) Copy of PAN/GIR Card.
 - d) Copies of Income Tax Return filed for the last three financial years;
 - e) Copies of audited A/c statement of Balance Sheets and Profit & Loss A/c for last three financial years.
 - ix. Bank Solvency of value not less than 40% of estimate value & not older than 12 months from the date of issue of NIT.
 - x. All the above certificates/documents shall be submitted by the firms duly signed with seal and attested by Gazetted officer or the Officer of PSE or their CA and original shall be produced for verification as required.

13. Bidders must comply with the following (Document proof to be attached wherever required)

Sl. No.	Particular	Remarks Yes/No
1	All systems and components must be in compliance with CE, FCC and UL certifications. It shall conform to ONVIF (S) standards. The quoted camera model should also be listed in the ONVIF Website. Copy of the UL certification, ONVIF compliant certificate indicating the make and Model of the Camera offered shall be submitted	
2	All the quoted camera should be UL certified with Camera Test Report of ILAC accredited lab shall be submitted.	
3	The MAC address of the IP cameras must be registered in the name of OEM supplying the cameras.	
4	Camera , NVR and LCD / POE switch should be of Same Make.	
5	In case the OEM is not participating directly, bidder should be an authorized reseller or channel partner of the OEM. An authorization letter from the OEM with respect to this tender/project need to be submitted in original. This certificate shall be issued through the global headquarters and attested by the Indian Office in case OEM is of international repute.	



6	OEM should have experience of having successfully completed similar work of at least 1000 cameras or more during last 3 years. OEM shall enclose copy of the Completion Certificate of the work for the respective 'Work Order' towards meeting the Eligibility Criteria. Note: The Completion Certificate shall indicate the work order reference, make & quantity of each item for which the work order was executed. Work Orders without the work Completion Certificate will NOT be considered for evaluation	
7	Only the Manufacturers, who are manufacturing CCTV equipment for minimum 05 years are eligible (with respect to last date of submission of bid). Certificate issued by the Competent Authority of the Govt. in support of existence of their manufacturing unit of CCTV equipment since last 05 years, Registration Certificate wherein the nature of business is indicated.	
8	The OEM for CCTV camera should have at least 50 employees on its payroll in India. This is to justify that CCTV OEM has made investment in India and is serious about its business in India which will ensure long term after sales support and spare support from the OEM. Bidder to produce documentary proof to establish the eligibility.	
9	Products quoted should be of international repute & enlisted in the IHS report. Any of the Top 10 OEMs from the latest global IMS report for Network Security Cameras may be submitted.	
10	OEM should have online dedicated CCTV support center available during working hours and a fully equipped repair and maintenance office in India, Bihar will be preferred. OEM document details to be submitted for the same.	
11	OEM should have presence in India for the past seven years with fully equipped repair and maintenance center and toll free number.	
12	OEM should have an ISO 9001:2008 and ISO 14001:2004 for manufacturing process. Documents needed to be attached along with the bid.	
13	The Offered Cameras, Recorder, VMS, Analytic shall be from the same OEM to ensure seamless integration & better support. However keeping in mind the future scalability, the offered VMS & Cameras should be ONVIF S compliant.	

14. Validity:-

The tender shall be kept valid for a period of 90 days (Ninety days) from the date of opening of bid.

15. Prices:-

- i. The prices shall be including of Supply, Installation, Testing and Commissioning (SITC) of CCTV cameras, services and warranty/guarantee Nalanda University, Rajgir. On door delivery basis inclusive of packing, freight & forwarding charges, GST& other levies, if any. Payment of any type of Govt. Statutory levies / taxes will be responsibility of the bidders. Please ensure that the rates/prices are strictly filled in the Schedule-I enclosed herewith.
- ii. In case of decrease in prices, the benefit shall be passed on to the Nalanda University, Rajgir. No claim for compensation or loss due to fluctuations in currency rates or any other reasons/causes shall be entertained.



16. Bid Security/Earnest Money Deposit (EMD):

- i EMD of **Rs.50,000/- (Fifty Thousand only)** in the form of Demand Draft /Banker's Cheque from any scheduled bank drawn in favour of "Nalanda University" payable at Rajgir shall be submitted in a separate envelope. The bidder may write the tender no., name and address of the bidder on the reverse of EMD Draft/Banker's Cheque.
- ii Cheque/Money Order/Cash/BG shall not be accepted as EMD.
- iii The EMD may be forfeited, if a Bidder withdraw his bid during the period of bid validity, specified by the Bidder in the Bid and/or on submission of false documents/undertaking.
- iv A bid received without EMD shall be rejected as non-responsive at the bid opening stage and returned to the bidder unopened.
- v Bid will be rejected and returned to the bidder, if EMD is found to be of lesser amount or EMD is not submitted in the manner prescribed there for.
- vi The submission of EMD is compulsory for all the bidders and no exemption will be granted for submission of EMD in any case.
- vii The bid security is normally to remain valid for a period of forty-five days beyond the final bid validity period.
- viii The bid security of the unsuccessful bidder will be returned to them within 30 days after finalization and award of the tender without any interest.

17. Performance Guarantee(PG):

The successful bidder have to deposit Performance Guarantee/FDR at the rate of 10% of the total cost of the item before signing of the contract/issue of purchase order for supply of item in the form of Demand Draft/Fixed Deposit payable in favour of "Nalanda University" payable at Rajgir .The PG will remain valid for a period of 60 days beyond the date of completion of all contractual obligations of supply including warranty period. If there is any dues against the firm, the same may be deducted from the PG. PG can be withheld or forfeited in full or in part in case of unsatisfactory service maintenance during warranty/Full Service Maintenance Agreement period. No interest shall be payable on PG.

18. Warranty and maintenance

The bidder shall provide comprehensive onsite warranty/guarantee for a minimum of one year and submit a quotation for AMC for further three years. The period of comprehensive onsite warranty and AMC will start from the date of installation of items in the University premises. The bidder is responsible of foolproof functioning of CCTV system within the warranty/guarantee period and AMC. In case, if any problem in functioning , the bidder shall rectify the problem by repairing or replacing the item(s) within 24 hours.



The bidders shall furnish and undertaking from OEM of the concerned product that they shall supply spares for the quoted product for the five years after warranty period is over.

