

**Embassy of India
Doha, Qatar**



सत्यमेव जयते

Notice Inviting Tender

**Supply and Installation of Closed Circuit Television (CCTV)
Cameras for the Embassy of India, Doha, Qatar**

RFP Ref No. **EoI Doha/CCTV/RFP-1/2018**

Released on: 15 May 2018

Embassy of India
Doha, Qatar

Notice Inviting Tender

Subject: **Supply and Installation of Closed Circuit Television (CCTV) Cameras at the Embassy of India, Doha**

No. EoI Doha/CCTV/RFP-1/2018

15 May 2018

1. **Introduction.**

1.1. Embassy of India, Doha invites sealed quotations from reputed, experienced and financially sound companies with valid CR number for Qatar to Supply and install a Closed Circuit Television (CCTV) Camera System at the Embassy of India, Doha

1.2. This RFP is being issued with **no financial commitment** and the Embassy reserves the right to **change or vary any part thereof of the RFP at any stage**. Embassy also reserves the right to **withdraw the RFP, should it become necessary at any stage**.

2. **Technical Scope of Work.** Work includes providing all materials, equipments, accessories, hardware, software, licenses, services and tests necessary to complete and make ready for operation by the Embassy of India a complete expanded IP based CCTV System in accordance with the design & specifications given in ***Annexure I -Technical Specifications of the Security Surveillance System***".

2.1. The system shall consist of, ***but not be limited*** to, the following:

- (a) A complete Workstation with all needed software & licenses.
- (b) 2-4 MP Dome Varifocal / Bullet Cameras.
- (c) Fixed Outdoor Cameras.
- (d) Network Storage Servers.
- (e) Digital Video Recording Equipments and Management Software.
- (f) Network PoE Switches 16/24 port Giga

- (g) Power Supplies including UPS.
- (h) Data Rack(s)
- (j) Copper Cabling and Containment from Racks to cameras.
- (k) CCTV Monitors
- (l) CCTV Controllers, Switches and Multiplexers.
- (m) 4TB HDD for storage of cameras.

2.2. **Coverage.**

- (a) The cameras in the perimeter should give a clear view of approximately 100 mtr along the perimeter walls with other details.
- (b) The cameras proposed in the office spaces like consular hall and inside the office spaces should give wider coverage angle. CSO/ IBSA should be easily able to monitor a large area/ detect individual approaching the chancery building/ observe actions of a group/ recognize known individuals at an entry point.
- (c) The cameras should have sufficient resolution for clear, sharp footage at night.

2.3. **Image Quality.** The image should be sufficient to enable identification of the individual beyond reasonable doubt. The CCTV image should help the observer to positively identify an individual. It should enable a viewer to monitor the number, direction and speed of people across a wide area.

2.4. **Tracking.** There are two basic requirements for tracking:-

- (a) To monitor personnel visiting the Embassy.
- (b) Monitoring of surroundings or outside perimeter area including recording of objects with high speeds upto 120 km/h and accurate target detection at any time with high quality motion sensors.

2.5. The RFP should cover the following with the proposed CCTV system:-

- (a) Simple audible alarm/ visual alarm pin pointing the location of the event.
- (b) Record event data.
- (c) Display the view in a full screen.
- (d) Create an audit log.
- (e) Inbuilt Motion Detection capability.

2.6. **Desired Image Quality**

- (a) Live Image : 1080p @ 30 fps max with 5000 bit rate
- (b) Recorded Image: 1080p @ 15 fps max with 2000 bit rate

2.7. **Frame Rate.** The Mission requires a setting of 15 - 35 fps with 1080 resolution as the benchmark since the consular section is over-crowded at all times and three sides of the Mission are surrounded by roads with moderate traffic.

2.8. **Metadata.** The Mission will require the following Metadata from the proposed CCTV setup:-

- (a) Date and Time.
- (b) Object Identity.
- (c) Object Size.
- (d) Vehicle type and plate numbers.
- (e) Camera ID.

2.9. **Creation of a Permanent Record.** The data from the system needs to be exported for creating a permanent record. This can be done through a Video Management System (VMS).

2.1. **Quality of Material.** All materials and equipments shall be standard, regularly manufactured equipment. All cameras, indoor & outdoor, DVR, VMS, and NVR shall be from reputed manufacturers.

