



CENTRAL INSTITUTE OF PETROCHEMICALS ENGINEERING & TECHNOLOGY (CIPET)
FORMERLY CENTRAL INSTITUTE OF PLASTICS ENGINEERING & TECHNOLOGY
: CENTRE FOR SKILLING & TECHNICAL SUPPORT(CSTS), HYDERABAD
Deptt. of Chemicals & Petrochemicals, Ministry of Chemicals & Fertilizers, Govt. of India.

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**Tender document for “Supply, Installation, Testing &
Commissioning of CCTV System at
CIPET : CSTS- HYDERABAD**

Tender No.: CIPET:CSTS/HYD/PUR-CCTV-ET/2020-21/02 dated 23-02-2021

Important Dates:

Sl. No.	Event	Date
01	Date of Notice Inviting Tender (NIT)	23.02.2021
02	Last Date for Submission of Tender Document	05.03.2021 (Up to 14:00hrs)
03	Date of Opening of Technical Bid	05-03-2021 Time-16:00hrs
04	Date of Opening of Price Bid	to be opened for Technically qualified bidders

Contact Nos.:

General & Technical Information: 8978581043 / 9959333413

NOTICE INVITING E-TENDER

E-Tender No.: **CIPET:CSTS/HYD/PUR-CCTV-ET/2020-21/02** dated **23-02-2021**

Central Institute of Petrochemicals Engineering & Technology (CIPET): Formerly Central Institute of Plastics Engineering & Technology (CIPET): CSTS- Hyderabad invites Technical & commercial bids separately for Supply, Installation, Testing & Commissioning of CCTV System (Security & Surveillance Systems) at CIPET: CSTS- Hyderabad from the reputed and experienced Contractors. Details of work to be performed are as under.

Sl.No.	E-Tender No & Date	Name of the Item /Work	Estimated Value in Rupees	EMD in Rupees	Completion Time	Tender Fees	Last Date & Time of online Bid submission
1	CIPET:CSTS/HYD/PUR-CCTV-ET/2020-21/02 dated 23-02-2021	Supply, Installation, Testing & Commissioning of CCTV System (Security & Surveillance Systems) at CIPET: CSTS - HYDERABAD.	11,00,000.00	22,000.00	15 days from the date of issue of Purchase/ Work Order	1,000.00	05.03.2021 up to 14.00hrs

Interested and eligible bidders may view and download the detailed tender documents from CIPET's E-Tender portal **www.tenderwizard.com/CIPET** or **www.cipet.gov.in**

All Bids must be submitted through the online portal **www.tenderwizard.com/CIPET**. However, bidders are also requested to submit a hard copy of the online Technical Bid duly sealed and signed to the Centre Head, CIPET Hyderabad on or before 05.03.2021 up to 15.00 hrs.

The Tender Fee and EMD will be accepted in the form of Demand Draft drawn on any Indian Nationalized Bank favoring "CIPET HYDERABAD" payable at HYDERABAD and shall be submitted at CIPET Hyderabad as specified on or before 05.03.2021 up to 15.00 hrs. in separate sealed cover, failing which bids will be summarily rejected.

Additionally, a soft copy of the Tender Fee and EMD shall also be uploaded along with the Technical Bid to be submitted online.

Salient information about the E-Tender:

- 1. Mode of submission:** ONLINE. No offline Tenders will be accepted.
- 2. Availability of Tender Documents:** All Bid formats (Technical & Financial) will be available ONLINE at CIPET's E – Tender portal **www.tenderwizard.com/CIPET** or **www.cipet.gov.in**. The registered vendors can download the Bids from these websites.
- 3. Who can participate for this e-Tender:** The registered vendors of CIPET through **www.tenderwizard.com/CIPET** can only participate in this tender process.
- 4. How to register by a vendor :**
 - a) The prospective bidders have to register with CIPET through the E-tender portal of CIPET at **www.tenderwizard.com/CIPET** by Online Payment to M/S. KEONICS LTD. On completion of the registration process, the bidders will be provided user ID and password. After receipt of User ID & Password, Bidders can log on at our e-Tender portal for downloading & uploading tender documents.
 - b) Tender Documents Fees (Non refundable) of Rs. 1,000/- is Payable to CIPET CSTS Hyderabad in the form of Demand Draft from any Nationalize Bank not drawn before the Date of Releasing of NIT.
 - c) Processing Fees is Rs.1298/- inclusive of GST Payable Online separately to M/s KEONICS LTD.

