

National Gallery of Modern Art

New Delhi

Tender Documents For

Repair and modification of CCTV System with Annual
Maintenance Contract at NGMA, New Wing : 2018

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BID DOCUMENTS

Tender No.

D-290002/2018/NGMA.

Last Date of Receipt

12.11.2018 – 12.00 PM.

Opening Date (Technical Bid)

12.11.2018 – 4.00 PM.

Opening Venue

Conference Hall National Gallery of Modern Art,
Jaipur House Near India Gate, New Delhi –

110003

ATTENTION

1. Only sealed Tenders shall be entertained. All joints of envelope should be sealed with wax with individual design stamped on it with cello tape to ensure it is tampered proof.
2. Tenders not sealed shall be rejected straight away. Do not use window envelope.
3. Subscribe Tender Ref. No. , Date, Submission Date and Bidder address on the top envelope.
4. The Bidder may depute their authorized representative to witness the tender opening for both Technical and Commercial bids.

1	Cost of tender document	Rs. 200/-
2	Earnest Money Deposit	Rs. 50,000/-
3	Date of Tender Document	12.11.2018 4.00 PM
4	Last Date of Submission of tender	12.11.18 at 12.00 PM
5	Date of opening of tender	12.11.18 at 4.00 PM
6	Validity period of tender	3 months from the date of opening of price bid
7	Date of Pre-Bid meeting	05.11.2018 (2.00PM to 4.00PM)

Section - 1

National Gallery of Modern Art
Jaipur House, New Delhi-110003

NOTICE INVITING TENDER

Introduction

The National Gallery of Modern Art (NGMA) came into existence on March 29, 1954 and the Gallery is the premier institution of kind in India with a collection of more than 17,500 works of art and is growing. The NGMA has two branches, one at Mumbai and the other at Bangalore. NGMA is a repository of the cultural ethos of the country and showcases the changing art forms through the passage of the hundred and fifty years starting from about 1857 in the field of visual and plastic arts. NGMA organizes special exhibition at various places within India and abroad at regular intervals. The collections of NGMA include sculptures, paintings, drawings, graphics, photographs etc. The strength of the NGMA collection is its discerning representation of the evolution of Modern Indian Art. Needless to emphasize the necessity of proper care and security of the Art treasures of the country. NGMA had therefore installed of NVR based CCTV System. The entire CCTV system is now required to be repair/modification & maintain properly for its optimal use.

Tendering Process

- 1 The Director, National Gallery of Modern Art (NGMA), New Delhi invites sealed bids under 2 bid system from the OEM authorized channel partners/firms/dealers for repair, undertaking comprehensive annual maintenance contract for operation and maintenance of the CCTV system in NGMA, Jaipur House, India Gate, New Delhi.
- 2 The tenderers are required to furnish their bids in two separate covers
 - (ii) Technical Bid and (ii) Price Bid
- 3 Technical bids and price bids in the prescribed Performa should be submitted in separate sealed covers super scribing the tender number, bidders name and address etc.
- 4 The price bids of only those tenderers who qualify in the technical bid will be opened for evaluation committee.
- 5 Details of time schedule for participation in this tender are given below:-

5.1	Cost of tender document	Rs. 200/-
5.2	Earnest Money Deposit	Rs. 50,000/-
5.3	Sale of Tender Document	11.11.2018 4.00 PM
5.4	Last Date of Submission of tender	12.11.18 at 12.00 PM
5.5	Date of opening of tender	12.11.18 at 4.00 PM
5.6	Validity period of tender	3 months from the date of opening of price bid.
5.7	Date of Pre – Bid meeting	05.11.2018 (2.00PM to 4.00PM)

6. Tender documents can be obtained from the office superintendent, NGMA, Administrative Block, New Wing, Jaipur House New Delhi on payment of Rs. 200/- by Bank Draft/Pay order or by cash.
7. The sealed tenders can be dropped in the Tender Box kept at Gate No. 1 of Jaipur House or may be submitted in person at the office of the Administrative officer, NGMA at New Wing, Administrative Block, Jaipur House, New Delhi.

