

**MOTILAL NEHRU COLLEGE : BENITO JUAREZ MARG : NEW DELHI**

MNC/BJM/2019/ 949

Date : 24.09.2019

**TENDER NOTICE**

Sealed quotations are invited in two bid system (Financial and Technical) for installation, testing and commissioning of CCTV cameras at Motilal Nehru College from the registered contractor with University of Delhi/CPWD/MES/MCD or any Government organization.

**Term & Conditions:-**

1. The rates should be quoted in the enclosed Proforma.
2. Bidder fulfilling all the conditions, quality and brand of genuine items, overall lowest amount will be considered as L-1.
3. The work successful operations should be completed within 2-3 weeks from the date of award of contract and one year guarantee/warranty certificate will be issued by the Firm.
4. Payment will be made by RTGS/NEFT after completion of work within thirty days. All payment will be subject to deduction of taxes at source as per applicable rules.
5. Quotation should reach to **The Principal, Motilal Nehru College, Benito Juarez Marg, New Delhi-110021** through Registered/Speed post or dropped in the Box available in the Office latest by **08.10.2019 up to 3.00 p.m. & the same will be open on 09.10.2019 at 11.00 a.m.**
6. Please write top of the envelop "**Quotation for installation of CCTV cameras**".
7. The bidders are strictly required to attach a copy of GST registration certificate and PAN No. of the firm, otherwise bid/quotation will be deemed rejected.
8. On inspection, if the material or workmanship is not found as per the specification or any item is found damaged the same shall be rejected. In case of rejection of the materials, no payment will be made for the rejection item.
9. In the event of any dispute arising between the parties hereafter referred as Motilal Nehru College and Supplier/Dealer in respect of or connected with this quotation in all such matters the venue of proceedings will be Delhi and only Delhi or appropriate Courts will have jurisdiction over the same.
10. Principal, Motilal Nehru College reserves the right to accept or reject any or all offer without assigning any reason thereof.

  
Officiating Principal

Copy to : Delhi University & College website.

Authorized Signature & Stamp of firm/Co.

Date \_\_\_\_\_

# Request for Proposal for Installation, testing and commissioning of CCTV Camera

A reputed contractors/company having experience at least 3 years for installation, testing and commissioning of the CCTV Camera are eligible to submit the tender in two bid system i.e. technical and financial bid for installation, testing and commissioning in response to this notice.

All the bidders/Contractor should also enclosed a demand draft/pay order of Rs.100,000/- (**Rupees One Lakh Only**) drawn in favor of "Principal, Motilal Nehru College" payable at New Delhi, as the Earnest Money Deposit (EMD) along with Technical Bid. EMD of tendering parties, whose tenders are not accepted shall be refunded (without interest) within 45 days of opening of the tenders.

## 1. TECHNICAL AND QUALIFYING CRITERIA

- 1.1 The bidders must have an average of annual turnover of Rs.3Cr. or more for the last three years in the relevant field. Copy of Chartered Accountant certificate/ITR for the last three years viz 2016-2017, 2017-2018 and 2018-2019 in support of turnover in support of turnover.
- 1.2 Self-attested copies of valid registration certificate of the agency/Firm, GST registration certificate and PAN card have to be attached with the Technical Bid.
- 1.3 The bidder must submit an Undertaking on its letter head that he has not been blacklisted by any State Government / Central Government / Public Sector / University in India last 3 years. If, it is subsequently established or found that the bidding firm has given any false information or facts or has suppressed facts or manipulated the documents etc., the earnest money deposit, as the case may be, will be forfeited and no excuse what so ever will be entertained therefore.
- 1.4 The bidder should submit the certificate that all the term & conditions attached with the tender document are acceptable to it.
- 1.5 The bidder should give rates in the prescribed performa only and rates should mention for each item separately.
- 1.6 Bidder should enclose an authorization letter issued from the manufacturer.