19. Preventive/Annual Maintenance:

Three years of annual maintenance is included after the one year of warranty/guarantee of supplied equipment. The minimum deliverable of CCTV system annual maintenance are follows:

- i. Supplier shall inspect all equipments at least once in a month as a part of preventive maintenance apart from any breakdown visit
- ii. Regular visit to ensure camera position and lens focus as per required view.
- iii. Ensuring constant and regular power supply to cameras for 24x7 recording.
- iv. Testing and recording of camera feed for optimal communication desire recording setup.
- v. Taking regular backups from the DVR/NVR and storing with labeled folders.
- vi. Replacing faulty devices and accessories whenever required.
- vii. Any other repairs regarding the electrical system, UPS etc.
- viii. Breakdown calls, nature of repair done, parts replaced etc. should be recorded in a log book and to be made available to the University authorities whenever required.
- ix. 50% of Annual Maintenance charge shall be paid twice in a year.

20. Supply, Commissioning / installation

- i. The items shall be delivered for Nalanda University, Rajgir. No octroi, freight, insurance, etc. shall be paid by the Nalanda University, Rajgir.
- ii. The Goods supplied under the contract shall be fully insured—in a freely convertible currency from an eligible country—against loss or damage incidental to manufacture or acquisition, transportation, storage, and delivery, in accordance with the applicable Incoterms or in the manner specified in the tender.
- iii. **The works to be completed within 15 days from the date of purchase order issued to the awarded bidder and has to be strictly adhered to by the bidder. There shall not be any compromise in the quality of goods delivered and scheduled delivery under any circumstances.**
- iv. A Bill giving details of GST Registration Nos. etc. may be submitted to Nalanda University office at Rajgir for settlement.
- v. The cable and conduits shall be provided as per actual measurement, though the tentative numbers for the same are mentioned in the price bid.
- vi. The supplied products must be in compliance with the specifications as provided in this tender. The supplier should submit the



compliance certificate and product datasheets along with the tender document.

21. General terms & conditions of the tender

The following terms & conditions shall apply in connection with the supply of equipment:

- a. The complaint should invariably be attended to by the firm within 4 hours of lodging the same and must be resolved within 24 hours. The successful bidder/OEM will attend the complaint at the location of the item (s).
- b. Delivery/installation of the item (s) at Nalanda University, Rajgir shall be arranged by the successful bidder at their own cost.
- c. The firm may be blacklisted for further business with Nalanda University, Rajgir owing to nonperformance of satisfactory and timely service.
- d. If there is any damage during transportation/installation, the same would be borne by the successful bidder. The damaged item should be replaced by him.
- e. Quantity of items given in the financial bid is approximate, which may likely vary.
- f. The tender document is not transferable.
- g. University also reserves the right to place the order in installments.

22. Clarifications.

In case the bidder requires any clarification regarding the tender documents, they are advised to submit their queries to Admin of Nalanda University through e-mail i.e. bmohapatra@nalandauniv.edu.in at the earliest. No irrelevant query will be entertained.

23. Payment:-

Subject to completion of all formalities as per terms of order, 100% payment of each consignment inclusive of all charges shall be paid to the successful bidder within 30 days from the date of fixing of material in good condition subject to submission of PBG/FDR. The payment shall be released by the Finance and Account Section Nalanda University, Rajgir, District Nalanda.

24. Penalty:-

The delivery period is the essence of the contract and has to be maintained in all circumstances In case of delay in execution of the order, the Nalanda University may at its option either :-

- i. The successful bidder has to execute the indented Job/Work as mentioned in the supply order placed with them within the stipulated period as given in the supply order placed by this office failing which 2% per week and maximum of 10% deduction as



liquidated damage charges will be made from the bill in case the job is not completed within the given stipulated period..

OR

- ii. Purchase from elsewhere on account and at the risk and responsibility of the suppliers, the stores not delivered or others of similar descriptions; the cost to be recovered from the suppliers.

OR

- iii. Cancel the contract in part or whole of the quantity in the order, with liability.

25. Consignee:-

The delivery of the items is to be made to the store in-charge, Nalanda University.

26. Extension order:

The University reserves right to place an extension order for any additional quantity to the extent of 100% quantity of the original order on the same rates, terms and conditions within one year from the date of order.

27. Acceptance:

It is not binding on the University to accept the lowest or any tender. The Nalanda University reserves the right to accept or reject any offer at its option or place order with more than one supplier for full or part quantity of this enquiry without assigning any reason and the same shall be binding on suppliers unless otherwise stated in the offer. No correspondence shall be entertained on this account.

28. Disputes:

All disputes, if any, out of or in respect of this enquiry are to be settled at court in Patna, Bihar.

Bidders/Suppliers are requested to confirm their acceptance to the commercial terms & conditions as per enquiry. Unless stated specifically to the contrary, it shall be deemed that you have agreed to all terms and conditions mentioned in the enquiry and the same shall be binding on you.

Encl :-(1) Schedule-I (Price & Quantity Schedule) & Schedule II-(Technical Specification)

Yours faithfully,

Registrar
Nalanda University

SCHEDULE-I

(To be kept in the sealed envelope)
(**Price & Quantity**)

A	CCTV SYSTEM	UNIT	MAKE	QTY	SUPPLY UNIT RATE	SUPPLY AMOUNT (Including Taxes)	Grand Total
1	HD 2MP IR Network Bullet Camera	No.		36			
2	2MP IR Network Dome camera	No.		62			
3	2MP IR Network PTZ Dome camera	No.		3			
4	NVR 16 Channel with 2 SATA Option	No.		4			
5	32 Channel NVR with 4 SATA	No.		3			
6	Network Switch 8 Port POE 10/100/1000 mbps	No.		1			
7	Network Switch 16 Port POE 10/100/1000 mbps	No.		4			
8	Network Switch 24 Port POE 10/100/1000 mbps	No.		5			
9	HDD 6TB	No.		7			
10	Wall Mount Network Racks 6U following size complete as required at site FAN, PDU Tray, Power Point, Cable manager, Lock Key etc)	No.		9			