3. **Operations - Scope of Work**

3.1. **Monitoring Stations.** The system should include a total of four monitors at different offices in the Chancery for monitoring

Unauthorized entry, flow of visitors, crowd control in the Consular Hall, unauthorized gathering of people in front of Embassy (if any) and theft.

3.2. **Live Monitoring.** Live monitoring is required 24 x 7. From Sunday -Thursday, during normal working hours (0800 -1800) the Mission witnesses a lot of rush and hence live streaming is required. On Friday, Saturday and holidays, live streaming is not necessary.

3.3. **Video Recording.** The Mission would like to keep the records for one month (30 days) before over written. So the Mission will go for a CCTV with suitable inbuilt storage system.

4. **Submission of Proposals.**

4.1. Interested Agencies are invited to submit their proposals for the assignment, which must include the following, as detailed subsequently in this document: -

- (a) Technical Proposal and (b) Financial Proposal

4.2. The original proposal (Technical Proposal and Financial Proposal) shall be prepared in indelible ink. It shall contain no interlineations or overwriting, except as necessary to correct errors made by the firm itself. Any such corrections must be authenticated by the persons or person who sign(s) the proposals. ***The Embassy will not provide any reimbursement for any cost associated with the development or presentation of a proposal.***

5. **Technical Proposal.**

5.1. The technical proposal shall contain the following: -

- (a) Profile and Track Record of the Agency.
- (b) Provide an overview of Services, Capabilities and key resources applicable to the project described in this RFP.
- (c) List relevant experiences with projects and give the percentage of business.
- (d) List of awards/ accolades and special certifications.
- (e) Explain your methodology and planning process.

(f) Detail the technical requirements & Time required to complete project along with a list of requirements and timeline.

(g) A disclosure of all outstanding financial obligations with clients from India as well as Qatar.

(h) **Project Team.** Identify the key staff members who will be assigned to the project. Briefly describe each member's responsibility and relevant work experience as it relates to the project.

5.2. The following documents need to be attached along with the technical proposal (both *hard copy as well as soft copies in pdf format*):

(a) Letter of Technical Proposal Submission.

(b) The company shall enclose the full company profile with details of its registered office, the name & designation of its contact person along with his telephone / mobile no. and e-mail address. The company should have a valid CR number for Qatar, and proof of the same is to be enclosed.

(c) The bidder should be a qualified and experienced company in the video security solutions for a minimum of 3 years, and should have completed at least 5 projects. Details of similar nature of work done in other Embassies / Government offices / Companies with proof should be attached. Completion certificates are needed to be attached.

(d) The company should have an established office with adequate number of staff (at least 3 qualified engineers and their certifications & profile should be submitted along with the Bid) and infrastructure related to the concerned job in Doha.

(e) The company should furnish an undertaking (self-certificate) that the company hasn't been blacklisted by a Central / State Government institution and there has been no litigation with any Government Department.

(f) The company should be an authorized dealer/partner of the equipment being quoted. Letter from the manufacturer should be submitted.

(g) All necessary manpower, material and transport shall be the sole responsibility of the winning bidder.

(h) No advance payment will be admissible. Payment will be made only after installation and commissioning of the CCTV system to the Embassy's satisfaction.

(i) **Conflicts of Interest.** An undertaking (self-certificate) that the agency hasn't been blacklisted by a Central/State Government institution in India or by any other Govt/ Missions abroad. It shall also have certified that there are no conflicts of interest between any existing contracts.

(j) **Earnest Money Deposit (EMD).** The company shall furnish Earnest Money Deposit (EMD) in the form of a Demand Draft / Banker's Cheque in favour of 'Embassy of India, Doha' for a sum of QR 5000/- along with the bid in a separate envelope. EMD is to remain valid for a period of ***Forty-Five days*** beyond the date of opening of the tender.

(k) An undertaking on the letterhead of the Agency and signed by an authorized signatory, that the Agency will undertake the assignment, in accordance with the Scope of Work detailed in the RFP document and at the cost submitted by the Agency in the Financial Proposal (***the cost is not to be indicated in the undertaking***).The above undertaking submitted by the agencies would be binding on the Agency.

(l) The tendering firm shall enclose a letter of acceptance of all terms and conditions mentioned in the tender.

(m) The Embassy of India, Doha reserves the right to amend or cancel any part of the tender or the entire tender without assigning any reason whatsoever.

(n) Embassy's decision on the pre-qualification of the bidders and selection shall be firm and final. No queries will be entertained in this regard.