## CONDITIONS OF CONTRACT

1. The work shall be carried out as per the BQQ and Technical specification; hence rates should be given as per specifications enclosed, the scope of work is providing IP based CCTV surveillance system. The proposed surveillance system consist of:
  - Cameras
  - Recorder

The system will be used for monitoring at predetermined place. However it may be changed, if required.

2. Contractor shall contact principal/in charge of the college as per the list provide to him for finalizing locations of the cameras and recorder and accordingly prepare the working drawing and get it signed from respective principal/in charge of the College before start of work.
3. Contractor shall handover the completed system to respective principal/in charge of the College and obtains the certificate from principal/in charge of the College. Payment of the contractor shall be processed after submission of above signed certificate to this office.

**LIST OF PREFERRED MAKES TEDER FORM:**

S.No.	Description	Make	Qty. (approx.)	Unit	Rate	Amount
1	Cat 6 UTP Cable in 25mm PVC conduit/40mm HDPE conduit	Actassi/Rnm	3660	RMtr..		
2	2.5 sq. MM 3 core insulated power cable in 25 mm PVC conduit/ 40 MM HDPE conduit	Havells / Polycab	300	RMtr.		
3	9U network rack with exhaust fans, Cable Manager, PDU 5 socket with metal perforated front door.	Comrack/High	3	Nos.		
4	4 core single mode Optical fiber cable	Actassi/Rnm	300	RMtr.		
5	Outdoor rated LIU loaded with 2 Fiber patch cords	Actassi/Rnm	3	Nos.		
6	24 port PoE switch with 2 SFP port and modules loaded	Dlink/HP	4	Nos.		
7	Outdoor rated box for cameras	Sintex	26	Nos.		
8	Indoor rated box for cameras	Sintex	27	Nos.		
	4MP Bullet Camera	Bosch / Hikvision	36	Nos.		
	4MP Dome Camera	Bosch / Hikvision	36	Nos.		
9	2MP Bullet Camera	Bosch / Hikvision	10	Nos.		
10	2MP Dome Camera	Bosch / Hikvision	10	Nos.		
11	64 Channel Network Video Recorder	Bosch / Hikvision	2	Nos.		
12	4 TB Surveillance Grade HDD	Seagate/WD	6	Nos.		
13	Installation testing and commissioning , Project Management, Documentation and Training Charges		One	Job	-	
14	AMC charges after one year warranty for two years. The rates should give year wise					

**Note : Quantity of the items will be increase / decrease as per requirement at the time of order.**

## 2. TERM & CONDITIONS

- 2.1 Conditional bids shall not be accepted
- 2.2 After award of the contract, it shall be the responsibility of the successful bidder to provide required service as and when required by the College, on same date, time & venue. In case, the contractor fails to provide the service, the College reserves the right to hire service from firm at the risk and cost of the firm. The cost difference between the alternative arrangements and tender value will be recovered from the bidder.
- 2.3 The bidder must not make any compromise on providing the services. In case it is found at some stage that the services are not provided as per term and conditions the contract is likely to be cancelled and suitable penalty will be imposed on the bidder, decided by the College.
- 2.4 Applicable taxes should be mentioned separately in the Invoice(s) if any.
- 2.5 The financial bids of those bidders shall be opened whose papers are found suitable as per specifications given. The financial bids of those bidders whose technical bids are not found suitable shall not be opened at all.
- 2.6 Any sum of money due and payable to the bidder, including the Security Amount deposited under this contract shall be appropriated by the College and set off against any claim of the College for payment of sum of money arising out of this contract or any other contract with the College.
- 2.7 The Contract can be also be terminated if the approved vendor dishonors the contract in any way, then the security amount deposited shall be forfeited.
- 2.8 The College reserves the right to terminate the contract at any time without assigning any reasons thereof.
- 2.9 **Payment Terms :** After completion of work within 30 days.
- 2.10 **Delivery and Installation:** Within 2-3 weeks from the placement of order.
- 2.11 **Warranty:** One year and warranty certificate to be provided by the firm.