25/9/18
(Signed)
Controller & Head of Office
National Gallery of Modern Art
Jaipur House, New Delhi-110003

Section- II

GENERAL TERMS & CONDITION OF CONTRACT

1. The tenders should submitted by the authorized channel partners, dealers with authorization letter certifying the capacity of the tender in servicing the equipments listed in Annexure I must be attached with the tender.
2. The incomplete or conditional tenders would not be accepted and are liable to be rejected.
3. Bids received by NGMA after the specified date and time will not be considered.
4. Tenders not conforming to the requirements mentioned in the Tender Form will be rejected and no correspondence shall be entertained in this regard.
5. The tender form should be clearly filled in ink legibly or typed. The tenderer should quote the number, rates and amount tendered by him/them in figures as well as in words. Alternations, if any in the tender should be attested properly by the tenderer failing which the tender is liable to be rejected. Attested copies of the Registration Number for the firm along with GST No/TIN No/ PAN No.
6. False information/ documents provided for consideration would result in disqualification of the bidder.
7. Forwarding letter should clearly indicate the list of enclosures. Every paper of the tender should be signed by the tenderer with seal of Agency/Firm.
8. The tenderer/ agency/ Firm shall not sublet the work to other tendered/ Agency/ firm after the award of the work.
9. The National Gallery of Modern Art will deduct Income Tax at source under Section 194-C of the Income Tax Act, 1991 as applicable from the tenderer.
10. The tender shall be accompanied by Earnest Money Deposit of Rs. **50,000/-** (Rupees: Fifty Thousand) as stipulated in the tender. The tender not accompanied with the EMD shall be treated as invalid. The EMD and tender Document cost shall be submitted in the form of Demand Drafts issued by any Nationalized/ Schedules Bank having its branch in New Delhi drawn in favor of DDO, National Gallery of Modern Art, New Delhi.
11. Technical Bids received against the tender will be evaluated by the Tender Evaluation Committee (TEC) for technical suitability and will be shortlisted.
12. Bidders whose technical bid is found to be acceptable and meeting the eligibility requirements as specified will be informed about the date and time of the opening of the Price Bid. The technical bids will be evaluated to shortlist the eligible bidders.
13. NGMA will open price bids of only the technically short listed bids, in the presence of the bidders or their authorized representative who choose to attend the bid opening, at the time and date to be informed later.
14. The bidder's authorized representative may attend the bid opening shall sign an attendance register as a proof of having attended the bid opening. The bidder name, bid price, discounts and such other details considered as appropriate by NGMA will be announced at the time of opening of the price bids.
15. NGMA shall award the contract to the eligible bidder whose technical bid has been accepted and determined as the lowest evaluated price bid.

16. Should the amount put in words differ from the amount put in figure, or if there is an arithmetical error, the lesser amount shall be taken unless the difference is attributable to an obvious error, whereupon the correct amount shall be taken.
17. If more than one bidder quotes same lowest price, NGMA reserves the right to award the contract at its own discretion.
18. NGMA reserves the right to accept or reject any or all bids without assigning any reason whatsoever.
19. NGMA reserves the right to cancel/ short close the order due to non-satisfactory performance by any of the service/ damages arising out of such cancellation/ short closure shall have to be borne by the bidder.
20. NGMA requires that the bidders who wish to bid for this project have highest standards of ethics. NGMA will reject a bid if it determines that the bidder recommended for award has engaged in corrupt or fraudulent practices while competing for this contract.
21. Interpretation of the clauses in the Tender Documents/ Contract Document in case of any ambiguity/ dispute in the interpretation of any of the clauses in this Tender Document, NGMA's interpretation of that clauses shall be final and binding on all parties.
22. The bidders must ensure that the conditions laid down for submission of offers detailed in the preceding papers, are completely and correctly fulfilled. The submission of any document connected with these services shall constitute an agreement and the Bidder Shall have no cause of action or claim, against NGMA for rejecting the offer NGMA shall always be at liberty to reject or accept any offer or offers as its sole discretion.
23. Offers shall be deemed to be under consideration immediately after they are opened and until such time the official intimation of award of contract is made by NGMA to the bidder. While the offers are under consideration, Bidders and or their representative or other interested parties are advised to remain from contacting NGMA by any requesting for such information from any or all the bidders, only in writing. Bidders will not be permitted to change the condition and offers once their bids have been opened.
24. Any individual (s) signing the tender and related documents should be a competent authorized person and original copy of power of authorization issued by the competent authority should accompany the tender.