11	Wall Mount Network Racks 9U following size complete as required at site FAN, PDU Tray, Power Point, Cable manager, Lock Key etc)	No.		1			
12	Junction Box (300*300mm) for media converters, splice kit, power supply etc. as required	No.		11			
13	Providing of 21 " Professional Display Full HD LED 24 x7 Operation	No.		5			
14	Providing of 32 " Professional Display Full HD LED 24 x7 Operation	No.		2			
15	Media Converters - Pairs(10/100 Mbps)	No.		11			
16	Fiber termination Box-6 Core (6 Port LIU)	No.		6			
17	CCTV Poles- 3 meter Hot Dip Galvanized	No.		12			
18	Fiber patch panel at Control end- 12 port	No.		4			
19	CAT-6 Patch Cord- 3Meter	No.		216			
20	Fiber patch Cord-3 meter	No.		22			
21	Fiber pigtail	No.		22			
22	Power Supply for media converters and cameras with 5 O/Ps	No.		3			
23	CAT-6 LAN UNARMD CABLE @ Per meter	Meter		9000			
24	3x1.5 Core power Cable @ Per Meter	Meter		990			
25	6 core armored Fiber Cable @ Per Meter (Single Mode)	Meter		500			



26	25mm PVC Conduit @ Per Meter	Meter		8000			
27	32mm PVC Conduit @ Per Meter	Meter		400			
28	Splicing of Fiber Cable @ Per Splice	Meter		20			
29	Soft Soil Digging for Fiber Cable laying @ Per Meter	Meter		300			
30	Hard Soil Digging for Fiber Cable laying @ Per Meter	Meter		If required			
31	UPS 1.1KVA	No.		10			
A	MAIN ITEM					TOTAL - A	
B	INSTALLATION CHARGES					TOTAL - B	
Sl.No.	COST SUMMARY					Amount INR	
	TOTAL PROJECT COSTING						
A	MAIN ITEMS CCTV SYSTEM		TOTAL-A			-	
B	INSTALLATION & LABOUR CHARGES		TOTAL-B				
C	AMC FOR THREE YEARS (AFTER WARRANTY/GUARANTEE PERIOD)		TOTAL- C				
	GRAND TOTAL						

NOTE:

1. AMC Charges for three years after warrantee.
2. The AMC Charges shall not be evaluating criteria for price bid.
3. The grand total of A & B shall be considered for the evaluating of the price bid.
4. Rates in various tapering steps shall not be considered
5. The offers, with the rates given in any form/performa, other than mentioned above may be liable for rejection.
6. Payment of any type of Govt. statutory levies/taxes will be responsibility of the Bidder.



7. While quoting the prices, Make and model of the offered material require to be indicated.

Signature of Bidder
Name in full & Designation

SCHEDULE-II

(To be kept in the sealed envelope)

(Technical Specification)

1. HD 2 MEGAPIXEL IR NETWORK BULLET CAMERA

TECHNICAL SPECIFICATIONS

PART 2 - PRODUCTS

2.1 GENERAL

This product shall be manufactured by a firm whose quality system is in compliance with the ISO-9001

All equipment and materials used shall be standard components that are regularly manufactured and used in the manufacturer's system.

All systems and components shall have been thoroughly tested and proven in actual use.

All systems and components shall be provided with comprehensive repair and spare parts replacement. The manufacturer on warranty and non-warranty items shall guarantee the spare parts and the repair.

All systems and components shall have been thoroughly tested and proven in actual use.

All systems and components must be in compliance with FCC, CE, UL and RoHS requirements.

All materials furnished under this item shall be compliant with 802.3 Ethernet standards

2.2 HD 2 MEGAPIXEL IR NETWORK BULLET CAMERA

A. The network camera shall offer dual video streams with up to 2MP resolution (1920×1080) in progressive scan CMOS format, with H.264 video compression.

B. The network camera shall provide true & day night (ICR) low-light capabilities with sensitivity down to 0.01Lux @ (F1.2, AGC ON) ,0 Lux



- with IR; 0.028Lux @ (F2.0, AGC ON) ,0 Lux with IR
- C. The network camera shall support Back-Light Compensation (BLC) with selectable zones.
 - D. The camera shall offer video compression of H.264, MJPEG. Dual H264 streams shall be supported with independent resolution, bit rate and frame rates for the main and sub streams.
 - E. The network camera shall include embedded Linux OS and support IE and client software for network preview, and be capable of performing firmware upgrades through a network using a software-based device utility or through the web interface.
 - F. The network camera shall be equipped with built-in password protection which is not dependent on a server.
 - G. The network camera shall support standard IT protocols including: TCP/IP, HTTP, DHCP, DNS, DDNS, RTP, RTSP, PPPoE, SMTP, NTP, UPnP, ICMP, IGMP, SNMP, FTP, QoS.
 - H. The network camera shall support industry standard Power over Ethernet (PoE) IEEE 802.3af for powering the camera over the network in addition to 12VDC local power.
 - I. The camera shall provide the ability to take snapshot and record video clips from the web interface and store on the local computer.
 - J. The camera shall support video motion detection with user defined areas and configurable sensitivity levels. In addition, the motion detection shall be supported by an arming schedule with the audible warning, surveillance center notification, email, ftp upload, and alarm output triggered as supported events.
 - K. The camera's web interface shall permit settings to be exported to and imported from a configuration file via the web interface, API and camera manufacturer's client software.
 - L. The camera shall conform to ONVIF, PSIA and CGI standards for integration with 3rd party video management systems (VMS). The camera may also support custom firmware for specific integration with a 3rd party VMS.
 - M. The camera shall be supported as necessary by a free DDNS service which is provided free of charge by the camera's manufacturer.
 - N. The camera shall be compatible with a Video Management Software (VMS) package and Mobile Phone Application from the same manufacturer which is provided free of charge. The VMS shall not be a restricted use version of the manufacturer's full featured version.

2.3 PoWER

- A. Power Supply 12 VDC ± 10%, PoE (802.3af)
- B. Power Consumption Max. 7 W (Max. 9 W with IR cut filter on)

2.4 CAMERA

- A. Image Sensor 1/3" Progressive Scan CMOS
- B. Min. Illumination 0.01Lux @ (F1.2, AGC ON) ,0 Lux with IR
0.028Lux @ (F2.0, AGC ON) ,0 Lux with IR
- C. Shutter Time 1/3sto 1/100,000s
- D. Lens 6mm@ F2.0, Angle of view: 52°
(4mm, 12mm optional)
- E. Lens Mount M12
- F. Max. Image Resolution 1920 x 1080