## 3. OPENING OF FINBANCIAL BID AND EVALUTION

After the Technical Evaluation of the bids, the College will open the "Financial Bids of all the technically qualified bidders.

## **TERMS AND CONDITIONS GOVERNING THE CONTRACT FOR INSTALLATION, TESTING AND COMMISSIONING OF CCTV CAMERAS**

1. The Contract will be awarded on the Agreement with the rates stated and approved by college through the tender documents.
2. The successful bidder will be required to deposit **10%** security money on the total cost approved, in favor of the Principal, Motilal Nehru college payable at New Delhi. No interest shall accrue on the refundable security deposits and the same will be refund on successful completion of the contract after adjustment of dues, if any.
3. The items and rate must not be altered by the bidder. Any Modification/alteration of items and / or rates should be specifically stated in a separate covering letter.
4. Bids received after the last date of submission will be summarily rejected. The college reserves the right to accept or reject any or all of the bids either fully or partially without assigning any reasons thereof.
5. Bids will remain valid for a period of 3 months from the last date of submission of tender. Rate stated and approved by the college will remain valid for the entire period of contract.
6. The Successful bidder will have to undertake to comply with all terms and conditions.
7. The contract once awarded can be terminated either party after giving one month notice to the other party. However, if the contractor seeks termination of the contract in between the contract period his security deposits would be forfeited and if college does so then the security deposit would be refunded to the contractor.
8. The College shall in no case be responsible for any accident, loss or damage/theft to the staff employed or article equipment etc. used by contractor.
9. The contractor shall not engage the service of any sub-contractor or transfer the contract to any other person.
10. The College reserves the right to change any terms and conditions governing for installation, testing and commissioning of CCTV Cameras as and when circumstances so warrant.
11. The applicable Software must also conform to ONVIF (S) standards. The ONVIF compliant certificate must be submitted.
12. All equipment and materials used should be standard components that are regularly manufactured and used in the manufacturer's system and systems and components which have been thoroughly tested. A confirmation from the company about the same must be submitted.
13. The offered Cameras, Video Recorders, VMS, storage devices, POE switches, and other associated components need to belong to the same OEM to ensure seamless integration and better support.

**PROPOSAL FOR INSTALLATION, TESTING AND COMMISSIONING OF CCTV CAMERAS**

**TECHNICAL BID**

S.No.	Description	Particulars
1	Name of the bidder/firm/company	
2	Address	
3	Name of the authorized representative	
4	Designation/Capacity(Proprietor/Director/Official)	
5	Contact No.	
6	E-mail	
	Details of EMD paid (DD no. date/drawee bank	
7	Details of statutory licenses obtained (if any)	
8	Details of GST/PAN/TIN/VAT Registration No.	
9	Numbers of employees currently on rolls of the bidder	
10	Details of organization served/presently being served (certificates to be attached)	
	Period	Details of the organization served
	From	To
(a)		
(b)		
(c)		
11	Turnover of Rs.300,00,000/- for last three years	

Date \_\_\_\_\_  
Place \_\_\_\_\_

Signature of the Bidder \_\_\_\_\_  
Name \_\_\_\_\_  
Designation \_\_\_\_\_  
Address \_\_\_\_\_  
\_\_\_\_\_ M \_\_\_\_\_

SEAL/STAMP

UNDERTAKING

The Principal  
Motilal Nehru College,  
University of Delhi  
South Campus,  
New Delhi-110021

Sir,

I/we the undersigned certify that I/we have gone through the term and conditions for Installation, testing and commissioning of CCTV Cameras mentioned in the tender notice and hereby undertake to agree and comply with them in its entirety.

I/we understand that in case of breach of any of the terms and conditions committed on my/our part, the contract of Installation, testing and commissioning of CCTV cameras will be liable to be terminated.