(o) ***The Technical Proposal shall not include any financial information. Any deficiencies in providing the information requested for may result in rejection of a proposal.***

6. **Financial Proposal.** In preparing the Financial Proposal, Agencies are expected to consider the requirements and conditions outlined in the RFP document. Important Things to Remember while Submitting the Financial Proposal.

6.1. Breakdown of costs for Website Re-design and Maintenance should contain details of the following expenses: -

- (a) One-Time expenses (b) Recurring expenses

(c) Project-specific Costs (d) Miscellaneous costs etc

6.2. The cost quoted will be firm and fixed for the duration of the performance of the contract. At no point of time, any deviation from the quoted rate will not be entertained by the Embassy.

6.3. The Financial Bid shall not include any conditions attached to it and any such conditional financial proposal shall be rejected summarily.

6.4. All prices should be quoted in Qatari Riyals (QAR) and indicated both in figures and words. Figures in words will prevail.

6.5. The cost should include all costs like travel costs, shipping/mailling, telephone/fax charges and agency administrative costs that may be incurred by the agency as part of this contract.

7. **General Conditions**

7.1. **Address.** The Tenders must be addressed to

**Embassy of India, Doha, Villa No 86 & 90,
Street No. 941, Al Eithra Street, Zone 63,
Onaiza, PO Box Number 2788, Doha, Qatar**

7.2. The last date for submission of Tenders: - 17 June, 2018 upto 1200 hrs.

7.3. Embassy may, at its discretion, extend the deadline for submission of bids by issuing an Addendum in which case all rights and obligations of the proposed project and the companies will thereafter be subject to the deadlines as extended.

7.4. Embassy will not accept delivery of bids by fax or e-mail. Bids received by fax or e-mail shall be treated as defective, invalid and rejected.

7.5. Financial bids of only those bidders who qualify the technical evaluation would be opened.

7.6. The bid should contain the following documents in two separate packets.

*Note: Both the packets - should be submitted together in a separate envelope, super- scribed with "**Technical & Financial Bids for Supply and Installation of CCTV cameras at the Embassy of India, Doha**".*

7.7. No Proposal will be accepted after the deadline for submission.

7.8. The validity of the bids must be for at least six months with effect from the date of opening of the bids. The bidder should be amenable to the revalidation of the quote as per the Embassy's requirement.

7.9. The original proposals (Technical and Financial) shall be prepared in indelible ink. It shall contain no interlineations or overwriting, except as necessary to correct errors made by the firm itself. Any such corrections must be authenticated by the person or persons who sign(s) the proposals.

8. **Pre- Bid Meeting/ Clarification of Queries.**

8.1. The bidders should come to the Embassy premises on 31 May 2018 between 2:00 pm to 3:00 pm where they will be informed about the placement of the cameras and the recording/ monitoring stations. The bidders should on the same day carry out a detailed survey for estimating the length of cabling/ piping required to carry out the work. Advance intimation about the person attending has to be given by email at hoc.doha@mea.gov.in, with a copy to admn.doha@mea.gov.in & indianda.qatar2018@gmail.com.

8.2. In no event will the Embassy be responsible for ensuring that bidder inquiries have been received by it. The Embassy will endeavour to provide a timely response to all questions and would provide information to the extent it is currently available to the best of its knowledge. The responses will be communicated through email or a Pre-Bid Meeting will be called, if necessary. The last date for receiving queries for clarification is 31 May 2018. Any query received beyond the specified timeline will not be entertained.

9. **Opening of bid**

9.1. There will be a two bid-opening process

- (i) For Qualification-cum-Technical Bids and
- (ii) For the Financial Bids.

9.2. Embassy will open Qualification-cum-Technical Bids on 18 June 2018 at 3:00 pm and list them for further evaluation. The 'Financial Bid' covers shall not be opened until the evaluation of the Qualification cum Technical Bids is complete.

9.3. After evaluation of Qualification-cum-Technical Bids, the financial bids of only those bidders, who qualify in Qualification-cum-Technical Bids Evaluation, will be opened. Bidders who qualify

in the Technical bid evaluation stage will be informed by email about the date of opening of the financial bids.

9.4. Embassy reserves the right at all times to postpone or cancel the scheduled bid opening. In the event of the specified date of bid opening being declared a holiday, the bids shall be opened at the appointed time and location, preferably on the next working day.