5. **Is there any device requirement for participation in e-Tender:** Yes, Bidders should have valid Class 3 Digital Signature Certificate (DSC) device for participating in e-Tender. For integrity of data and its authenticity/non-repudiation of electronic records and to be compliant with IT Act 2000, it is necessary for each user to have a Digital Certificate (DC), also referred to as Digital Signature Certificate (DSC) of Class-III issued by a Certifying Authority (CA) licensed by Controller of Certifying Authorities (CCA).
6. Contact details for E-Tender related issue:

Name of the Service Provider: KEONICS		
Contact Person	Mobile / Telephone / E-mail	Remarks
Help Desk	080-40482100 (between 9.00am to 6.00pm) E-mail : cipethelpdesk@etenderwizard.com	For Vendor registration / any other issue regarding e-Tender Process, please contact: KEONICS as the details given in the previous Columns.

7. Bidders are hereby advised that all the documents to be submitted online are kept scanned to PDF & JPEG format in a separate folder on their computers before starting online submission. The schedule of rate (Excel Format) may be downloaded and rates may be filled appropriately in this format only. This file may also be saved in a separate folder on your computer.
8. While uploading / submitting the documents, it should be ensured that the file name should be the name of the document itself.
9. All pages of Tender documents with Addenda / Corrigenda (if any) must be signed with proper official stamp and date by the Bidders / or authorized power of attorney holders at the lower right hand corner.
10. Bidders are advised to visit CIPET's E-Tender portal regularly for any Addenda / Corrigenda (if any) with regard to the e – Tender, for which no separate paper advertisement will not be published.
11. **Last date of online submission of Tender bid: 05.03.2021 up to 14.00 hrs.**
12. EMD and Tender Fee must be in approved mode only and shall be duly Signed & Sealed in separate cover along with filled Technical Bid and with necessary enclosures shall be submitted in physical form (hard copy) in person / by speed post on or before 05.03.2021 up to 15.00 hrs at CIPET CSTS Hyderabad. Non-receipt of the same are liable for rejection of the Tender.
13. **Date & Time of Technical Bid Opening: 05.03.2021 at 16.00hrs.**
14. **Date & Time of Financial Bid Opening:** Technically qualified bidders will be intimated about the date & time after technical bid evaluation through the E-Tender portal.
15. **Venue for Opening Bids:** CIPET:CSTS-HYDERABAD, IDA, PHASE-II, CHERLAPALLY, HYDERABAD

**Director & Head
CIPET:CSTS, HYDERABAD**

01. Scope of Work:

Scope of Work includes the following:

Supply, Installation, Testing & Commissioning of CCTV System (Security & Surveillance Systems) at all Campuses & Hostel of CIPET: CSTS-Hyderabad. Supply of genuine brand and quality items with One year or warranty as per OEM whichever is higher. The contractor is required to complete installation works with complete finishing as per approved estimate and guidelines. The Contractor shall depute technically trained and experienced manpower for completion of stipulated work without any fault. The firm shall be responsible for supply, installation, testing, commissioning of the CCTVs along with all related accessories to the satisfaction of CIPET: CSTS-Hyderabad. The contractor should have sufficient manpower on its roll specifically trained and technically qualified and experienced for stipulated work.

02. Qualification Criteria/ Eligibility Condition of the Bidder:

- A. Experience of executing similar works for supply & Installation of CCTV Camera to Corporate Offices / Institutions / Central Autonomous Body / PSUs / Private Sector Units / Private Firms / others etc.
- B. The Bidder should be OEM (Original Equipment Manufacturer) or Authorized dealer/Distributor/Supplier of the OEM of offered product (Please submit manufacturer's authorization letter, in original, on the OEM's letter head duly signed by authorized signatory).
- C. Age of the Firm shall be More than 03 Years as on 31.01.2021.
- D. The average Annual Turnover of the tendering firm should be minimum Rs. 11.00 Lakhs & above in last 03 financial years. Audited financial Statement shall be enclosed for the year 2017-18, 2018-19 & 2019-20.
- E. Tenderer should have completed similar Job(s) during the last 03 (Three) financial years:
 - i. One similar completed Job (supply & Installation of CCTV Cameras) costing not less than the amount equal to **80 % of the estimated cost.**
OR
 - ii. Two similar completed Job each of value not less than **50 % of the estimated cost.**
OR
 - iii. Three similar completed Job each of value not less than **40 % of the estimated cost.**

CIPET reserves the absolute right to accept/reject any or all bids at any stage of the tender process without assigning any reason whatsoever.

F. The tenderer should possess the following:

- i. The bidder must have after sales services in Hyderabad, Telangana.
- ii. Bidder must provide necessary supporting documents as proof in respect of the eligibility criteria.
- iii. Copy of PAN card and GST Registration Certificate.

G. Turnover of the bidder from the similar type of work should be minimum 11 lakhs for past Two Financial Years. Copy of Income Tax Return/ Audited Statement of Profit & Loss and Balance Sheet needs to be attached.