SECTION-III

SPECIAL CONDITION OF CONTRACT

Repair, modification, comprehensive maintenance and operation of CCTV System thereof at the National Gallery of Modern Art (NGMA) New Delhi comprise:-

1. CCTV hardware products (Model wise) offered in the project should be UL, CE, FCC, ROHS, certified. All systems and components must be in compliance with FCC, CE, UL requirements. All the certificates need to be submitted along with technical bid.
2. The OEM should have existence in India for more than 3 years.
3. The OEM must have direct presence in India; OEM must have online dedicated CCTV support center available during working hours and a fully equipped repair and maintenance center in Delhi/NCR.
4. The OEM should have CMMI certification.
5. All equipment and materials used shall be standard components that are regularly manufactured and used in the manufacturer's system.
6. All systems and components shall have been thoroughly tested and proven in actual use.
7. MAF: - In case the bidder is authorized reseller or channel partner an authorization letter from the OEM need to be submitted in original addressed to the undersigned specifically describing this tender details (Annexure I).
8. Compliance statement for the specifications under needed to be attached; deviation & remarks need to mention clearly.
9. Datasheet to be attached, Demonstration to be given as and when required. Schedule for the same will be informed in advance.
10. One time repair, operation and minor/major/replacements repairs work of all existing CCTV System along with computers etc. installed at Jaipur House New Wing and its periphery, the details which are indicated in **Annexure I** attached.
11. In case any hardware failure in future that should be repair or replace as per the annexure I
12. The successful tenderer will have to use the quality material and tools at its own cost. NGMA will not provide any type of material or equipment for operation and maintenance work at NGMA Complex.
13. The staff provided should be experienced and well equipped with equipment, accessories and other materials need in operation and maintenance and other services.
14. The contractor shall keep a complaint register with his supervisor, which should be maintained and it shall be shown for verification to the authorized representative of the NGMA as and when asked for. All complaints shall be attended to immediately by the agency.
15. The contractor should provide mobile phone to each operator/deputed staff posted for maintenance and operation of the said systems.
16. CCTV OEM shall be ISO 9001:2014 certified for at least one year and also ISO 14001:2004 certified for manufacturing process. ISO certificate from OEM to be attached.
17. The OEM should have a minimum turnover of Rs. 1000.00 Crores in each of the last 3 financial years. A group turnover shall also be considered in case the OEM has worldwide operations.
18. The OEM for CCTV camera should have at least 300 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.

Earnest Money Deposit

An earnest money of Rs. 50000/- (Rupees: Fifty Thousand only) must be deposited in the form of demand draft/pay order payable to DDO, National Gallery of Modern Art, New Delhi. The particulars of the earnest money deposited must also be super scribed on the top of the envelope by indicating the draft/receipt number and date, failing which the tender will not be opened. The tender will not be considered if earnest money is not deposited with the tender.

If tenderer does not accept the offer, after issue of letter of award by NGMA within 150days, the offer made shall be withdrawn & earnest money shall be forfeited.