9.5. Bidders can be present at the time of opening of Technical Bids. Advance intimation has to be given by email at hoc.doha@mea.gov.in, with a copy to admn.doha@mea.gov.in.

10. **Warranty and Maintenance**

10.1. The warranty period for the equipment will commence from the date of commissioning of the entire system and not from the date of delivery or installation.

10.2. The time period for product warranty will be the same as the service warranty.

10.3. The winning firm will enter into an Annual Maintenance Contract (AMC) for a period of 5 years for maintaining the installed system. The firm will provide one dedicated on-call technician to attend to any defect/malfunction/operational problem. In addition to attending to any contingencies, the firm will undertake to send a technician once every month for routine servicing of the system to keep it functioning smoothly. Each visit of the technician will be entered into a Register specially kept for the purpose, in which the technician will enter his name, date of call, in-time, out-time and a brief description of the repairs carried out.

Annexure I**Technical Specifications of the Proposed Security Surveillance System.**

The proposed security surveillance system must be an open standard based on IP (Internet Protocol). The detailed specifications are as follows:-

| <u>Specifications for the Proposed 16 CCTV Camera Set Up with 30 Days Recording</u> | | |
|--|---|-----------------|
| Ser | Item | Quantity |
| 1. | 2 to 4 MP Dome Varifocal / Bullet Varifocal | 16 |
| 2. | NVR 16 Channel with 2 SATA supported | 1 |
| 3. | 4 TB HDD for storage of cameras | 2 |
| 4. | PoE Switch 16/24 port Giga | 1 |
| 5. | Single Port 10/100 Media Convertor (Pair) - Optional | As per actual |
| 6. | UPS | One Unit |
| 7. | Fibre Cable - Optional | As per actual |
| 8. | Cat 6 Cable | As per actual |
| 9. | Other accessories as required for installation | As per actual |
| <u>Other Specs Required</u> | | |
| 10 | Day/night functionality | |
| 11 | Optical WDR upto 120dB | |
| 12 | Up to 30 m (98 ft) IR distance | |
| 13 | Lowlight surveillance | |
| 14 | ONVIF Conformance | |
| 15 | Mini Resolution 1920 × 1080 | |
| 16 | Frame Rate: 1080P (1920×1080): Max. 30 fps; 720P (1280×720): Max. 30 fps; D1 (720×576): Max. 25 fps | |
| 17 | Edge Storage : Micro SD | |
| 18 | H.264 High Profile | |
| 19 | Wide temperature range: -40°C to 60°C (-40°F to 140°F) | |
| 20 | IK10 vandal resistant | |
| 21 | IP66 | |

Proposed Location of the Cameras

| <u>Ser</u> | <u>Location</u> | <u>No. of Cameras</u> | <u>Type of Camera</u> | <u>Remarks</u> |
|-------------------|-------------------------------------|------------------------------|------------------------------|--|
| 1. | Perimeter Walls | 04 | Bullet Cameras | Robust IP Bullet camera with IR illumination for outdoor HD surveillance with H.265 and essential Video Analysis |
| 2. | Indoor Chancery Spaces (front area) | 02 | Bullet Cameras | VF Vandal Resistant Network IR Fixed |
| 3. | Indoor Chancery Spaces (back area) | 02 | Bullet Cameras | VF Vandal Resistant Network IR Fixed |
| 4. | Reception | 01 | Dome Camera | |
| 5. | Consular Service Hall | 02 | Dome Camera | |
| 6. | Consular Service Counters | 03 | Dome Camera | Inside Office space |
| 7. | Passport & VISA Section | 02 | Dome Camera | Inside Office space |