03. Warranty/Guarantee:

36 Months from the date of Installation.

The Supplier shall give warranty that goods to be supplied shall be new and free from all defects and faults in material, workmanship, and manufacture and shall be of the highest grade and consistent with the established and generally accepted standards for materials of the type ordered and shall perform in full conformity with the specifications. The Supplier shall be responsible for any defects that may develop under the conditions provided by the supplier and under proper use, arising from faulty materials, design or workmanship such as corrosion of the equipment, inadequate contact protection, deficiencies in circuit design and or otherwise and shall remedy such defects at his own cost when called upon to do so by the Purchaser who shall state in writing in what respect goods are faulty. This warrantee shall survive inspection or payment for, and acceptance of goods, after the goods have been taken over.

If it becomes necessary for the supplier to replace or renew any defective portion/portions of the equipment under this clause, the provisions of the clause shall apply to the portion/portions of equipment's replaced or renewed. If any defect is not remedied within a reasonable time, the Purchaser may proceed to get the work done at the Supplier's risk and expenses, but without prejudice to any other rights which the Purchaser may have against the Supplier in respect of such defects.

Replacement under warranty clause shall be made by the Supplier free of all charges at site including freight, insurance and other incidental charges.

In case the fault cannot be rectified at the premises and the system/equipment needs to be taken out of the premises, vendor shall provide a standby system/equipment of similar/equivalent configuration till the original system / equipment is replaced after rectification. Transportation charges if any, shall be borne by the vendor. The vendor shall be responsible for routine and breakdown maintenance of the equipment during warranty period.

04. Payment:

Payment of contract shall be made in the following manner:

1. 95% of Payment will be released within 30 days after Completion of entire work and submission of GST Invoice along with Work Completion report from CIPET:CSTS - Hyderabad.
2. 5% of Payment will be released at the end of the warranty obligations under the contract.

06. Completion Period & Liquidated damages:

The entire work shall be completed within 15 days from the date of issue of Work Order. Failure to complete the above work within 15 days as above will attract liquidated damages equivalent to 0.5 percent of the Work Order of the delayed goods or unperformed services for each week of delay until actual delivery or performance, up to a maximum deduction of Max of 10% of the delayed goods or services Contract price. Once the maximum is reached, the purchaser may consider termination of the contract.

07. Resolution of Disputes:

The dispute resolution mechanism to be applied shall be as follows:

1. In the case of a dispute or difference of opinion arising between the purchaser and contractor relating to any matter arising out or connected with this agreement such dispute or difference of opinion shall be referred to Director & Head, CIPET: CSTS- HYDERABAD.
2. The Indian Arbitration Act 1940, the rules there under and any statutory modification or re-enactments thereof, shall apply to the arbitration proceedings.
3. Only Court of Hyderabad shall have the jurisdiction in any legal proceeding arising in the Contract.

08. Technical Specification:

- i. Annexure-1 for Technical Specification of 5MP IP Bullet & DomeCamera.
- ii. Annexure-2 for Technical Specification of Network Video Recorder(NVR).
- iii. Annexure-3 for Technical Specification of 16 port PoE Switch.

09. Technical Bid details:

(To be filled and signed by the authorized signatory of the firm and this is to be put in separate sealed cover superscripted with Technical Bid for Supply, Installation, Testing & Commissioning of CCTV System at CIPET: CSTS-Hyderabad)

Central Institute of Petrochemicals Engineering and Technology (CIPET) Centre for Skilling & Technical Support (CSTS), Hyderabad		
TECHNICAL BID		
TENDER No: CIPET:CSTS/HYD/PUR-CCTV-ET/2020-21/02 dated 23-02-2021		
Supply, Installation, Testing & Commissioning of CCTV System (Security & Surveillance Systems) at CIPET: CSTS- Hyderabad		
Name of the Bidder		
Sl. No	Particulars To Be filled up by the Tenderer / Bidder:	REMARKS
01	Name & Address of the Organization / Contractor	
02	Type of Organization	
03	Telephone No./ Mobile No	
04	Name of Contact person & Email ID	
05	Firm / Agency Registration No. (enclose copy)	
06	PAN No. (enclose copy)	
07	GST No. (enclosed copy)	

08	Experience of executing similar works for supply & Installation of CCTV Camera to Corporate Offices / Institutions / Central Autonomous Body / PSUs / Private Sector Units / Private Firms / others etc.	
09	The Bidder should be OEM (Original Equipment Manufacturer) or Authorized dealer/ Distributor/ Supplier of the OEM of offered product (Please submit manufacturer's authorization letter, in original, on the OEM's letter head duly signed by authorized signatory).	
10	<p>Experience of having successfully completed similar services during the last 3 years ending January 31, 2021 should be either of the following:</p> <ul style="list-style-type: none"> i. One similar completed Job (supply & Installation of CCTV Cameras) costing not less than the amount equal to 80 % of the estimated cost. OR ii. Two similar completed Job each of value not less than 50 % of the estimated cost. OR iii. Three similar completed Job each of value not less than 40 % of the estimated cost. 	
11	Income Tax Returns (ITR)/ Audited Statement of Profit & Loss & Balance Sheet – Last 03 financial years.	
12	Warranty of 36 Months from the date of Completion of Work (Accept / Not Accept)	