- G. Resolutions supported Main Stream: (1920 x 1080, 1280 x 960, 1280 x 720)@25/30fps
Sub Stream: (4CIF, CIF, VGA, QVGA)@25/30fps
- H. Day & Night Day, Night, Auto, Schedule
- I. Smart IR Enable or Close
- J. Sensitivity If you choose auto day/night switch, you can choose the sensitivity of the switch as high, normal and low
- K. WDR Wide dynamic range can be used when there is a high contrast of the bright area and the dark area of the scene
- L. BLC Area BLC area is the area sense the light intensity; Close, Up, Down, Left, Right and Center are selectable
- M. Back Light Compensation On/Off, Zone configurable
- N. Digital Noise Reduction Close, Normal Mode and Expert Mode are selectable
- O. Noise Reduction Level For adjusting the noise reduction level and only valid when the DNR function is enabled
- P. Image Settings Saturation, Brightness, Contrast, Sharpness
- Q. Image rotation Mirror (Left/Right, Up/Down, Center, Close)
- R. White Balance AWB1, Locked WB, Fluorescent Lamp, Incandescent Lamp, Warm Light Lamp, Natural Light

2.5 VIDEO&AUDIO SPECIFICATIONS

- A. Compression Main stream: H.264 Sub stream: H.264, MJPEG
- B. Dual Stream Yes; Main stream up to 1920 x 1080; sub-stream up to 4CIF
- C. Video Bit Rate 32 Kbps~8 Mbps
- D. Rate Control Constant, Variable
- E. H.264 profiles Main/Basic profile
- F. Max. Frame Rate (main) 25/30fps@1920x1080
- G. Sub-stream 4CIF, CIF, VGA, QVGA
- H. Users
1. Unicast Up to 6 simultaneous users
 2. Multicast Unlimited H.264
- I. Security Access Password protected
- J. Software Interface Web browser view and remote client
- K. ROI Region of interest, 1 area

2.6 NETWORK

- A. Alarm Trigger Motion detection, tampering alarm, intrusion detection, line crossing detection, network disconnect, IP address conflict, storage exception
- B. VCA VCA information can be written in streams, and back-end devices can search for video clips contain specified type of events



- C. Protocols
TCP/IP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, RTCP, PPPoE, NTP, UPnP, SMTP, SNMP, IGMP, 802.1X, QoS, IPv6, Bonjour (SIP optional)
- D. Security User authentication, watermark
- E. System Compatibility ONVIF, PSIA, CGI, ISAPI
- F. On-board storage Built-in Micro SD/SDHC/SDXC card slot, up to 64 GB

2.7 WEB BROWSER REQUIREMENTS

- A. Operating System PC (Intel® Core® 2 Duo microprocessor, 2.6 GHz) with Microsoft® Windows® XP, Windows Vista®, or Windows® 7
- B. Web User Interface DirectX for Windows XP, Windows Vista, Windows 7
- C. RAM 2 GB
- D. Ethernet Card 100 Mbps
- E. Web Browser Internet Explorer® 7.0 or later; Firefox, Chrome
- F. Screen Resolution 1024 x 768 pixels or higher, 16- or 32-bit pixel color resolution

2.8 PHYSICAL

- A. Operating Conditions -30 °C ~ 60 °C (-22 °F ~ 140 °F)
- B. Humidity, all models 95% or less (non-condensing)
- C. IR Range 30m
- D. Dimension 194.04×93.85×89.52mm
- E. Weight 700g (1.5 lbs)
- F. Construction
 - a. Body Material Toughened Plastic
 - b. Body Color Hikvision White
 - c. Screws Stainless Steel, Security Torx

2.9 CERTIFICATIONS AND RATINGS

- A. Regulatory
 - a. IEC/EN 61000
 - b. IEC/EN 55022
 - c. IEC/EN 55024
 - d. IEC/EN60950-1
 - e. FCC Part 15, Class b
 - f. UL/cUL 60950-1
 - g. RoHS
- B. Ratings
 - a. Ingress Protection IP66

2. 2MP Network IR PTZ Dome Camera

TECHNICAL SPECIFICATIONS

A. GENERAL

This product shall be manufactured by a firm whose quality system is in compliance with the ISO-9001



All equipment and materials used shall be standard components that are regularly manufactured and used in the manufacturer's system.

All systems and components shall have been thoroughly tested and proven in actual use.

All systems and components shall be provided with comprehensive repair and spare parts replacement. The manufacturer on warranty and non-warranty items shall guarantee the spare parts and the repair.

All systems and components must be in compliance with FCC, CE, UL and RoHs requirements.

All materials furnished under this item shall be compliant with 802.3 Ethernet standards

Technical support shall be based in the United States and be available weekdays from 6:00 AM–6:00 PM Pacific Time.

Support ezviz.

B. 2MP NETWORK IR PTZ DOME CAMERA

O. The camera shall offer three video streams with up to 2MP resolution, utilizing a progressive scan CMOS imaging sensor.

P. The camera shall offer video compression of H.264 and MJPEG. Dual H264 streams shall be supported with independent resolution, bit rate and frame rates for the main and sub streams.

Q. The camera shall provide true day night, low-light capabilities, with integrated IR cut filter, with sensitivity down to 0.02 lux in color and 0.002 lux in black/white and 0 Lux with IR.

R. The camera shall be capable of performing firmware upgrades through a network using a software-based device utility or from the web interface.

S. The camera shall be equipped with built-in password protection which is not dependent on a server.

T. The camera shall provide the ability to take snapshot and record video clips from the web interface and store on the local computer.

U. The camera shall support video motion detection with user defined areas and configurable sensitivity levels. In addition, the motion detection shall be supported by an arming schedule with surveillance center notification, email, ftp upload, and alarm output triggered as supported events.

V. The camera's web interface shall permit settings to be exported to and imported from a configuration file via the web interface, API and camera manufacturer's client software.

W. The camera shall conform to ONVIF, PSIA and CGI standards for integration with 3rd party video management systems (VMS). The camera may also support custom firmware for specific integration with a 3rd party VMS.

X. The camera shall be supported as necessary by a free DDNS service which is provided free of charge by the camera's manufacturer.

Y. The camera shall be compatible with a Video Management Software (VMS) package and Mobile Phone Application from the same manufacturer which is provided free of charge. The VMS shall not be a restricted use version of the manufacturer's full featured version.