Specifications for the Proposed CCTV Cameras

| <u>Equipment</u> | <u>Description</u> | <u>Specifications</u> |
|---|---------------------------|--|
| <u>2-4 Megapixel H.265 Vandal Proof Network Dome IR Camera</u> | | |
| <u>Key Features</u> | | |
| <ul style="list-style-type: none"> - 0.008 Lux - H.265 High Efficiency Video Coding - Integrated Motorized Varifocal Lens (Auto focus) - Built-in ICR Filter for Day/Night switching - Built-in web server for IE/Firefox/Chrome/Safari preview - 3D-DNR, Privacy Masking and Motion Detection - Built-In efficient IR LEDs, IR distance up to 30m - Weather-proof IP-67 rated housing - Built-in 802.3af Compliant PoE - Support ONVIF Profile S | | |
| <u>IP Video Surveillance Solution</u> | | |
| <u>Equipment</u> | <u>Description</u> | <u>Specifications</u> |
| Camera | Image Sensor | 1/3" Progressive Scan CMOS |
| | Min. Illumination | Color: 0.008Lux@F1.2, B/W: 0Lux with IR on |
| | WDR | Super WDR up to 120dB |
| | Lens | 3.6mm @ F.16 |
| | Field of View | H67.2° (3.6mm) |
| | Shutter Time | 1/100000s~1/5s |
| | IR Distance | Up to 30m or more |
| | Day & Night | ICR Filter Auto Switch |
| | Max Image Resolution | 2592 x 1520 |
| Video | Frame Rate | 20fps(2592x1520) 25fps(2304x1296) 25fps(1920x1080) |
| | Video Compression | H.265(HEVC) / H.264 / MJPEG |
| | Video Bit Rate | 160Kbps~16Mbps(CBR/VB R Adjustable) |
| | Image Setting | Brightness/Contrast/Satur ation/Sharpness |
| NETWORK | Ethernet | 1*RJ45 10M / 100M Ethernet Port |
| | Network Storage | NAS(Support NFS, |

| <u>Equipment</u> | <u>Description</u> | <u>Specifications</u> |
|------------------|----------------------|--|
| | | SMB/CIFS) |
| | Protocol | TCP/IP, UDP, RTP, RTSP, HTTP, HTTPS,DNS,DDNS, DHCP, FTP, NTP, SMTP, SNMP, UPNP, SIP, IPv6, PPPoE, VLAN |
| AUDIO | Audio Streaming | Built-in Microphone |
| | Audio Compression | G.711 and AAC |
| SYSTEM | Advanced Function | Motion Detection, Privacy Masking, Backlight Compensation, 3D-DNR, ROI |
| | SIP/VoIP Support | Yes, Voice & Video over IP |
| | Event Trigger | Motion Detection, Network Disconnection, etc. |
| | Event Action | FTP Upload/SMTP Upload/SIP Phone |
| | System Compatibility | ONVIF Profile S |
| GENERAL | Power Supply | PoE |
| | Power Consumption | 2.5W MAX, 5.5W MAX (With IR on) {can be removed} |
| | Weather Proof | Up to IP67 Rating for Weather-resistant |
| | Certification | CE,FCC,Rohs |

OTHER TECHNICAL SPECIFICATIONS

| <u>Ser</u> | <u>System</u> | <u>Tech Specs</u> |
|-------------------|--------------------------|--|
| 1. | VMS System | <p>(a) It must contain a program capable of simultaneous recording, playback, storage, copying and remote access without any adverse effect on any of the functions.</p> <p>(b) Video Management software should provide camera number, location, date & time of recording generated by system server, forced masking (password protected) in recorded video and alarm management.</p> <p>(c) Images recording and storage system's performance must be checked daily. Should be able to support 4 remote work stations.</p> |
| 2. | Network Recording System | <p>(a) Network Recording System must have sufficient storage system for all camera recordings for a period of 30 days, in MPEG-4 or H.264 format or better quality compression techniques.</p> <p>(b) The recording frame rate should be at least 15 FPS with 1080P resolution.</p> <p>(c) It should give the ability to customize also quality of the video output based on the viewing needs and storing capacity and complying with below specification.</p> <p>(d) Should Support Minimum 32 channels input.</p> |
| 3. | IP Network Switch | <p>(a) 24-port PoE switch, which provides 24 10/100 Mbps PoE ports and 2 Gigabit combo ports.</p> <p>(b) All ports support wire speed, non-blocking switching complying with below specification.</p> |