Signature with Seal of the Organization

10. Price Bid details:

Central Institute of Petrochemicals Engineering and Technology (CIPET) Centre For Skilling & Technical Support (CSTS), HYDERABAD					
TENDER No: CIPET:CSTS/HYD/PUR-CCTV-ET/2020-21/02 dated 23-02-2021					
Supply, Installation, Testing & Commissioning of CCTV System (Security & Surveillance Systems) at CIPET: CSTS-Hyderabad					
Price Bid					
Name of the Contractor/Firm/Company/Vendor					
Sl. No.	Item Description	Item Make/ Model	Approx Qty	Rate* (In Rs.)	Total Value (In Rs.)
1	Outdoor 5 MP HD IP Bullet Camera with Night Vision	Matrix/Honeywell/Vivotek or Equivalent	14 Nos.		
2	Indoor 5 MP HD IP Dome Camera with Night Vision	Matrix/Honeywell/Vivotek or Equivalent	16 Nos.		
3	32-CH NVR	Matrix/Honeywell/Vivotek or Equivalent	1 No.		
4	16-CH NVR	Matrix/Honeywell/Vivotek or Equivalent	1 No.		
5	8-CH NVR	Matrix/Honeywell/Vivotek or Equivalent	1 No.		
6	6 TB HDD	Seagate / WD or Equivalent	1 No.		
7	4TB HDD	Seagate / WD or Equivalent	1 No.		
8	24 port Poe Switch	D- Link/ Alcon/ Netgear.	2Nos.		
9	8 portPoeSwitch	D- Link/ Alcon/ Netgear.	2nos		
10	Cat6 Cable with laying	D- Link/ Netfox or Equivalent	900 Mtr		

11	Casing 1"	Reputed Brand (ISI Mark)	100 Mtr		
12	HDMI Cable	Reputed Brand (ISI Mark)	20 Mtr		
13	Wall Mount 6U Rack	Netrack / valrackor equivalent	1 No.		
14	32 inch LED TV / Monitor with wall mount	Samsung / LG or Equivalent	1 No.		
15	19 inch LED TV / Monitor with wall mount	Samsung / LG or Equivalent	1 No.		
16	Configuration, Installation and Testing Charges of CCTV System	-	LS		
Total					
Note: 01. Quantities of above materials are indicative and may decrease or increase depending on the decision taken at the time of allotting PO/Work Order. Actual payment will be based on actual supply and Installation of Ordered Items.					
02. Rate quoted shall be inclusive of material, Labour and other incidental & Installation charges. No other charges will be paid under no circumstances.					
03. Cost of additional work / Non-Tender items / Work may be paid extra based on prior written approval from CIPET: CSTS-Hyderabad.					
04. Bidders are requested to quote the price considering all clauses of NIT and rates shall be valid for 120 days from the date of opening Price Technical Bid.					
05.CIPET will calculate total price of the Contract based on the rates quoted and order will be issued considering the Value of total work / Contract.					

*** Unit rate shall be inclusive of GST**

11. Salient information about the Tender No.

CIPET:CSTS/HYD/PUR-CCTV-ET/2020-21/02 dated 23-02-2021.

01. Mode of submission: **Online.**

02. Submission of Hard Copy of Tender Document: Hard copies of Tender document needs to be submitted to CIPET: CSTS-Hyderabad on or before **05-03-2021 (Upto 15:00hrs)**

03. Availability of Tender Documents: All Bid formats (Technical & Commercial) are available at our Website **www.cipet.gov.in.** -

04. All pages of Tender documents with Addenda/Corrigenda (if any) must be signed with proper official stamp and date by the Bidders /or authorized power of attorney holders at the lower right hand corner.

05. The bidder must submit hard copies of all document in a sealed envelope superscripting the Tender for "Supply, Installation, Testing & Commissioning of CCTV System (security & surveillance systems) at CIPET: CSTS-Hyderabad and Tender No. **CIPET:CSTS/HYD/PUR-CCTV-ET/2020-21/02 dated 23-02-2021.** The bidder has to submit "Technical Bid" & Commercial Bid" separately in two separate Sealed Envelope superscripting "**Technical Bid for Tender No. CIPET:CSTS/HYD/PUR-CCTV-ET/2020-21/02 dated 23-02-2021.**" and "**Price Bid for TENDER No: CIPET:CSTS/HYD/PUR-CCTV-ET/2020-21/02 dated 23-02-2021**" Hard copies must reach at the following address on or before **05-03- 2021 (upto 15:00 hrs):**

**DIRECTOR & HEAD
IDA, Phase-II, Cherlapally,
HYDERABAD – 500 051.
HYDERABAD**

06. Date & Time of Technical BidOpening: **05-03-2021 at 16:00 hrs.**

07. Date & Time of Commercial Bid Opening: Technically qualified bidders will be intimated time after technical bid evaluation.