Date \_\_\_\_\_  
Place \_\_\_\_\_

Signature of the Bidder \_\_\_\_\_  
Name \_\_\_\_\_  
Designation \_\_\_\_\_  
Address \_\_\_\_\_  
\_\_\_\_\_ M \_\_\_\_\_

SEAL/STAMP

### Technical Specification of 4MP Dome camera

Camera	
Image Sensor	1/3" Progressive Scan Cmos
Min .Illumination	Color :0.01 Lux @(F1.2,AGC on ), 0.08 lux @(F1.6,AGC On ),0 Lux With IR
Shutter Speed	1/3 s To 1/100,000 s
Day & Night	IR Cut Filter
Digital Noise Reducation	3D DNR
WDR	120db
3-Axis Adjustment	Pan: 0° to 355°, tilt: 0° to 75°, rotate: 0° to 355°
Lens	
Focal length	4 mm
FOV	4 mm: horizontal FOV: 78°, vertical FOV: 42°, diagonal FOV: 93°
	6 mm: horizontal FOV: 48°, vertical FOV: 27°, diagonal FOV: 54°
IR	
IR Range	Up To 30m Or better
Compression Standard	
Video Compression	Main stream: H.265/H.264
	Sub-stream: H.265/H.264/MJPEG
	Third stream: H.265/H.264
Video Bit Rate	32 Kbps to 16 Mbps
Audio Compression (-S)	G.711/G.722.1/G.726/MP2L2/PCM
Audio Bit Rate	64Kbps(G.711)/16Kbps(G.722.1)/16Kbps(G.726)/32-192Kbps(MP2L2)
Smart Feature-set	
Behavior Analysis	Line crossing detection, intrusion detection
Face Detection Yes	Yes
Region of Interest	1 fixed region for main stream and sub-stream
Image	
Max.Resolution	2560X1440
Image Enhancement	BLC/3D DNR
Image Setting	Rotate mode, saturation, brightness, contrast, sharpness adjustable by client software or web Browser
Network	
Network Storage	Support Micro SD/SDHC/SDXC card (128G), local storage and NAS (NFS,SMB/CIFS), ANR
Alarm Trigger	Motion detection, video tampering, network disconnected, IP address conflict, illegal login, HDD full, HDD error
General Function	One-key reset, anti-flicker, three streams, heartbeat, mirror, password protection, privacy mask watermark, IP address filter
API	ONVIF (PROFILE S, PROFILE G), ISAPI
Interface	
Audio(-s)	1 input (line in/mic.in), 1 output (line out), terminal block, mono sound
Communication Interface	1 RJ45 10M/100M self-adaptive Ethernet port
Alarm (-S)	1 input, 1 output (up to 12 VDC, 30 mA), terminal block
On-board storage	Built-in Micro SD/SDHC/SDXC slot, up to 128 GB
Audio (-s)	
Environment Noise Filtering	Yes
General	

Operating Conditions	-30 °C to +60 °C (-22 °F to +140 °F), Humidity 95% or less (non-condensing)
Power Supply	12 VDC ± 25%, Ø 5.5 mm coaxial power plug PoE (802.3af, class 3)
Power Consumption and Current	12 VDC, 0.5A, max. 6W PoE (802.3af, 37V to 57V), 0.2A to 0.1A; max. 7.5W
Protection Level	IP67, IK10 TVS 2000V Lightning Protection, Surge Protection and Voltage Transient Protection
Material	Matel