| <u>Ser</u> | <u>System</u> | <u>Tech Specs</u> |
|------------|-----------------------|---|
| | | <p>(c) 24×10/100Mbps Ethernet ports</p> <p>(d) 2×Gigabit combo ports (RJ45 and SFP)</p> <p>(e) All 100Mbps ports support PoE</p> <p>(f) PoE complying with IEEE802.3af/at, up to 30W for single port max.</p> <p>(g) IEEE 802.3u 100BASE-TX.</p> <p>(h) IEEE 802.3ab 1000BASE-T.</p> <p>(i) IEEE 802.3z 1000BASE-X.</p> <p>(j) ANSI/IEEE 802.3 NWay.</p> <p>(k) IEEE 802.3x flow control.</p> <p>(l) IEEE 802.3af and IEEE 802.3at PoE</p> |
| 4. | Workstation & Monitor | <p>(a) Intel Core i7 CPU</p> <p>(b) 8 GB RAM</p> <p>(c) Dedicated Graphics Card</p> <p>(d) HDMI Port</p> <p>(e) USB Ports</p> <p>(f) 32" HD Monitor Full HD 1080 with wall mounting/desk mounting kits</p> <p>(g) Structured Cabling. All cabling should be based on CAT6a cabling with required patch panels and patch cords. If distance is more than 90 Mts, required fiber to be used.</p> <p>(h) Required Rack to be supplied.</p> <p>(i) All required trunking/piping to be supplied and installed.</p> <p>(j) All cameras should be powered through PoE Switch, if distance is more and fiber is used then PoE Industrial switch need to be used for outdoor installation.</p> <p>(k) All cabling and cameras should be labeled and documented.</p> |

| <u>Equipment</u> | <u>Description</u> | <u>Specifications</u> |
|--|----------------------|--|
| <u>Network Bullet IR Camera (Fixed)</u> | | |
| | Description | Specifications |
| Camera | Image Sensor | 1/3" Progressive Scan CMOS |
| | Min. Illumination | Color: 0.008Lux@F1.2, B/W: 0Lux with IR on |
| | WDR | Super WDR up to 120dB |
| | Lens | 3.6mm |
| | Field of View | H78.4°~H26.2° (2.8~12mm) |
| | Shutter Time | 1/100000s~1/5s |
| | IR Distance | Up to 30m |
| | Day & Night | ICR Filter Auto Switch |
| | Max Image Resolution | 1920X1080 |
| Video | Frame Rate | 20fps(2592x1520) 25fps(2304x1296) 25fps(1920x1080) |
| | Video Compression | H.265(HEVC) / H.264 / MJPEG |
| | Video Bit Rate | 160Kbps~16Mbps(CBR/VBR Adjustable) |
| | Image Setting | Brightness/Contrast/Saturation/Sharpness |
| Network | Ethernet | 1*RJ45 10M / 100M Ethernet Port |
| | Network Storage | NAS(Support NFS, SMB/CIFS) |
| | Protocol | TCP/IP, UDP, RTP, RTSP, HTTP, HTTPS,DNS,DDNS, DHCP, FTP, NTP, SMTP, SNMP, UPNP, SIP, IPv6, PPPoE, VLAN |
| Audio | Audio Streaming | N/A |
| | Audio Compression | N/A |
| System | Advanced Function | Motion Detection, Privacy Masking, Backlight Compensation, 3D-DNR, ROI |
| | SIP/VoIP Support | Yes, Voice & Video over IP |
| | Event Trigger | Motion Detection, Network Disconnection, etc. |
| | Event Action | FTP Upload/SMTP Upload/SIP Phone |

| <u>Equipment</u> | <u>Description</u> | <u>Specifications</u> |
|-------------------------|---------------------------|---|
| | System Compatibility | ONVIF Profile S |
| General | Power Supply | PoE |
| | Power Consumption | 5.5W MAX, 9.5W MAX (With IR on) {can be removed} |
| | Weather Proof | Up to IP67 Rating for Weather-resistant |
| | Certification | CE, FCC, Rohs |

| 16 CH NVR (2HDD) | | |
|-------------------------|---------------------------|---|
| <u>Equipment</u> | <u>Description</u> | <u>Specifications</u> |
| Audio Video | Video Input | 16 CH |
| | Video Output | HDMI (1920x1080/1440x900/1280x1024/1280x800/1024x768) VGA(1920x1080/1440x900/1280x1024/1280x800/1024x768) CVBS(1920x1080/1440x900/1280x1024/1280x800/1024x768) |
| | Audio Input | Supported |
| | Audio Output | Supported |
| | Video Compression | H.264 |
| | Video Capacity | 16CH 5 MP/3MP/2MP/1.3MP/1MP |
| | Audio Compression | G 711U |
| Storage | Interface & Capacity | 2 SATA (Max 6TB/pcs) |
| | File Format | Log: *.txt/Picture: *.JPG/Video: *.mp4 |
| | Maximum Log | 2000 |
| | USB | USB flash disk recovery should be permanently disabled |
| Recording | Type | Manual/Scheduled/Motion/Alarm |
| | HDD full | Overwrite/Stop recording |
| | Playback | 4CH 2MP/3CH 3 MP/3CH 4MP/2CH 5MP |
| | Playback control | Last Hr. / Next Hr., Last Frame / Next Frame Backward (8X 16X) Pause/Play Slow (x1/2x1/4x1/8x1/16) Fast Forward (x2x4x8x16) |
| | Search Mode | By CH/Type/Date (Single or combined) |