08. Opening of Technical Bid & Finance Bid will be done online on the date mentioned above.

CIPET: CSTS- Hyderabad reserves the absolute right to accept/reject any or all bids at any stage of the tender process without assigning any reason whatsoever.

**Director & Head,
CIPET: CSTS- HYDERABAD**

Annexure-1	
Technical Specification of 5MP IP Bullet & Dome Camera	
Parameter	Description
IMAGE SENSOR	
Resolution	5 MP (2592 x 1944)
Sensor Type	1/2.8" SONY - CMOS 3MP Active Pixel Progressive Scan
LENS	
Minimum Illumination	Colour - 0.01 Lux @F1.2 (AGC ON); Monochrome - 0 Lux
Focal Length	2.8mm
Field of View (FOV)	HFOV - 104°
IR Range	30m
IR Led Wavelength	850nm
IR Switching	Auto/ Manual
HARDWARE SPECIFICATIONS	
SD Card	Up to 512GB
Camera Adjustment Angle	Pan: 0° to 180°; Tilt: 0° to 180°; Rotation: 0° to 360°
IMAGE AND VIDEO	
No of Stream Profiles	30m
Stream Profiles	Profile 1: 2592X1944 @30fps (H.264/H.265) Profile 2: VGA @30fps (H.265/H.264) Profile 3: 2048x1536@5fps (MJPEG)
Available Resolutions	2592 X 1944, 2592 X 1520, 2048 X 1536, 1920 X 1080, 720p, D1, 2CIF, VGA, CIF, QCIF
Max Resolution	2592 X 1944
Bitrate	128 kbps-8Mbps
Bitrate Type	CBR, VBR
Video Compression	H.265, H.264, MJPEG
Frame Rate	1-30fps
Shutter Speed	1/25-1/17000
Adaptive Streaming	Yes
ONVIF Profiles	Both S and G
Edge Recording	Yes
Alarm Recording	Pre and Post

Motion Recording	Yes
Video Parameters	Snapshot, Region of Interest (ROI), BLC, Day/Night Settings
Privacy Masks	3
WDR	True WDR (120dB)
SNR	70db
Image Enhancement	Saturation/ Contrast/ Sharpness/Brightness/Auto Exposure
DNR	2D &3D
Video Analytics	Motion/No Motion Detection, Tamper Detection, Trip/No Trip Detection, Object Intrusion/Zone Intrusion, IP Conflict, Network Disconnect, Storage Full, Time Triggered
EVENTS AND ACTIONS	
Upload Image	SD, NAS, FTP
Upload Clip	SD, NAS, FTP
Notifications	E-mail, SMS, TCP
PROTOCOLS SUPPORTED	
Supported protocols	TCP/IP, HTTP, DHCP, DNS, DDNS, RTP, RTCP, RTSP, PPPOE, SMTP, NTP, HTTPS, TLS/SSL, FTP, ICMP, IGMP v2 & v3
Web Viewer	Supported in IE 8.0-11.0, Firefox 15.0-47.0, Chrome 20.0-54.0
Plugins	IE: Matrix ActiveX Chrome: VLC plugin(2.0.4) and Quicktime(7.7.5) Mozilla: VLC Plugin(2.0.4) and Quicktime(7.7.5)
OPERATING PARAMETERS	
Power Supply	12V (DC); 802.3af (PoE)
Power Consumption	<6W
Storage Temperature	-20°C to 50°C
PHYSICAL PARAMETERS	
Communication interface	10Base-T/100BaseTX Ethernet (RJ-45)
Storage	NAS, SD Card
Certifications	BIS, CE, IP66, FCC Part-15 Class-B, ONVIF S & G, IK10

Annexure-2**Technical Specification of Network Video Recorder (NVR)****8 Ch NETWORK VIDEO RECORDER**