1. The original copy of the tender is to be enclosed in double cover. The first cover should be super-scribed "technical Bid". The second sealed cover shall be super-scribed "Financial Bid". Both of these envelopes, after being sealed properly, shall be put into a third cover super-scribing "Tender for Repair, Modification and comprehensive annual maintenance and operation of CCTV and security system in NGMA, New Wing.
2. The technical bids shall be opened at first instance in the presence of tenderers/representatives who may wish to be present.
3. The Financial bids must be submitted in prescribed form, which shall be opened in respect of technically qualified bidders in the presence of tenderers/representatives who may wish to be present at a letter date as per intimation.
4. The tenderer shall be at liberty to be present or to authorize a representative to be present at the time of opening of the tender. Please also state the name and address of your permanent representative, if any.
5. The tenderer is being permitted to give tender in consideration of the stipulations on his part that after submitting his tender, he will not resale from his offer or modify the terms and conditions thereof. If the tenderer fail to observe and comply with the foregoing stipulation, the aforesaid amount of EMD will be forfeited.
6. The tender is liable to be ignored if complete information as required is not given therein or if the particulars asked for in the schedules to the tender are not fully filled in individual signing the tender or other documents connected with the contract may specify whether he signs it in the capacity of
 - (i) A sole proprietor of the firm or constituted attorney of such sole proprietor, or
 - (ii) A partner of the firm if it be partnership in which case he must have authority to refer to arbitration dispute concerning the business of the partnership whether by virtue of the partnership agreement or power of attorney or
 - (iii) Constituted attorney of the firm if it is a company.
7. No interest on security deposit and earnest money deposit shall be paid by the NGMA to the tenderer.
8. In the event of tenderer withdrawing his tender before the expiry of tender validity period of 3 months from the date of opening, the tender shall be cancelled and EMD shall be forfeited.
9. The Earnest Money Deposit of unsuccessful tenderer shall be returned without interest as early as possible on award of contract to the successful tenderer. The Earnest Money Deposit of the successful tenderer shall be refunded after the successful completion of work.

10. Income Tax and Works Contract Tax will be effected for recovery at the rates as from the gross amount of the work contract bills as per the relevant provisions of the Income Tax Act.
11. The tenderers should quote their rates in figures as well as in words the amount tendered by them. The amount per each item should be worked out and requisite total should be given. All rates shall be quoted in proper form in the tender schedule enclosed.
12. The materials to be used for the work should conform to the specifications and applicable standards of the OEM. All materials to be used should be got approved by the Director, NGMA in the first instance.
13. The tenderer shall be responsible for making good of all damages done during the work and has to employ skilled & competent workers for carrying out the work.
14. The tenderer shall be responsible for taking precautionary measures for the safety of the workman engaged for installation of the system at site and the responsibility for payment of compensation etc. lies entirely on the part of the Contractor.
15. The acceptance or otherwise of the tender will rest with competent authority of NGMA who does not bind himself to accept the lowest tender and reserves to himself the authority to reject any or all of the tenders received without assigning any reason.
16. No tools, plant, labor, equipment, transport, etc. required for the work will be supplied departmentally and contractor has to make his own arrangements.
17. The contractor or his staff shall not misuse the premises allotted to them for any purpose other than for which the contract is awarded.
18. In case any person so provided is not found suitable by NGMA, the NGMA should have the right to ask for his replacement without giving any reason there of and the agency shall on receipt of written communication shall replace the such person forth with.
19. The persons so provided by the agency under this contract will not be the employee of the NGMA and there will be no employer-employee relationship between the NGMA and the person so engaged by the contractor in the aforesaid services.
20. The agency shall be wholly responsible for paying monthly salaries and other admissible allowances to the persons as engaged by the contractor and NGMA shall in no way be responsible for meeting any kind of expenditure on salaries etc. to these persons. The agency shall be fully responsible for providing leave benefits, weekly offs, national and festival holidays etc. to the persons deployed as may be require.
21. The NGMA shall not directly or indirectly employ any person of the agency during the period of contract or thereafter under any circumstances.
22. **MODE OF PAYMENT** – The payment of one time repair of CCTV system shall be made on after completion of repairing work and for AMC it would be on monthly basis after the service has been rendered for the respective period.
23. **TIME LIMIT** - The contract of AMC shall be valid for one year from the date of award of the contract. The contract may be extended subject to satisfactory performance of the terms of contract at the discretion of the Competent Authority.
24. **LOSS AND/OR DAMAGES** – In case of any loss or damage done to the property of the NGMA in the Complex attributable to the personnel of the contractor, the full damages will be recovered from the agency/contractor.