C. POWER

A. Power Supply 24 V AC, Hi-PoE



B. Power Consumption 30W max

D. CAMERA

- A. Image Sensor 1/2.8" Progressive Scan CMOS
- B. Effective Pixel 1920 (H) × 1080 (V)
- C. Resolution 2MP
- D. Min. Illumination Color: 0.05Lux @ (F1.5, AGC On)
B/W: 0.01Lux @ (F1.5, AGC On), 0 lux

with IR

- E. White Balance Auto, Manual, ATW, Indoor, Outdoor, Daylight Lamp, Sodium Lamp
- F. AGC Auto, Manual
- G. S/N Ratio ≥ 52 dB
- H. BLC On, Off
- I. Digital WDR On, Off
- J. Shutter Time 1 ~ 1/10,000s
- K. Day & Night IR Cut Filter
- L. Digital Zoom 16x
- M. Privacy Mask 24 privacy masks programmable
- N. Electronic Shutter Range 1 ~ 1/10,000 sec
- O. Digital Slow shutter Yes
- P. Image settings Saturation, brightness, contrast, sharpness
- Q. Image rotation Mirror(center, off)
- R. Noise Reduction 3D, selectable level (1-100)
- S. On screen Display Title (32 characters), Date, Time; User defined location
- T. OSD Display Modes Transparent, non-transparent; flashing, non-flashing

E. VIDEO & AUDIO SPECIFICATIONS

- A. Video Compression H.264, MJPEG
- B. Audio Compression G.711ulaw/G.711alaw/G.726/MP2L2/G.722
- C. Dual Stream Yes
- D. Resolutions supported Main Stream: 1920x1080,
1280x960, 1280x720
Sub Stream: 704x576, 352x288, 176x144
- E. Video Bit rate 32 Kbps ~ 12 Mbps
- F. Rate Control Constant, Variable
- G. ROI Encoding Support 2 areas with adjustable levels
- H. H.264 profiles High, Main, Base
- I. Max. Frame Rate 25fps (1920x1080), 30fps (1920x1080)
- J. Users
 - 1. Unicast Up to 20 simultaneous users depending on resolution settings
 - 2. Multicast Unlimited H.264
- K. Security Access Password protected
- L. Software Interface Web browser view and remote client.

F. NETWORK

- A. Ethernet RJ-45 10M/100M self adaptive



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- B. Alarm trigger Audio Exception Detection, Motion detection, Dynamic analysis, Tampering alarm, Network disconnect, IP address conflict, Storage exception
- C. Protocols IPv4/IPv6, HTTP, HTTPS, 802.1X, QoS, FTP, SMTP, U PnP, SNMP, DNS, DDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, ICMP, DHCP, PPPoE
- D. Security User authentication, Host authentication, Watermark, IP address filtering
- E. System Compatibility ONVIF, PSIA, CGI and Genetec
- G. CONNECTORS**
 - A. Communication interface 1 RJ45 10 M / 100 M Ethernet port
 - B. Audio Input Dry Contact
 - C. Audio Output Dry Contact
 - D. SD/SDHC slot Up to 128GB; Manual REC / alarm REC
- H. WEB BROWSER REQUIREMENTS**
 - A. Operating System PC (Intel® Core® 2 Duo microprocessor, 2.6 GHz) with Microsoft® Windows® XP, Windows Vista®, or Windows® 7
 - B. Web User Interface DirectX for Windows XP, Windows Vista, Windows 7
 - C. RAM 2 GB
 - D. Ethernet Card 100 Mbps
 - E. Web Browser Internet Explorer® 7.0 or later, Firefox, Chrome
 - F. Screen Resolution 1024 x 768 pixels or higher, 16- or 32-bit pixel color resolution
- I. LENS**
 - A. Focus Model Auto, Semiautomatic, Manual
 - B. Focal Length 4.7 ~ 94.0mm, 20x
 - C. Zoom Speed Approx.3s (Optical Wide-Tele)
 - D. Angle of View 58.3~3.2 degree (Wide~Tele)
 - E. Min. Working Distance 10 ~ 1,000mm (Wide-Tele)
 - F. Aperture Range F1.6 ~ F3.5
- J. PAN AND TILT**
 - A. Pan Range 360° endless
 - B. Pan Speed Pan Manual Speed: 0.1° -400°/s
Pan Preset Speed: 400°/s
 - C. Tilt Range -15° ~ 90° (Auto Flip)
 - D. Tilt Speed Tilt Manual Speed: 0.1° ~ 200°/s
Tilt Preset Speed: 200°/s
 - E. Proportional Zoom Rotation speed can be adjusted automatically according to zoom multiples
 - F. Number of Preset 300
 - G. Power Loss Recovery Support
 - H. Park Action Preset, Patrol, Pattern, Pan scan, Tilt scan, Random scan, Frame scan, Panorama scan
 - I. PTZ Position Display On, Off
 - J. Freeze Frame Support



- K. IR Illuminator Up to 150m effective range; variable by zoom level
- K. ALARM**
 - A. Alarm Trigger Intrusion detection, Line crossing detection, Motion detection, Audio Exception Detection, Dynamic analysis, Tampering alarm, Network disconnect, IP address conflict, Storage exception
 - B. Alarm Actions Preset, Patrol, Pattern, Recording, Relay output, Upload center, Upload FTP, Email linkage
- L. INPUT/OUTPUT**
 - A. Audio Input Line in
Line input: 2-2.4 V [p-p]; output impedance: 1 Kohm, ±10%
 - B. Audio Output Line level, impedance: 600 ohm
- M. CLIENT GUI**
 - A. Camera Control Pan/Tilt, Zoom, Focus, Click centering, Drag zoom, Iris, Preset position call and program, Auto mode.
 - B. OSD Up to 32 characters
 - C. Date & Time Display Time: Week: Date, 6 formats on the Client
 - D. Menu Language English
- N. PHYSICAL SPECIFICATIONS**
 - A. Dimension (Dia.x H) $\Phi 266.6 \times 365.2$ mm
 - B. Weight (approx.) 4kg
 - C. Mount Options Long-arm wall, Corner, Pole, Power box, Swan-neck
- O. ENVIRONMENTAL SPECIFICATIONS**
 - A. Operating Temperature $-30^{\circ}\text{C} - 65^{\circ}\text{C} (-22^{\circ}\text{F} - 149^{\circ}\text{F})$
 - B. Operating Humidity 90% or less
- P. CERTIFICATIONS AND RATINGS**
 - A. Regulatory
 - 1. IEC/EN 61000
 - 2. IEC/EN 55022
 - 3. IEC/EN 55024
 - 4. IEC /EN60950-1
 - 5. FCC Part 15, Class b
 - 6. UL/cUL 60950-1
 - 7. RoHS
 - B. Ratings
 - 1. Weatherproof Rating IP66
 - 2. Electrical Protection TVS 4,000V lightning protection, surge protection and voltage transient protection

3. HD 2 MEGAPIXELIR NETWORK DOME CAMERA
TECHNICAL SPECIFICATIONS



This product shall be manufactured by a firm whose quality system is in compliance with the ISO-9001

All equipment and materials used shall be standard components that are regularly manufactured and used in the manufacturer's system.