Parameter	Description
VIDEO	
Input	8 IP Channels
Output	HDMI (2.0) – 1 Port
Compression	H.265/H.264/Motion JPEG
AUDIO	
Input	1 Channel, RCA Port(2.0Vp-p), Range (-2dBu to 22dBu)
Output	1 Channel, RCA Port (Mono, Unbalanced Output, 2.0Vp-p, Range (-2dBu to 22dBu)
Compression	G.711, G.726, PCM
THROUGHPUT	
Downlink Throughput	256Mbps Following Scenarios are Considered: 1. Cameras Streaming to Device 2. Cameras of Cascaded Devices being Viewed on Local 3. Streaming from NAS for local/Web Client
Uplink Throughput	256Mbps Following Scenarios are Considered: 1. Cameras Streaming to Web Client 2. Storage or Backup to NAS
Simultaneous Log-in	9+1(Admin)
DISPLAY	
Split (Through LAN/HDMI)	1x1, 2x2, 3x3, 4x4, 1+5, 1+7, 3+4, 2+8, 1+12, 1@+12, 1+9, 4+9, 2+12, 5x5, 6x6, 8x8 and Sequential
Resolution (HDMI)	4 x 4k/ 16 x 1080P / 64 x D1
Local Decoding	5x 4K, 15x 3MP, 24x 1080p, 54x720p, 64 x D1
Snapshot	Yes
Multiple Camera Viewing	Through Cascading (up to 20 Devices)
OSD	Channel Number and Name, Status, Video Loss, Recording and Disabled Channel (As per camera support)
RECORDING	
Image Resolution	12MP, 8MP, 5MP, 3MP, 2MP, 1080P, D1, CIF
Pre-Record	Up to 30 Sec
Post-Record	10-300 Sec
Snapshot Format	JPEG
Recording Types	Scheduled, Manual, Alarm and COSEC

STORAGE AND BANDWIDTH OPTIMIZATION	
Storage	Adaptive Recording: Automatically Reduces the Number of Frames Captured Per Second Where There is No Motion, Thereby Saving Storage Space.
Bandwidth	Automatically Adapts Optimized Resolution on Local Display Through HDMI
PLAYBACK AND BACKUP	
Search Mode	Date and Time, Camera, Event, Recording Type
Playback Modes	Fast Forward, Slow Forward, Slow Reverse, Fast Reverse at Different Speed Control, Next-Previous Frame
Backup	Manual Backup over USB through USB2.0 interface and NAS, Scheduled Backup over USB through USB3.0 interface, NAS and FTP
Configuration Backup	Yes
Network Functions	TCP/IP, DHCP, PPPOE DNS, DDNS, Free Matrix DNS, FTP, SMTP, NTP, RTP/RTSP, HTTP, CIFS/NFS, UPnP
Remote Operation	Monitor, PTZ Control, Playback, System Setting, File Download, Log Information, Upgrade
EVENTS AND ACTION	
Trigger Events	Motion Detection, View Tampering, Connection Failure, Recording Failure, Manual Trigger, On Boot Alarm, Storage, Alert, Disk Volume Full, Disk Fault, Scheduled Backup Fail
Actions	Recording on Selected Channel, FTP/Email server, Email Notification with Snapshot, TCP Notification, Recall PTZ Preset Position, Turn On/Off Alarm Outputs, Buzzer Notification, SMS Notification, Calling from Mobile App
STORAGE INTERFACE	
SATA Interface	1 SATA III (10TB per port)
NAS	2 NAS
USB	1 TB USB Drive
RAID	Single Disk
Retention	Camera wise, HDD usage % wise, Day wise
INTERFACES	
Network Interface	1 Ports x Ethernet (RJ-45) 10/100/1000Mbps
USB	3 Ports (1x USB 3.0, 2x USB2.0)
LED	System Status LED, Power LED
Alarm Input	2
Alarm Output	1
Reset Switch	Yes
Buzzer	Yes
SYSTEM INTERFACE	
Processor	Hisilicon Hi3536A
OS	Linux
Control Mode	Mouse, Web Client and Mobile Client

CAMERA SUPPORT	
Camera Brands	Axis, ACTi, Samsung, Panasonic, Sony, Hikvision, Dahua, Planet, Vivotek, LevelOne, Grandstream, Infinova, D-Link, Mobotix, and ONVIF 2.0 & above Support
ONVIF	Yes
ENVIRONMENT CONDITIONS	
Operating Temperature	0°C to +50°C (32°F to 122°F)
ELECTRICAL AND MECHANICAL	
Power Input	12VDC, 5A

16 Ch NETWORK VIDEO RECORDER

Parameter	Description
VIDEO	
Input	16 IP Channels
Output	HDMI (2.0) – 1 Port
Compression	H.265/H.264/Motion JPEG
AUDIO	
Input	1 Channel, RCA Port(2.0Vp-p), Range (-2dBu to 22dBu)
Output	1 Channel, RCA Port (Mono, Unbalanced Output, 2.0Vp-p, Range (-2dBu to 22dBu)
Compression	G.711, G.726, PCM
THROUGHPUT	
Downlink Throughput	256Mbps Following Scenarios are Considered: 1. Cameras Streaming to Device 2. Cameras of Cascaded Devices being Viewed on Local 3. Streaming from NAS for local/Web Client
Uplink Throughput	256Mbps Following Scenarios are Considered: 1. Cameras Streaming to Web Client 2. Storage or Backup to NAS
Simultaneous Log-in	9+1(Admin)
DISPLAY	
Split (Through LAN/HDMI)	1x1, 2x2, 3x3, 4x4, 1+5, 1+7, 3+4, 2+8, 1+12, 1@+12, 1+9, 4+9,2+12, 5x5,6x6, 8x8 and Sequential
Resolution(HDMI)	4 x 4k/ 16 x 1080P / 64 x D1
Local Decoding	5x 4K, 15x 3MP, 24x 1080p, 54x720p, 64 x D1
Snapshot	Yes
Multiple Camera Viewing	Through Cascading (up to 20 Devices)
OSD	Channel Number and Name, Status, Video Loss, Recording and Disabled Channel (As per camera support)