LIQUIDATED DAMAGES CLAUSE

25. Company should attend the defect rectification within four hours and in case fail the attend the site and rectify the fault an amount of Rs. 2000/- will be deducted from the bill. Any misconduct/misbehavior on the part of the manpower deployed by the agency will not be tolerated and such person will have to be replaced immediately. The operator so deployed by the Company should have been verified by the local police and he will be issued proper Identity Card by the Company.
26. Company will provide suitable of the CCTV operator in case leave, sick and absence.
27. **ARBITRATION:** Disputes, if any, arising out of manufacture supply installation and warrantee etc. if not mutually settled shall be referred to the Sole Arbitration who may be appointed with the consent of the both parties in accordance with the provisions contained in Arbitration and Conciliation Act, 1996 and the rules there under and any statutory modification for the time being in force shall be deemed to apply to the arbitration proceeding under this clause. The venue of the arbitration shall be Delhi in India. The award will be binding upon the parties.
28. **FORCE MAJURE:** NGMA may consider relaxing the penalty and delivery requirements, as specified in this document, if and to the extent that, the delay in performance or other failure to perform its obligations under the contract is the result of a Force Majure, force majeure is defined as an event of effect that cannot reasonably be anticipated such as acts of God (like earthquake, floods, storm etc.), acts of states the direct and indirect consequences of wars (declared or undeclared), hostilities, national emergencies, civil commotion and strikes at successful Bidder's premises. Either party shall be excused from performance of their obligation during or to the extent that performance is prevented by the occurrences of unforeseen causes beyond the control of and without the negligence of the party claiming excuse, Such cause shall include, without limitation, strike, go slow, other concerted acts of workman, lockout, act of God, war, fire, explosion, action of elements, flood, epidemic, riot, sabotage, embargo, blockade, civil disturbance and Governmental restrictions or limitations etc. the party claiming excuse shall give immediate written notice thereof to the other, in any case not later 15(fifteen) days, following the occurrence of such event. If performance is held for a continuous period of more than 3 (three) months from the date of first notice, then the parties shall review the situation and agree upon any course of action so as to protect the interest of both.
29. The Director, NGMA reserves the right to reject any or all Tenders in whole or in part without assigning any reason thereof. The decision of director, NGMA shall be final and binding on the contractor/agency in respect of any clause covered under the contract.

ANNEXURE-ISchedule of Work

Name of work: One Time Repair and Modification of CCTV Cameras. Modification should be covered with warranty atleast one year

Schedule of Requirements for CCTV One Time Repairing/Replace/Upgrade		
Sl. No.	Description of Item	Qty.
1	32 CH Digital Video Recorder/Net Work Video Recorder with atleast one month recording	5
2	12V DC Redundant Power Supply	10
3	24V AC PTZ Power Supply	20
4	Coaxial Cable	1000 mtrs. (Approx)
5	2 Core 1.5 sq. mm Power Cable	1000 mtrs. (Approx)
6	Camera to be repair/replace	25 Nos Approx

Note : If the Cameras are required to be replaced, the rate of the same may be quoted separately.

Annexure II

Annual maintenance contract list of equipments covered under the AMC of CCTV System.

CCTV System		
Sl. No.	Description of Item	Installed qty.
1	Fixed Cameras 1Indoor day/night color dome camera, UL listed automatic white balance complete with supporting bracket suitable for fixing on wall/ceiling including providing & fixing junction box for power supply etc. as required.	104
2	PTZ Cameras ¼ inch, 18x(4.1 to 73.8 mm) color indoor PTZ camera, UL listed & complete with supporting bracket suitable for fixing on wall/ceiling including providing & fixing junction box for power supply etc. as required.	50
3	PTZ Out Door Cameras ¼ inch, 26x (3.5 - 91 mm) optical zoom outdoor dome PTZ camera, UL listed & complete with supporting bracket suitable for fixing on wall/ceiling/pole/l/c outdoor housing with sun shield etc. including providing & fixing junction box for power supply etc. as required.	6
4	Single channel or modular multi channel digital video encoder as per detailed technical specification.	1
5	Digital PC work station for Video Management System Software with key board controller. The system should be supported with Intel core-2 duo Intel Xenon Processor, 64 bit, Supported PCI express	3

	16 graphics card up to 150 watt and 512 MB graphic memory meet all the requirement.	
6	20" colour flat panel LCD monitor, 500 TVL etc. as require as per detailed technical specification	23
7	Layer 3 Network management switch 24 ports with 1/100/1000 ports, including accessories like passive components viz. patch panel, patch cords, etc. for fiber optical networking portion	1
8	CPU with 100 GB hard disk, 1 GB RAM	4
9	Network Switch with CISCO	3