All systems and components shall have been thoroughly tested and proven in actual use.

All systems and components shall be provided with comprehensive repair and spare parts replacement. The manufacturer on warranty and non-warranty items shall guarantee the spare parts and the repair.

All systems and components shall have been thoroughly tested and proven in actual use.

All systems and components must be in compliance with FCC, CE, UL and RoHS requirements.

All materials furnished under this item shall be compliant with 802.3 Ethernet standards

2.3 HD 2 MEGAPIXEL IR NETWORK TURRET CAMERA

Z. The network camera shall offer dual video streams with up to 2MP resolution (1920×1080) in progressive scan CMOS format, with H.264 video compression.

AA. The network camera shall provide true & day night (ICR) low-light capabilities with sensitivity down to 0.01Lux @ (F1.2, AGC ON) ,0 Lux with IR; 0.028Lux @ (F2.0, AGC ON) ,0 Lux with IR

BB. The network camera shall support Back-Light Compensation (BLC) with selectable zones.

CC. The camera shall offer video compression of H.264, MJPEG. Dual H264 streams shall be supported with independent resolution, bit rate and frame rates for the main and sub streams.

DD. The network camera shall include embedded Linux OS and support IE and client software for network preview, and be capable of performing firmware upgrades through a network using a software-based device utility or through the web interface.

EE. The network camera shall be equipped with built-in password protection which is not dependent on a server.

FF. The network camera shall support standard IT protocols including: TCP/IP, HTTP, DHCP, DNS, DDNS, RTP, RTSP, PPPoE, SMTP, NTP, UPnP, ICMP, IGMP, SNMP, FTP, QoS.

GG. The network camera shall support industry standard Power over Ethernet (PoE) IEEE 802.3af for powering the camera over the network in addition to 12VDC local power.

HH. The camera shall provide the ability to take snapshot and record video clips from the web interface and store on the local computer.

II. The camera shall support video motion detection with user defined areas and configurable sensitivity levels. In addition, the motion detection shall be supported by an arming schedule with the audible warning, surveillance center notification, email, ftp upload, and alarm output triggered as supported events.

JJ. The camera's web interface shall permit settings to be exported to and imported from a configuration file via the web interface, API and



camera manufacturer's client software.

KK. The camera shall conform to ONVIF, PSIA and CGI standards for integration with 3rd party video management systems (VMS). The camera may also support custom firmware for specific integration with a 3rd party VMS.

LL. The camera shall be supported as necessary by a free DDNS service which is provided free of charge by the camera's manufacturer.

MM. The camera shall be compatible with a Video Management Software (VMS) package and Mobile Phone Application from the same manufacturer which is provided free of charge. The VMS shall not be a restricted use version of the manufacturer's full featured version.

2.4 PoWER

- A. Power Supply 12 VDC ± 10%, PoE (802.3af)
- B. Power Consumption Max. 5.5 W (Max. 7.5 W with IR cut filter on)

2.10 CAMERA

- A. Image Sensor 1/3" Progressive Scan CMOS
- B. Min. Illumination 0.01Lux @ (F1.2, AGC ON) ,0 Lux with IR
0.028Lux @ (F2.0, AGC ON) ,0 Lux with IR
- C. Shutter Time 1/3sto 1/100,000s
- D. Lens 4mm@ F2.0, Angle of view: 85°
(2.8mm, 6mm, 12mm optional)
- E. Lens Mount M12
- F. Max. Image Resolution 1920 × 1080
- G. Resolutions supported Main Stream: (1920 x 1080, 1280 × 960, 1280 x 720)@25/30fps
Sub Stream: (4CIF, CIF, VGA, QVGA)@25/30fps
- H. Day & Night Day, Night, Auto, Schedule
- I. Smart IR Enable or Close
- J. Sensitivity If you choose auto day/night switch, you can choose the sensitivity of the switch as high, normal and low
- K. WDR Wide dynamic range can be used when there is a high contrast of the bright area and the dark area of the scene
- L. BLC Area BLC area is the area sense the light intensity; Close, Up, Down, Left, Right and Center are selectable
- M. Back Light Compensation On/Off, Zone configurable
- N. Digital Noise Reduction Close, Normal Mode and Expert Mode are selectable
- O. Noise Reduction Level For adjusting the noise reduction level and only valid when the DNR function is enabled
- P. Image Settings Saturation, Brightness, Contrast, Sharpness
- Q. Image rotation Mirror(Left/Right, Up/Down, Center, Close)
- R. White Balance AWB1,Locked WB, Fluorescent Lamp, Incandescent Lamp, Warm Light Lamp, Natural Light



2.11 VIDEO & AUDIO SPECIFICATIONS

- A. Compression Main stream: H.264
Sub stream: H.264, MJPEG
- B. Dual Stream Yes; Main stream up to 1920×1080; sub-stream up to 4CIF
- C. Video Bit Rate 32 Kbps~8 Mbps
- D. Rate Control Constant, Variable
- E. H.264 profiles Main/Basic profile
- F. Max. Frame Rate(main) 25/30fps@1920x1080, 1280×720
- G. Sub-stream 4CIF, CIF, VGA, QVGA
- H. Users
 - 1. Unicast Up to 6 simultaneous users
 - 2. Multicast Unlimited H.264
- I. Security Access Password protected
- J. Software Interface Web browser view and remote client
- K. ROI Region of interest, 1 area

2.12 NETWORK

- A. Alarm Trigger Motion detection, tampering alarm, intrusion detection, line crossing detection, network disconnect, IP address conflict, storage exception
- B. VCA VCA information can be written in streams, and back-end devices can search for video clips contain specified type of events
- C. Protocols
TCP/IP,ICMP,HTTP,HTTPS,FTP,DHCP,DNS,DDNS,RTP,RTSP,RTCP,PPPoE,NTP,UPnP,SMTP,SNMP,IGMP,802.1X,QoS,IPv6,Bonjour(SIP optional)
- D. Security User authentication, watermark
- E. System Compatibility ONVIF, PSIA, CGI, ISAPI
- F. On-board storage Built-in Micro SD/SDHC/SDXC card slot, up to 64 GB