| 16 CH NVR (2HDD) | | |
|-------------------------|---------------------|--|
| Equipment | Description | Specifications |
| Network | Ethernet | 10M/100M/1000M |
| | Max Remote Channels | 32CH |
| | Protocols Supported | TCP/IP, DHCP, UDP, SMTP, NTP |
| | Compatibility | ONVIF |
| | Remote Connection | CMS Client/WebCC/APP |
| | DDNS | Support |
| Interfaces | Network | 1xRJ-45 |
| | USB | 1xUSB2.0 |
| | PTZ | RS485 |
| | Control Device | Mouse |
| Features | Screen Layout | 1/2/4/8/9/16 |
| | Alarm Actions | Buzzer/Send to Client/Alarm email (optional) |
| | Magnification | Support |
| | USB Recovery | To be disabled permanently |
| | Privacy Mask | Support |
| | Video Lost Alarm | Support |
| | Snapshot on Alarm | Support |
| General | Working Temperature | -10° ~ +55° |
| | Working Humidity | 10% ~ 90% |
| | Power Supply | DC12V |
| | Power Consumption | ≤15W (without HDD) |

| 1 PORT 10/100/1000 Media Converter | | |
|---|---------------------------|--|
| <u>Ser</u> | <u>Description</u> | <u>Specification</u> |
| 1 | Standard | IEEE802.3u, 10/100/1000Base-T, 1000 Base-SX/LX, IEEE802.3ah, IEEE802.3z/ab |
| 2 | Flow control | IEEE8.2.3x port flow control and backpressure control |
| 3 | Transmission speed | 10M/100/1000M auto-negotiation |
| 4. | Transmission mode | Full-duplex/semiduplex (auto-negotiation) |
| 5 | Conversion mode | Storage transmission |
| 6 | MAC address | VLAN 4K |
| 7 | Buffer space | 128KB |
| 8. | Packet length | Storage transmission: 9728 Bytes, straight-through, infinite |
| 9 | Time-delay | 9.6us |
| 10 | Bit error rate | <1/1000000000 |
| 11 | MTBF | 100,000 hours |
| 12 | Power supply | AC100~265V 50/60Hz / DC5V 1A |
| 13 | Power dissipation | <2.5W |
| 14 | Interface | Electric port:RJ45, Fiberport:SC/FC or SFP |
| 15 | Twisted-pair | Cat.5, Cat.6 |
| 16 | Singlemode fiber | 8/125, 8.3/125, 9/125um |
| 17 | Wavelength | 850nm/1310nm/1550nm |
| 18 | Transmission distance | 20/40/60/80 Km |
| 19 | Cat.5 twisted-pair | 100m |
| 20 | Operating temperature | 0~50° C |
| 21 | Storage temperature | -20~70° C |
| 22 | Humidity | 5%~90% (no condensation) |
| 23 | Size | 118* 87* 28mm (L*W*H) (metal box) |

| Data Sheet for 16 GE + 2 SFP PORT POE Switch | | |
|---|-------------------------|---|
| Ser | Description | Specification |
| 1 | PoE Port | 16*10/100/1000 port support IEEE802.3af/at |
| 2 | SFP port | Yes |
| 3 | PoE port output power | 15.4W/30W IEEE802.3af/at |
| 4 | PoE power supply pins | Both ½+, 3/6- and 4/5+, 7/8- |
| 5 | Transmission distance | 100 ~ 150m |
| 6 | Protocol standard | IEEE802.3af/IEEE802.3at |
| 7 | PoE type | End-span |
| 8 | Network standard | IEEE 802.3, IEEE802.3u, 802.3x, 802.3af/at |
| 9 | Network medium | 10/100/1000Mbps 5 class and above non shielded twisted pair |
| 10 | Network Signal Distance | <150m |
| 11 | Switch capability | 7.2Gbps |
| 12 | Forwarding Mode | Store and forward |
| 13 | Forwarding Rate | 100 Mbps:14880 pps / 1000 Mbps :14800 pps |
| 14 | MAC Address | MAC address table 8K |
| 15 | Port function | Power priority mechanism, fast and forward, MAC IEEE802.3X Full-duplex and mode and backpressure for Half-duplex mode |
| 16 | Indicator | Each port occupied 1 LINK/ACT.100Mbps POE Status Indicator, Whole power indicator |
| 17 | Working Temperature | -10° ~ 55° C |
| 18 | Input power | AC100-240V 50/60HZ |
| 19 | Whole power | 250W |