### Technical Specification of 4MP Bullet Camera

<b>Camera</b>	
Image Sensor	1/3" Progressive Scan Cmos
Min .Illumination	Color :0.01 Lux @(F1.2,AGC on ), 0.08 lux @(F1.6,AGC On ),0 Lux With IR
Day & Night	IR Cut Filter
Digital Noise Reducation	3D DNR
WDR	120db
3-Axis Adjustment	Pan: 0° to 360°, tilt: 0° to 100°, rotate: 0° to 360°
<b>Lens</b>	
Focal length	4 mm / 6mm
FOV	4mm: horizontal FOV: 83°, vertical FOV: 45°, diagonal FOV: 99°
	6 mm: horizontal FOV: 51°, vertical FOV: 29°, diagonal FOV: 58°
<b>IR</b>	
IR Range	Up To 60m Or better
<b>Compression Standard</b>	
Video Compression	Main stream: H.265/H.264
	Sub-stream: H.265/H.264/MJPEG
	Third stream: H.265/H.264
Video Bit Rate	256 Kbps to 16 Mbps
Audio Compression (-S)	G.711/G.722.1/G.726/MP2L2/PCM
Audio Bit Rate	64Kbps(G.711)/16Kbps(G.722.1)/16Kbps(G.726)/32-192Kbps(MP2L2)
<b>Smart Feature-set</b>	
Behavior Analysis	Line crossing detection, intrusion detection, unattended baggage detection, object removal detection
Exception Detection	Scene change detection, audio exception detection
Face Detection Yes	Yes
Region of Interest	1 fixed region for main stream and sub-stream
<b>Image</b>	
Max.Resolution	2688X1520
Image Enhancement	BLC/3D DNR/HLC
Image Setting	Rotate mode, saturation, brightness, contrast, sharpness adjustable by client software or web Browser
<b>Network</b>	
Network Storage	Support Micro SD/SDHC/SDXC card (128G), local storage and NAS (NFS,SMB/CIFS), ANR
Alarm Trigger	Motion detection, video tampering, network disconnected, IP address conflict, illegal login, HDD full, HDD error
General Function	One-key reset, anti-flicker, three streams, heartbeat, mirror, password protection, privacy mask watermark, IP address filter
API	ONVIF (PROFILE S, PROFILE G), ISAPI
<b>Interface</b>	
Audio(-s)	1 input (line in/mic.in), 1 output (line out), terminal block, mono sound
Communication Interface	1 RJ45 10M/100M self-adaptive Ethernet port
Alarm (-S)	1 input, 1 output (up to 12 VDC, 30 mA), terminal block
On-board storage	Built-in Micro SD/SDHC/SDXC slot, up to 128 GB
Audio (-s)	
Environment Noise Filtering	Yes

General	
Operating Conditions	-30 °C to +60 °C (-22 °F to +140 °F), Humidity 95% or less (non-condensing)
Power Supply	12 VDC $\pm$ 25%, $\Phi$ 5.5 mm coaxial power plug
Power Consumption and Current	12 VDC, 0.5A, max. 6W PoE (802.3af, 37V to 57V), 0.2A to 0.1A, max. 7.5W
Protection Level	IP67,
Material	Matel

## Technical Specification of NVR

### NVR

#### Features and Functions

##### Professional and Reliable

Dual OS design to ensure high reliability of system running

HDD hot swap with RAID0, RAID1, RAID5, RAID 6 and RAID10 storage scheme configurable

Configurable normal or hot spare working mode to constitute an N+1 hot spare system

##### Smart & Pos Function

Supports multiple VCA (Video Content Analytics) events

Smart search for the selected area in the video; and smart playback to improve the playback efficiency