RECORDING	
Image Resolution	12MP, 8MP, 5MP, 3MP, 2MP, 1080P, D1, CIF
Pre-Record	Up to 30 Sec
Post-Record	10-300 Sec
Snapshot Format	JPEG
Recording Types	Scheduled, Manual, Alarm and COSEC
STORAGE AND BANDWIDTH OPTIMIZATION	
Storage	Adaptive Recording: Automatically Reduces the Number of Frames Captured Per Second Where There is No Motion, Thereby Saving Storage Space.
Bandwidth	Automatically Adapts Optimized Resolution on Local Display Through HDMI
PLAYBACK AND BACKUP	
Search Mode	Date and Time, Camera, Event, Recording Type
Playback Modes	Fast Forward, Slow Forward, Slow Reverse, Fast Reverse at Different Speed Control, Next-Previous Frame
Backup	Manual Backup over USB through USB2.0 interface and NAS, Scheduled Backup over USB through USB3.0 interface, NAS and FTP
Configuration Backup	Yes
Network Functions	TCP/IP, DHCP, PPPOE DNS, DDNS, Free Matrix DNS, FTP, SMTP, NTP, RTP/RTSP, HTTP, CIFS/NFS, UPnP
Remote Operation	Monitor, PTZ Control, Playback, System Setting, File Download, Log Information, Upgrade
EVENTS AND ACTION	
Trigger Events	Motion Detection, View Tampering, Connection Failure, Recording Failure, Manual Trigger, On Boot Alarm, Storage, Alert, Disk Volume Full, Disk Fault, Scheduled Backup Fail
Actions	Recording on Selected Channel, FTP/Email server, Email Notification with Snapshot, TCP Notification, Recall PTZ Preset Position, Turn On/Off Alarm Outputs, Buzzer Notification, SMS Notification, Calling from Mobile App
STORAGE INTERFACE	
SATA Interface	2 SATA III (10TB per port)
NAS	2 NAS
USB	1 TB USB Drive
RAID	RAID-0, RAID-1, Single Disk
Retention	Camera wise, HDD usage % wise, Day wise
INTERFACES	
Network Interface	2 Ports x Ethernet (RJ-45) 10/100/1000Mbps
USB	3 Ports (1x USB 3.0, 2x USB2.0)
LED	System Status LED, Power LED
Alarm Input	2
Alarm Output	1
Reset Switch	Yes
Buzzer	Yes

SYSTEM INTERFACE	
Processor	Hisilicon Hi3536A
OS	Linux
Control Mode	Mouse, Web Client and Mobile Client
CAMERA SUPPORT	
Camera Brands	Axis, ACTi, Samsung, Panasonic, Sony, Hikvision, Dahua, Planet, Vivotek, LevelOne, Grandstream, Infinova, D-Link, Mobotix, and ONVIF 2.0 & above Support
ONVIF	Yes
ENVIRONMENT CONDITIONS	
Operating Temperature	0°C to +50°C (32°F to 122°F)
ELECTRICAL AND MECHANICAL	
Power Input	12VDC, 5A

32 Ch NETWORK VIDEO RECORDER

Parameter	Description
VIDEO	
Input	32 IP Channels
Output	HDMI (2.0) – 1 Port
Compression	H.265/H.264/Motion JPEG
AUDIO	
Input	1 Channel, RCA Port(2.0Vp-p), Range (-2dBu to 22dBu)
Output	1 Channel, RCA Port (Mono, Unbalanced Output, 2.0Vp-p, Range (-2dBu to 22dBu)
Compression	G.711, G.726, PCM
THROUGHPUT	
Downlink Throughput	256Mbps Following Scenarios are Considered: 1. Cameras Streaming to Device 2. Cameras of Cascaded Devices being Viewed on Local 3. Streaming from NAS for Local/Web Client
Uplink Throughput	256Mbps Following Scenarios are Considered: 1. Cameras Streaming to Web Client 2. Storage or Backup to NAS
Simultaneous Log-in	9+1(Admin)
DISPLAY	
Split (Through LAN/HDMI)	1x1, 2x2, 3x3, 4x4, 1+5, 1+7, 3+4, 2+8, 1+12, 1@+12, 1+9, 4+9, 2+12, 5x5, 6x6, 8x8 and Sequential
Resolution(HDMI)	4 x 4k/ 16 x 1080P / 64 x D1
Local Decoding	5x 4K, 15x 3MP, 24x 1080p, 54x720p, 64 x D1
Snapshot	Yes
Multiple Camera Viewing	Through Cascading (up to 20 Devices)
OSD	Channel Number and Name, Status, Video Loss, Recording and Disabled Channel (As per camera support)