2.13 WEB BROWSER REQUIREMENTS

- A. Operating System PC (Intel® Core® 2 Duo microprocessor, 2.6 GHz) with Microsoft® Windows® XP, Windows Vista®, or Windows® 7
- B. Web User Interface DirectX for Windows XP, Windows Vista, Windows 7
- C. RAM 2 GB
- D. Ethernet Card 100 Mbps
- E. Web Brower Internet Explorer® 7.0 or later; Firefox, Chrome
- F. Screen Resolution 1024 x 768 pixels or higher, 16- or 32-bit pixel color resolution

2.14 PHYSICAL

- A. Operating Conditions -30 °C ~ 60 °C (-22 °F ~ 140 °F)
- B. Humidity, all models 95% or less (non-condensing)



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- C. IR Range 20 to 30 meters
- D. Dimension $\Phi 126.7 \times 97.2$ (5.0" \times 3.8")
- E. Weight 570g (1.26 lbs)
- F. Construction
 - d. Body Material Aluminum alloy
 - e. Body Color Hikvision White
 - f. Screws Stainless Steel, Security Torx

2.15 CERTIFICATIONS AND RATINGS

- A. Regulatory
 - h. IEC/EN 61000
 - i. IEC/EN 55022
 - j. IEC/EN 55024
 - k. IEC /EN60950-1
 - l. FCC Part 15, Class b
 - m. UL/cUL 60950-1
 - n. RoHS
- B. Ratings
 - b. Ingress Protection IP66

16 Channel NVR with 2 SATA	
NVR Specification :	
Operating system	Linux based OS
IP video input	16-channel IP Video input
Two-way audio	should support
Incoming bandwidth	Min. 160Mbps or better
Outgoing bandwidth	Min. 160Mbps or better
HDMI output resolution	4K(3840 \times 2160), 1920 \times 1080, 1600 \times 1200, 1280 \times 1024, 1280 \times 720, 1024 \times 768
VGA output resolution	1920 \times 1080p, 1600 \times 1200, 1280 \times 1024, 1280 \times 720, 1024 \times 768
Audio output	1-ch, RCA (Linear, 1 K Ω)
Recording resolution	8MP \sim 4CIF
Decoding format	it should support H.265/H.264/MPEG4
Smart Search option	required
SATA interface for HDD	should support 2 x SATA interfaces for 2HDDs
Capacity	6TB capacity for each HDD or better
Automatic Network Replenishment	should support
Network interface	1 x RJ-45 10/100/1000 Mbps self-adaptive Ethernet interfaces
Alarm in/out	Min. 4in/1out



USB interface	atleast 2 × USB
Power supply	12V DC
Consumption (without hard disk)	≤10 W
Working temperature	-10 to +55°C
Working humidity	10 to 90 %
Certification	CE, FCC, UL
32 Channel NVR with 4 SATA	
<u>NVR Specification :</u>	
Operating system	Linux based OS
IP video input	32-channel IP Video input
Two-way audio	should support
Incoming bandwidth	Min. 256Mbps or better
Outgoing bandwidth	Min. 160Mbps or better
HDMI output resolution	4K(3840×2160), 1920×1080, 1600×1200, 1280×1024, 1280×720, 1024×768
VGA output resolution	1920 × 1080p, 1600 ×1200, 1280 × 1024, 1280 × 720, 1024 ×768
Audio output	1-ch, RCA (Linear, 1 KΩ)
Recording resolution	8MP ~ 4CIF
Decoding format	it should support H.265/H.264/MPEG4
Smart Search option	required
SATA interface for HDD	should support 4 x SATA interfaces for 4HDDs
Capacity	6TB capacity for each HDD or better
Automatic Network Replenishment	should support
Network interface	2 x RJ-45 10/100/1000 Mbps self-adaptive Ethernet interfaces
Network protocol	TCP/IP, DHCP, DNS, DDNS, NTP, SMTP, NFS, iSCSI, UPnP, HTTPS
Serial interface	1 x RS-485
USB interface	atleast 2 × USB
Alarm in/out	atleast 16input / 4output
Power supply	100 to 240 VAC
Consumption (without hard disk)	≤20 W
Working temperature	-10 to +55°C



Working humidity	10 to 90 %
Certification	CE, FCC, UL

Network Switch 8 Port POE 10/100/1000 mbps

2.4 GENERAL

- A. This product shall be manufactured by a firm whose quality system is in compliance with the ISO-9001.
- B. All equipment and materials used shall be standard components that are regularly manufactured and used in the manufacturer’s system.
- C. All systems and components shall have been thoroughly tested and proven in actual use.
- D. All systems and components shall be provided with comprehensive repair and spare parts replacement. The manufacturer on warranty and non-warranty items shall guarantee the spare parts and the repair.
- E. All systems and components must be in compliance with FCC, and CE requirements.
- F. All materials furnished under this item shall be compliant with 802.3 Ethernet standards

2.5 PoE SWITCH SPECIFICATIONS

- A. Network Port

POE ports	8 *10/100Mbps RJ45
Uplink Port	1*100Mbps RJ45Ethernet Port

- B. Switch Specifications

SwitchingCapacity	1.8Gbps
Max. Forwarding Rate	1.34Mpps
Priority port	Port 1-2
Forwarding Mode	Store-and-forward
MAC Address Table	4k
Flow Control	IEEE802.3x full duplex

- C. POE SPECIFICATIONS

PoE Standard	IEEE802.3af, IEEE802.3at
PoE Power Budget	123W
Working Mode	Extend On:250m&10Mbps@CAT5e Extend Off:100m&100Mbps@CAT5e

- D. Power Supply & Consumption

Power Supply	51V DC, 2.5A
Power Consumption	≤127W

- E. Protection



Surge Protection 4KV

2.6 PHYSICAL SPECIFICATIONS

- A. Weight 0.57kg
- B. Dimension 235 mm* 103mm * 27mm

2.7 ENVIRONMENTAL

- A. Working Temperature Temperature: 0°C-40°C
- B. Working Humidity Humidity: 10%-90% , non-condensing
- C. Storage Temperature Temperature: -40°C-70°C
- D. Storage Humidity Humidity: 5%-90% , non-condensing