##### Network & Ethernet Access

2 Gigabit Ethernet network interfaces

Video /Audio Input	Ip Video Input	64-ch Up To 12 Mp Resolution
	Two-way audio	1-ch, RCA (2.0 Vp-p, 1 k Ω)
	Incoming bandwidth	320 Mbps or 200 Mbps (when RAID is enabled)
Network	Outgoing bandwidth	256 Mbps, or 200 Mbps (when RAID is enabled)
	Recording resolution	12 MP/8 MP/6 MP/5 MP/4 MP/3 MP/1080p/UXGA/720p/VGA/4CIF/DCIF /2CIF/CIF/QCIF
Video/Audio	VGA1 /HDMI1 output resolution	HDMI1: 4K (3840 × 2160)/60Hz, 4K (3840 × 2160)/30Hz, 2K (2560 × 1440)/60Hz, 1920 × 1080p/60Hz, 1600 × 1200/60Hz, 1280 × 1024/60Hz, 1280 × 720/60Hz, 1024 × 768/60Hz VGA1: 2K (2560 × 1440)/60Hz, 1920 × 1080p/60Hz, 1600 × 1200/60Hz, 1280 × 1024/60Hz, 1280 × 720/60Hz, 1024 × 768/60Hz
	VGA2 /HDMI2 output resolution	1920 × 1080p/60Hz, 1280 × 1024/60Hz, 1280 × 720/60Hz, 1024 × 768/60Hz
	Audio output	2-ch, RCA (2.0Vp-p, 1 KΩ)
	Decoding format	H.265/H.265+/H.264/H.264+/MPEG4
Decoding	Live view/Playback resolution	12 MP/8 MP/6 MP/5 MP/4 MP/3 MP/1080p/UXGA/720p/VGA/4CIF/DCIF/2CIF/CIF/QCIF
	Synchronous playback	16-ch
Network Mangemant	SATA	8 SATA interface
Hard Disk	E-SATA	1 eSATA interface
	Capacity	Up to 6TB capacity for each HDD
Disk Array	Array type	RAID0, RAID1, RAID5, RAID6, RAID10
	Number of arrays	4
External Interface	Network interface	2, RJ-45 10/100/1000 Mbps self-adaptive Ethernet interface
	Serial Interface	RS-232; RS-485; Keyboard
	USB interface	Front panel: 2 × USB 2.0; Rear panel: 1 × USB 3.0
	Alarm in/out	16/4
	Power Supply	100 to 240 VAC, 50 to 60 Hz
	Max . Power	200w
	Consumption without hard Disk	< 30
	Working Temperatuer	-10 to +55° C (+14 to +131° F)
	Working Humidity	10 TO 90 %

## 2 MP Dome Camera

Sr.No.	Parameter	Specification
1	Certificates	CE,FCC,UL must
2	Power Supply	DC 12V PoE(802.3af,class 3)
3	Power Consumption	PoE: max. 6.5W 12 VDC, max. 5W
4	IR Range	Upto 40 mtr
5	Protection Level	IP67
6	Image Sensor	1/2.8" Progressive scan Cmos or better
7	Min. Illumination	Color: 0.01 Lux @F1.2, 0.028 Lux @F2.0, 0 Lux with IR
8	Shutter Speed	1/3 s to 1/100,000 s
9	Slow Shutter	Support
10	Lens	2.8 mm, horizontal field of view: 103° 4 mm, horizontal field of view: 88°
11	Lens Mount	M12
12	Aperture	F2.0
13	Day &Night	IR cut filter
14	DNR	3D DNR
15	Wide Dynamic Range	True WDR min 120 dB
17	Video Compression	Main stream: H.265/H.264 Sub stream: H.265/H.264/MJPEG 4
18	Video Bit Rate	32 Kbps to 8 Mbps
19	Max. Resolution	1920 × 1080
20	Main Stream	50Hz: 25fps (1920 × 1080, 1280 × 960, 1280×720) 60Hz: 30fps (1920 × 1080, 1280 × 960, 1280×720)
21	Sub Stream	50Hz: 25fps (640 × 480, 640 × 360, 320 × 240) 60Hz: 30fps (640 × 480, 640 × 360, 320 × 240)
22	Third Stream	50Hz: 1fps (352 × 240, 320 × 240) 60Hz: 1fps (352 × 240, 320 × 240)
23	Image Enhancement	BLC/3D DNR/ROI/HLC
24	Image Settings	Support rotate mode. Brightness, contrast, saturation, and sharpness are adjustable via web browser and client software
25	ROI (Region of Interest)	Support 1 fixed region for main stream