RECORDING	
Image Resolution	12MP, 8MP, 5MP, 3MP, 2MP, 1080P, D1, CIF
Pre-Record	Up to 30 Sec
Post-Record	10-300 Sec
Snapshot Format	JPEG
Recording Types	Scheduled, Manual, Alarm and COSEC
STORAGE AND BANDWIDTH OPTIMIZATION	
Storage	Adaptive Recording: Automatically Reduces the Number of Frames Captured Per Second Where There is No Motion, Thereby Saving Storage Space.
Bandwidth	Automatically Adapts Optimized Resolution on Local Display Through HDMI
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ONVIF	Yes
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Operating Temperature	0°C to +50°C (32°F to 122°F)
ELECTRICAL AND MECHANICAL	
Power Input	12VDC, 5A

Technical Specification of 24 port PoE Switch

802.3af/802.3at PoE Injector Port	
10/100BASE-TX PoE Ports	24
10/100/1000BASE-T Ports	2
SFP Fiber port	1
Switch Architecture	Store-and-Forward
Switch Fabric	10.8Gbps/non-blocking
Switch Throughput@64 bytes	8.3Mpps@64bytes
MAC Address Table	8K entries
Maximum Frame Size	9216 bytes
Flow Control	
	back pressure for half duplex
Power Requirements	AC 100~240V, 50/60Hz,
Power Consumption/	Max. 300watts
Fanless	yes
ESD Protection	Contact Discharge of 3kV DC
	Air Discharge of 3kV DC
Surge Immunity	±3kV
MTBF	1,90,000 hours (21years)
Power over Ethernet	
PoE Standard	
	IEEE 802.3at Power over Ethernet Plus/PSE
PoE Power Supply Type	End-span
Power Pin Assignment	1/2(+), 3/6(-)
	Per port 54V DC, 300mA. max. 15.4 watts (IEEE 802.3af)
	Per port 54V DC, 600mA. max. 30 watts (IEEE 802.3at)
	300watts
	24
	20
	10
Standard Conformance	
EMI Safety	CE/LVD EN60950, RoHS
Warranty	2Yrs
Standard Compliance	IEEE 802.3 10BASE-T
	IEEE 802.3u 100BASE-TX
	IEEE 802.3z Gigabit SX/LX
	IEEE 802.3x flow control and back pressure
	IEEE 802.3af Power over Ethernet
	IEEE 802.3at Power over Ethernet Plus
	IEEE 802.3az Energy Efficient Ethernet (EEE)
Environment	
Operating Environment	Temperature: -20~ 60°C
Storage Environment	Temperature: -20~ 70°C
Operating Humidity	
Storage Humidity	Relative Humidity: 5~ 90% (non-condensing)

Technical Specification of 8 port PoE Switch

Hardware Specification	
Copper Port	10 10/100/1000BASE-TX MDI/MDIX Ports
PoE Inject	PoE Inject Port 8-port with 802.3at/af PoE injector function with Port-1 to Port-8
Switch Architecture	Store-and-Forward
Switch Fabric	20Gbps/non-blocking
Switch Throughput@64 bytes	14.88Mpps@64 bytes
MAC Address Table	8K entries, automatic source address learning and aging
Maximum Frame Size	9K bytes
Flow Control	IEEE 802.3x pause frame for full-duplex Back pressure for half-duplex
Power over Ethernet	
PoE Standard	IEEE 802.3af Power over Ethernet/PSE
	IEEE 802.3at Power over Ethernet Plus/PSE
PoE Power Supply Type	End-span
Power Pin Assignment	1/2(+), 3/6(-)
PoE Power Output	Per port 55V DC, 540mA. max. 30 watts
PoE Power Budget	150 watts
Max. Number of Class	8
Max. Number of Class	8
Max. Number of Class	5
Standard Conformance	
EMI Safety FCC Part 15 Class A, CE , RoHS	FCC Part 15 Class A, CE , RoHS
Warranty 3Yrs	3Yrs
Standard Compliance	IEEE 802.3 10BASE-T
	IEEE 802.3u 100BASE-TX
	IEEE 802.3ab Gigabit 1000BASE-T
	IEEE 802.3x Flow control and back pressure
	IEEE 802.3af Power over Ethernet
	IEEE 802.3at Power over Ethernet Plus
	IEEE 802.3az Energy Efficient Ethernet (EEE)
Environment	
Operating Environment Temperature	0 ~ 50°C
Storage Environment Temperature	-10 ~ 70°C
Operating Humidity Relative Humidity	5 ~ 95% (non-condensing)
Storage Humidity Relative Humidity	5 ~ 95% (non-condensing)

END OF TENDER DOCUMENT