CABLES

Sl. No.	Description of Item	QTY
System cables of the following types:		
1	4 core x 1.5 sq. mm PVC insulated rubber shielded copper conductor cable	1500 mtrs. (Approx)
2	4 core x 1.5 sq. mm PVC insulated rubber shielded copper conductor cable	5000 mtrs. (Approx)
3	3 core x 2.5 sq. mm screened copper conductor power cable	100 mtrs. (Approx)
4	6 core x 1.5 sq. mm multi strand insulated ATC cable	2400 mtrs. (Approx)
5	CAT 5 LAN copper conductor cable	2500 mtrs. (Approx)
6	3 core x 2.5 sq. mm screened copper conductor power cable	2500 mtrs. (Approx)
7	RG-11 coaxial copper cable	1500 mtrs. (Approx)
8	RG-59 coaxial copper cable	500 mtrs. (Approx)
9	3 core x 2.5 sq. mm screened copper conductor power cable	4000 mtrs. (Approx)
10	2 pair twisted 1 sq. mm PVC insulated rubber shielded copper conductor cable	2000 mtrs. (Approx)

National Gallery of Modern ArtJaipur House, India Gate, New Delhi-110003TECHNICAL BIDFORMAT FOR TECHNICAL BID FOR REPAIR & COMPREHENSIVE AMC OF CCTV SECURITY SYSTEM AT NGMA,NEW DELHI

1.	Name of the firm	:	
2.	Complete Address & Telephone Numbers	:	
a)	Date of Incorporation/ Establishment of the firm	:	
b)	Telephone No. (s) of Contact Person	:	
c)	Fax No.	:	
d)	Email Id.	:	
e)	Website	:	
3.	Whether the company is a proprietorship firm, Pvt. Firm, Ltd. Co. if so the names of the owner/Directors etc., be furnished.	:	
4.	PAN No.	:	
5.	GSTIN No.	:	
6.	Certificate of automation/Channel Partner/Dealer attached	:	
7.	Earnest Money Deposit	:	Attached Demand Draft(Pay Order)
a)	Demand Draft No.	:	
b)	Date	:	
c)	Drawn on	:	
d)	Rupees in figure & words	:	Rs.

Place:

Signature

Date:

Name & Address with seal

FINANCIAL BID

To,

The Director,
National Gallery of Modern Art,
Jaipur House, New Delhi-110003.

Sir,

I/We wish to submit our tender for providing the ONE TIME REPAIR, COMPREHENSIVE MAINTENANCE & OPERATION OF CCTV SYSTEM installed at NGMA, New Wing on the following rates:-

Sl. No.	Particulars	Rate Per Month
1	One Time Repairing & Upbringing Charges for CCTV System (Detailed ANNEXURE II attached)	_____ (Rs. In Figure) _____ _____ (Rs. In words)
2	(i) Monthly consolidated rate for COMPREHENSIVE MAINTENANCE OF CCTV SYSTEM installed at NGMA, New Wing on the following rates in accordance with the highest standard service and as per the terms and conditions specified in the tender including all labor force, material, transportation etc.	_____ (Rs. In Figure) _____ _____ (Rs. In words)
	(ii) Monthly charges for providing qualified, Technically competent and experienced personnel for operation of the entire CCTV System from 9.00 AM to 6.30 PM every day	_____ (Rs. In Figure) _____ _____ (Rs. In words)
3	Taxes if any applicable (please indicate)	
4	Total	(Rs. In figures and In words)

I/We agree to forfeit of the earnest money if I/We fail to comply with any of the terms and conditions in whole or in part laid down in the tender documents.

We have carefully read the term and conditions of the quotation and are agreed to abide by these in later and spirit.