2.8 CERTIFICATIONS

- A. CE
- B. FCC

Network Switch 16 Port POE 10/100/1000 mbps

2.9 GENERAL

- G. This product shall be manufactured by a firm whose quality system is in compliance with the ISO-9001.
- H. All equipment and materials used shall be standard components that are regularly manufactured and used in the manufacturer’s system.
- I. All systems and components shall have been thoroughly tested and proven in actual use.
- J. All systems and components shall be provided with comprehensive repair and spare parts replacement. The manufacturer on warranty and non-warranty items shall guarantee the spare parts and the repair.
- K. All systems and components must be in compliance with FCC, and CE requirements.
- L. All materials furnished under this item shall be compliant with 802.3 Ethernet standards

2.10 PoE SWITCH SPECIFICATIONS

- F. Network Port
 - POE ports 16 *10/100Mbps RJ45
 - Uplink Port 2*1000Mbps Combo port
- G. Switch Specifications
 - SwitchingCapacity 7.2Gbps
 - Max. Forwarding Rate 5.36Mpps
 - Priority port Port 1-8
 - Forwarding Mode Store-and-forward
 - MAC Address Table 4k
 - Flow Control IEEE802.3x full duplex



H. POE SPECIFICATIONS

PoE Standard	IEEE802.3af, IEEE802.3at
PoE Power Budget	230W
Working Mode	Extend On:250m&10Mbps@CAT5e Extend Off:100m&100Mbps@CAT5e

I. Power Supply & Consumption

Power Supply	100-240V AC,50/60Hz
Power Consumption	≤250W

J. Protection

Surge Protection	4KV
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2.11 PHYSICAL SPECIFICATIONS

C. Weight	3.72kg
D. Dimension	440 mm* 285mm * 43mm

2.12 ENVIRONMENTAL

E. Working Temperature	Temperature: 0°C-40°C
F. Working Humidity	Humidity: 10%-90% , non-condensing
G. Storage Temperature	Temperature: -40°C-70°C
H. Storage Humidity	Humidity: 5%-90% , non-condensing

2.13 CERTIFICATIONS

- C. CE
- D. FCC

Network Switch 24 Port POE 10/100/1000 mbps

2.14 GENERAL

- M. This product shall be manufactured by a firm whose quality system is in compliance with the ISO-9001.
- N. All equipment and materials used shall be standard components that are regularly manufactured and used in the manufacturer’s system.
- O. All systems and components shall have been thoroughly tested and proven in actual use.
- P. All systems and components shall be provided with comprehensive repair and spare parts replacement. The manufacturer on warranty and



- non-warranty items shall guarantee the spare parts and the repair.
- Q. All systems and components must be in compliance with FCC, and CE requirements.
- R. All materials furnished under this item shall be compliant with 802.3 Ethernet standards

2.15 PoE SWITCH SPECIFICATIONS

- K. Network Port
 - POE ports 26 *10/100Mbps RJ45
 - Uplink Port 2*1000Mbps Combo port

- L. Switch Specifications
 - SwitchingCapacity 8.8Gbps
 - Max. Forwarding Rate 6.55Mpps
 - Priority port Port 1-8

 - Forwarding Mode Store-and-forward
 - MAC Address Table 4k
 - Flow Control IEEE802.3x full duplex

M. POE SPECIFICATIONS

- PoE Standard IEEE802.3af, IEEE802.3at
- PoE Power Budget 370W
- Working Mode Extend On:250m&10Mbps@CAT5e
Extend Off:100m&100Mbps@CAT5e

- N. Power Supply & Consumption
 - Power Supply 100-240V AC,50/60Hz
 - Power Consumption ≤440W

- O. Protection
 - Surge Protection 4KV

2.16 PHYSICAL SPECIFICATIONS

- E. Weight 4.29kg
- F. Dimension 440 mm* 285mm * 43mm

2.17 ENVIRONMENTAL

- I. Working Temperature Temperature: 0°C-40°C
- J. Working Humidity Humidity: 10%-90% , non-condensing



- K. Storage Temperature
- L. Storage Humidity

Temperature: -40°C-70°C
Humidity: 5%-90% , non-condensing

2.18 CERTIFICATIONS

- E. CE
- F. FCC

LED Display-

Display size- LED
Screen Size- 21"/32"(inch)
Connectivity- USB, HDMI/ DVI
Resolution- 1920x 1080 Video
System-NTSC/PAL
Panel life- 30000hours
Audio- Connector2 RCA type(2stereo inputs)&Outputsignalspeaker:2
x1W
Electrical
InputVoltage-AC100~240V(50/60 Hz)
PowerConsumption-Max.35W

Hard Disk -

Drives shall be built for 24/7, always on high definition security system with a supported work load rate of upto 180TB /yr. and support for up to 20 cameras, optimized for Surveillance system:

The Drive provide the following key features:

1. 24x7
2. Balance technology to support multiple drives in a system.
3. Low activity and idle power.
4. Supports latching SATA cables and connectors.
5. Low Acoustics (dBA)
6. Temperature in opening may be 0 to 65 and Non-opening -40 to 70.
7. Low RPM Spindle speed.

Wall Mount Rack (6U/ (9U)

Wall mount racks with front glass door, front and rear mounting angles

To be provided with captive packet of 10 nos. each.

PDU 5AMP* 6 sockets

1U cable Manager

Shelf

Cooling FAN 220V AC

Media Converters

Standards : IEEE802.3u100BASE-TX, 100BASE- FX (Fast Ethernet, 100Mbps)

Supports Ethernet Mode. Full Duplex

Fiber Optic Connectors: Two connectors are provided for fiber optic cable connection. One is labeled Tx for Transmission of optical data; the other is labeled Rx for reception of optical data.

Ethernet Connectors: Standard RJ-45 port is provided for connecting to Ethernet.

LED Interface: Two LED's are provided one for detecting the Fiber Link and the other for detecting the Tx(Ethernet) Link.

When units are connected and there is data transfer both the LED's are blinking simultaneously.

Power Input: 5 Volts 1.25A

UPS Specification:

UPS – Output Power

Capacity – 660 watts/ 1.1 KVA Minimum

Nominal Output Voltage – 230V

Nominal Input voltage – 230V

Input Frequency – 50/60Hz +/-3 Hz

Battery Type – Maintenance free, sealed lead acid battery with suspended electrolyte, leak proof.

Battery & Run Time – Typical recharge time – max. 8 Hours

**Signature of Bidder
Name in full & Designation**