| Data Sheet for 24 GE + 2 SFP Port POE Switch | | |
|---|---------------------------|--|
| <u>Ser</u> | <u>Description</u> | <u>Specification</u> |
| 1 | PoE Port | 24*10/100/1000 port support IEEE802.3af/at |
| 2 | SFP port | Yes |
| 3 | PoE port output power | 15.4W/30W IEEE802.3af/at |
| 4 | PoE power supply pins | Both ½+, 3/6- and 4/5+, 7/8- |
| 5 | Transmission distance | 100 ~ 150m |
| 6 | Protocol standard | IEEE802.3af/IEEE802.3at |
| 7 | PoE type | End-span |
| 8 | Network standard | IEEE 802.3, IEEE802.3u, 802.3x, 802.3af/at |
| 9 | Network medium | 10/100/1000Mbps 5 class and above non shielded twisted pair |
| 10 | Network Signal Distance | <150m |
| 11 | Switch capability | 8.8Gbps |
| 12 | Forwarding Mode | Store and forward |
| 13 | Forwarding Rate | 10 BASE-T:14880PPS/port, 100 BASE-tx: 14800pps/port 1000 BASE-T: 1488095pps/port |
| 14 | MAC Address | MAC address table 8K |
| 15 | Port function | Power priority mechanism, fast and forward, MAC automatic learning and aging IEEE802.3X Full-duplex and mode and backpressure for Half-duplex mode, |
| 16 | Indicator | Each port occupied 1 LINK/ACT.100Mbps POE Status Indicator, Whole power indicator |
| 17 | Working Temperature | -10° ~ 55° C |
| 18 | Input power | AC 100-240 V 50/60HZ |
| 19 | Whole power | <400W |

Vendor list

| <u>Ser</u> | <u>Equipment</u> | <u>Vendors</u> |
|-------------------|-------------------------|---|
| (a) | Cameras/NVR/VMS | Bosch, Pelco, Axis, VisionTek, Avaligion, GE, Canon |
| (b) | Switches | Cisco/HP/Alcatel-Lucent |
| (c) | Structured Cabling | CopperOn, Panduit, 3M, Brandrex |

Budgetary Quote

| <u>RFQ - BOQ</u> | | | |
|-------------------------|---|-------------------|-------------------|
| <u>Ser</u> | <u>Description</u> | <u>UOM</u> | <u>Qty</u> |
| (a) | 2MP IP Dome Camera with Vari focal Lens, IR, WDR | Nos | 8 |
| (b) | 2MP IP Bullet Camera with Vari focal Lens, IR, WDR | Nos | 4 |
| (c) | 2MP Robust IP Bullet camera with IR illumination for outdoor HD surveillance with H.265 and essential Video Analysis | Nos | 4 |
| (d) | Mounting Kits, Wall Mount, Ceiling Mount, Perimeter Mount. | Nos | As required |
| (e) | Network Video Recorder with 16 channels support with expandable upto 32 Channels. RAID5, Redundant Power Supply, Recording storage for 30 Days with 15 FPS @ 1080P with 2000 Bit Rate . | No. | 1 |
| (f) | VMS Software licenses for cameras | Nos | 16 |
| (g) | WorkStation with client viewing VMS licenses | Nos | 4 |
| (h) | 32" LED Monitor | Nos | 4 |
| (i) | 24-port Network PoE Switch | Nos | 1 |
| (j) | Patch cords | Nos | 18 |
| (k) | 24 port Copper patch panels | No. | 1 |
| (l) | 1U Cable Manager | Nos | 3 |
| (m) | 22U RACK 800x800 (Floor Mount) with Fan & PDU | No. | 1 |
| (n) | Cat 6A Copper Cabling | Nos | As |
| (o) | Trunking/Piping | Nos | required |
| (p) | Camera Installation, Testing & Commissioning | Lot | 1 |
| (q) | Switches Installation, Testing & Commissioning | Lot | 1 |
| (r) | Any other items required to complete the scope | | |