Signature _____
Name & Address of the firm _____

Telephone No. _____

Mobile No. _____

ANNEXURE II

SPECIFICATION FOR VIDEO RECORDER

Video/Audio input	Video compression	H.265 Pro+/H.265 Pro/H.265/H.264+/H.264
	Analog video input	32-ch BNC interface (1.0 Vp-p, 75 Ω), supporting coaxitron connection
	HDTV input	8 MP, 5 MP, 4 MP, 3 MP, 1080p25, 1080p30, 720p25, 720p30, 720p50, 720p60
	AHD input	5 MP, 4 MP, 1080p25, 1080p30, 720p25, 720p30
	HDCVI input	4 MP, 1080p25, 1080p30, 720p25, 720p30
	CVBS input	PAL/NTSC
	IP video input	8-ch (up to 40-ch) Up to 8 MP resolution Supports H.265+/H.265/H.264+/H.264 IP cameras
	Audio compression	G.711u
	Audio input	4-ch, RCA (2.0 Vp-p, 1 KΩ)
	CVBS output	1-ch, BNC (1.0 Vp-p, 75 Ω), resolution: PAL: 704 × 576, NTSC: 704 × 480
Video/Audio output	HDMI1/VGA output	1-ch, 1920 × 1080/60Hz, 1280 × 1024/60Hz, 1280 × 720/60Hz, 1024 × 768/60Hz
	HDMI2 output	1-ch, 4K (3840 × 2160)/30Hz, 2K (2560 × 1440)/60Hz, 1920 × 1080/60Hz, 1280 × 1024/60Hz, 1280 × 720/60Hz, 1024 × 768/60Hz
	Encoding resolution	8 MP/5 MP/4 MP/3 MP/1080p/720p/WD1/4CIF/VGA/CIF
	Frame rate	Main stream: 8 MP@8fps/5 MP@12fps; 4 MP@15fps; 3 MP@18fps; 1080p/720p/WD1/4CIF/VGA/CIF@25fps (P)/30fps (N) Sub-stream: WD1/4CIF/CIF@25fps (P)/30fps (N)
	Video bit rate	32 Kbps to 10 Mbps
	Audio output	1-ch, RCA (Linear, 1 KΩ)
	Audio bit rate	64 Kbps
	Dual stream	Support
	Stream type	Video, Video & Audio
	Synchronous playback	16-ch
Network management	Remote connections	128
	Network protocols	TCP/IP, PPPoE, DHCP, Hik-Connect, DNS, DDNS, NTP, SADP, NFS, iSCSI, UPnP™, HTTPS, ONVIF
Hard disk	SATA	4 SATA interfaces
	eSATA	Support
	Capacity	Up to 10 TB capacity for each disk
External interface	Two-way audio input	1-ch, RCA (2.0 Vp-p, 1 KΩ) (independent)
	Network interface	2, RJ45 10M/100M/1000M self-adaptive Ethernet interface
	USB interface	Front panel: 2 × USB 2.0 Rear panel: 1 × USB 3.0

General	Serial interface	RS-232, RS-485 (full-duplex), Keyboard
	Alarm in/out	16/4
	Power supply	100 to 240 VAC
	Consumption (without HDD)	≤ 74 W
	Working temperature	-10 °C to +55 °C (+14 °F to +131 °F)
	Working humidity	10% to 90%
	Dimensions (W × D × H)	440 × 390 × 70 mm (17.3 × 15.4 × 2.8 inch)
	Weight (without HDD)	≤ 7 kg (15.4 lb)

Redundant Power Supply

1.	12VDC / 5Amp to 7Amp for 8 CCTV cameras in Lock & Key Cabinet.
2.	8 way terminal + 8 ON / OFF Plug (Short Link) + 8 Resettable Fuse + 8 Power on LED Indication.
3.	Input Surge Protector circuit (Optional).
4.	Input: 100VAC – 300VAC.
5.	11V – 15V (Preset to adjust Voltage depending upon cable length).
6.	CCCV Circuit Current Limit at 5.7 Amp.
7.	Input : 3 pin Cord.
8.	2 RED LED's given when connected both the LED's will glow in case of failure of 1 power supply 1 LED will switch off.
9.	Wall Mounting.
10..	311 mm (L) X 230 mm (W) X 75mm (H).

PTZ Power Supply

1.	24VAC / 4 to 5 Amp AC-AC Power Supply in Metal Cabinet
2.	Input: 200VAC – 250VAC
3.	Input 3 Pin cord
4.	Output Open wire
5.	Power on LED indication.
6.	Fuse Holder with extra fuse.
7.	Wall Mounting.
8.	130mm(L) X 111mm(W) X 82mm(H).