26	Day/Night Switch	Auto/Scheduled/alarm triggered
27	Network Storage	Support microSD/SDHC/SDXC card (128G), local storage and NAS (NFS,SMB/CIFS), ANR
28	Event Trigger	Motion Detection, Tampering Alarm, Network Disconnected, IP Address Conflict, Illegal Login, HDD full, HDD error
29	Protocols	TCP/IP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, RTCP, PPPoE, NTP, UPnP™, SMTP, SNMP, IGMP, 802.1X, QoS, IPv6, Bonjour
30	Standard	ONVIF (PROFILE S, PROFILE G), ISAPI
31	Other Features	Anti-flicker, heartbeat, mirror, password protection, privacy mask, watermark, IP address filter
32	Communication Interface	1 RJ45 10M/100M
33	On-board Storage	Built-in microSD/SDHC/SDXC slot, up to 128 GB
34	Behavior Analysis	Tripwire, intrusion detection
36	Operating Conditions	-30 °C to +60 °C (-22 °F to +140 °F), Humidity 95% or less (non-condensing)
37	Built-in Mic	Built-in Mic

## 2 MP Bullet Network Camera

Sr.No.	Parameter	Specification
1	Certificates	CE,FCC,UL must
2	Power Supply	DC 12V PoE(802.3af,class 3)
3	Power Consumption	PoE- max. 6.5W 12 VDC, 0.4 A, max. 5W
4	Material	Alluminium
5	Image Sensor	1/2.8" Progressive scan Cmos or better
6	Min. Illumination	Color: 0.01 Lux @ (F1.2, AGC ON), 0.028Lux @(F2.0, AGC ON); B/W: 0.001 Lux @(F1.2, AGC ON), 0.0028 Lux @(F2.0, AGC ON)
7	Shutter Speed	1/3 s to 1/100,000 s
8	Slow Shutter	Support
9	Lens	4/6 mm
10	Lens Mount	M12
11	Day &Night	Electronic
12	DNR	3D DNR
13	Wide Dynamic Range	True WDR min 120 dB
14	Video Compression	H.265/H.264/MJPEG
15	VBR	64 Kbps to 8 Mbps
16	Max. Resolution	1920 × 1080
17	Main Stream	50Hz: 25fps (1920 × 1080, 1280 × 960, 1280×720) 60Hz: 30fps (1920 × 1080, 1280 × 960, 1280×720)
18	Sub Stream	50Hz: 25fps (704 × 576, 640 × 480, 352 × 288, 320 × 240) 60Hz: 30fps (704 × 480, 640 × 480, 352 × 240, 320 × 240)
20	Image Enhancement	3D DNR/ Backlight Compensation
21	Image Settings	Support rotate mode. Brightness, contrast, saturation, and sharpness are adjustable via web browser and client software
22	ROI (Region of Interest)	Supported
23	Network Storage	Support NAS (NFS, SMB/CIFS), ANR
24	Alarm Trigger	Motion detection, video tampering, IP address conflict, illegal login
25	Protocols	TCP/IP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, RTCP, PPPoE, NTP, UPnP™, SMTP, SNMP, IGMP, 802.1X, QoS, IPv6, Bonjour
26	Standard	ONVIF (PROFILE S, PROFILE G), ISAPI
27	General Function	Anti-flicker, heartbeat, mirror, password protection, privacy mask, watermark, IP address filter
28	Communication Interface	RJ 45 port 10/100
29	Behavior Analysis	Trip wire crossing detection, intrusion detection,
31	Reset Button	Yes
32	Local Storage	Should Support SD Card max upto 128 GB, Should Support ANR Feature
33	User	Should Connect 32 Users
34	IR Range	Should Support 50 mtr IRRange
35	Protection Level	Min IP 67