Coaxial Cable Specifications

PARAMETERS	RG6
CONSTRUCTION	
1. Inner Conductor	Solid Bare Copper
2. Nominal Diameter (mm)	1.02
3. Dielectric	Foam PE
4. Nominal Diameter (mm) Outer Conductor	4.57
5. First	Bonded Al Tape
6. Second	Al Braid
7. Nominal Coverage (%)	60
8. Flooding Compound	Jelly
9. Jacket	PVC (Black)
10. Nominal Diameter (mm)	7.0
11. Bending radius, Minimum (mm)	65
ELECTRICAL	
1. Inner Conductor Solid Copper Maximum Resistance (Ohm/100m) at 20° C	2.13
2. Nominal Capacitance (pf/mtr.)	53
3. Nominal Impedance (Ohm)	75
4. Nominal Velocity Ratio (%)	85

TECHNICAL SEPECIFICATION SHEET FOR THE PTZ CAMERA

2MP Analog HD with 30x Camera		
S. No.	Features	Description
1	Certificate	UL
2	Image Sensor Type	1/3" CMOS
3	Resolution	1920×1080
4	Illumination	Color 0.02lux , 0 lux with IR
5	Shutter Speed	1s to 1/10,000s
6	WDR	Support
7	Digital Noise Reduction	3D DNR
8	Camera Adjustment	Pan: 360° Endless , tilt: -15° to 90° (Auto flip)
9	Lens Support	4-120mm (30x optical zoom) or higher
10	IR Range	120m
11	Presets	256 or higher
12	Patrol	Min. 8, upto 32 presets for each patrol
13	Pan and tilt Speed	Pan speed : 240°/s and Tilt Speed : 200°/s
14	Pattern	4 pattern
15	Park Action	Preset / Patrol / Pattern / Pan scan / Tilt scan / Frame Scan / Random scan / Panorama scan
16	PTZ Positioning Display	Support
17	Preset freezing	Support
18	RS485	Self -adaptive HIKVISION, Pelco -P, Pelco - D protocol
19	Language	English
20	Temperature	(-30 to 65)
21	Protection	IP66, lightning/Surge/Voltage protection
22	Power	24V AC
23	Temperature control	Heater
24	Mount	Pole/wall mount as per requirement

TECHNICAL SEPECIFICATION SHEET FOR THE IR DOME CAMERA

2MP ANALOG HD MP CMOS MOTORIZED VARI-FOCAL IR DOME CAMERA		
S. No.	Features	Description
1	Certificate	UL
2	Image Sensor Type	2MP CMOS
3	Effective Pixels	1944(H)*1092(V)
4	Illumination	0.01 Lux @ (F1.2,AGC ON),0 Lux with IR; 0.014 Lux @ (F1.4,AGC ON),0 Lux with IR
5	Shutter Speed	1/25(1/30)s to 1/50,000s
6	WDR	120db
8	Camera Adjustment	Pan: 0 - 355°, Tilt: 0 - 75°, Rotation: 0 - 355°
9	Lens Support	Motorized VF lens; 2.8 - 12 mm @ F1.4 Angle of view: 103° - 32.1°
10	IR Range	30m
12	White Balance	ATW, AWC-SET, Indoor, Outdoor, Manual
13	Video Frame Rate	1080p@25fps/1080p@30fps
14	Function	HSBLC, Digital noise reduction, Digital zoom(62x), Slow shutter, Mirror, Defog, Defect pixel correction, SMART D-ZOOM
15	Privacy Mask	On/Off, maximum 8 zones
18	Motion Detection	On/Off, maximum 4 zones
19	Language	English, Japanese, CHN1, CHN2, Korean, German, French, Italian, Spanish, Polish, Russian, Portuguese, Dutch, Turkish, Hebrew and Arabic
20	Tempreture	(-20 °C - 45 °C (-4 °F - 113 °F), Humidity 90% or less (non-condensing)
22	Power	12 VDC±15%, 24 VAC±15%
24	Mount	Pole/wall mount as per requirement