

Technical Specification of Equipment



4MP LPR Camera

S. No.	Minimum Technical Specification of 4MP LPR Camera	
	Brand:	..... (Should be mentioned by bidder)
	Model:	..... (Should be mentioned by bidder)
1	Image Sensor	4MP 1/1.8" CMOS or better
2	Resolution	Min. 2688 x 1520
3	Min Illumination	Min. 0.0001Lux
4	Illumination Distance	Min. 30m
5	Lane Coverage	1 - 2 lanes
6	Capture speed range	0 - 180 km/h
7	Capture Rate/Accuracy	≥ 98%
8	Lens Type	Motorized vari-focal
9	Focal length	10 mm - 50 mm or better
10	Intelligence	Target Detection (Motor vehicle, motorcycle), ANPR, Vehicle Type Recognition, Vehicle Color Recognition, Vehicle Brand/Logo Recognition, Vehicle Violation Capture, Traffic Flow Detection or more
11	Video Compression	H.265, H.264, MJPEG
12	Video Frame Rate	Main stream (2688 x 1520 @25 fps), sub stream (1600 x 1200 @25 fps)

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13	WDR	≥ 140 dB
14	Image Enhancement	HLC, BLC
15	Network Port	1 RJ-45 (10/100/1000 M)
16	Storage	Should support up to 256GB TF card local storage Must include 128 GB SD Card with camera
17	Port	Min. 2 RS-485, 2 RS-232, 3 Alarm Input, 2 Alarm Output
18	Power	12-36 VDC, PoE
19	Protection	IP67, IK10
20	Accessories	Should provide Bracket and other required accessories
21	Documents	ISO certificate should be submitted. Original Manufacturer Authorization Certificate on attached or manufacturers' format to be submitted along with the bid.

8MP Bullet Camera

S. No.	Minimum Technical Specification of 8MP Bullet Camera	
1	Brand	..... (Should be mentioned by bidder)
2	Model	..... (Should be mentioned by bidder)
3	Image Sensor	≥ 1/1.8" Progressive Scan CMOS
4	Resolution	≥ 3840 x 2160
5	Frame Rate	25/30 fps (3840 x 2160) or higher
6	Stream Capability	Minimum 2 streams
7	Focal Length	Motorized Varifocal (Min. 3.7 to 11 mm) or better
8	Day/Night	Auto (ICR)
9	Illuminator	IR (Illumination Range: Min. 60m)
10	Min. Illumination	Color: 0.004 Lux, 0 Lux with Illuminator on or better
11	WDR	≥ 120 dB
12	Video Compression	H.265+, H.265, H.264+, H.264, MJPEG
13	Protocols	Minimum: IPv4, IPv6, HTTP, HTTPS, 802.1X, QoS, FTP, SMTP, UpnP, DNS, DDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, ICMP, DHCP and PPPoE
14	Interoperability	ONVIF

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15	On-board Storage	Micro SD card (support up to 128 G) & Min 64 GB SD Card Included.
16	Image Enhancement Features	BLC, HLC, 3D DNR, or more
17	Communication Interface	1 RJ45 10/100M or better
18	Power Supply	PoE, 12 VDC/24V AC
19	Operating Conditions	- 30° C to 60°C or better
20	Protection	IP67, IK10
21	Smart/AI Features	Support Tripwire, Intrusion or more
22	Accessories	Should provide pole mount bracket and other related accessories.
23	Documents	Product datasheet and ISO certificate should be submitted. Original Manufacturer Authorization Certificate on attached or manufacturers' format to be submitted along with the bid.

32 Channel NVR

S. No.	Minimum Technical Specification of 32 Channel NVR	
	Brand:	..... (Should be mentioned by bidder)
	Model:	..... (Should be mentioned by bidder)
1	Access Channel	32 Channels
2	Network Bandwidth	Min. 380 Mbps or higher
3	Resolution	24MP, 16 MP, 12MP, 8MP, 5MP, 4MP, 1080p, 720p or more
4	Decoding Capability	32-channel @ 1080P (30 fps) or higher
5	Video Output	2-ch VGA output and 2-ch HDMI output (1-ch HDMI 4k support)
6	Video Compression	H.265+, H.265, H.264+, H.264, MPEG
7	Audio Compression	G.711A; G.711U; G.726
8	Network Protocol	HTTP; HTTPS; TCP/IP; IPv4/IPv6; UPnP; SNMP; RTSP; UDP; SMTP; NTP; DHCP; DNS; PPPoE; DDNS; FTP;
9	Interoperability	ONVIF

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10	AI	Face Detection, Face Recognition Perimeter Protection, ANPR, People Counting, or more
11	HDD	4 SATA ports, Support up to 16 TB each
12	USB	1 USB 2.0 port, 2 USB 3.0 port or better
13	External Port	1 Audio Input, 2 Audio Output, 16 Alarm Input, 4 Alarm Output, 1 eSATA, 1 RS-232, 1 RS-485 or more
14	Network	2 RJ-45 10/100/1000 Mbps Ethernet ports
15	Documents	Product datasheet and ISO certificate should be submitted. Original Manufacturer Authorization Certificate on attached or manufacturers' format to be submitted along with the bid. Camera and NVR should be from same OEM and NVR must support all the smart/AI features of proposed camera.

43 Inch Monitor

S. No.	Minimum Technical specification of 43 Inch Monitor	
	Brand:	..... (Should be mentioned by bidder)
	Model:	..... (Should be mentioned by bidder)
1	Screen	43"
2	Aspect Ratio:	16:9
3	Max Resolution Support:	1920 x 1080
4	Refresh Rate	60Hz
5	Backlight	LED
6	Brightness/Luminance	250 cd/m ² or better
7	Contrast:	3000:1 or better
8	Visual Angle (H/V):	178° (H) / 178° (V)
9	Response Time:	≤ 5 ms
10	Display Color	16.7M
11	Input	Min VGA ×1, HDMI x1
12	Accessory	HDMI cable, power cable, pedestal
13	Documents	Product datasheet and ISO certificate should be submitted. Original Manufacturer Authorization Certificate on attached or manufacturers' format to be

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submitted along with the bid.



1G SFP

S No.	Minimum Technical Specification of 1G SFP
	Brand: (..... Should be mentioned by Bidder)
	Model: (..... Should be mentioned by Bidder)
1	Single Strand (core) (Bi-Di) Single Model gigabit FO module support wave length 1310 Tx /1490 Rx or 1490 Tx /1310 Rx
2	Support Min 10 Km and data rate 1.25 Gbps
3	Support Self-locking mechanism, hot-swappable and Digital diagnostics monitoring
4	Operating Temperature: -40°C to 85°C
	Min Transmit Power: Min. -9dbm and Max. -3dbm
	Max power budget 11db
	Receive Sensitivity: -20dbm
5	FO module should be compatible to proposed switch/media converter.
6	Product datasheet and ISO certificate should be submitted along with the bid.

16 port Gigabit Switch


S. No.	Minimum Specification of 16 port Gigabit Switch
	Brand: (Should be mentioned by bidder)
	Model: (Should be mentioned by bidder)
1	Interfaces 4x10/100/1000 Base-T Ports, 12x100/1000 Base-X Ports
2	Packet Forwarding Rate 42 Mpps
3	Switching Capacity 256 Gbps
4	MAC Support static and dynamic learning of MAC Address
5	VLAN Support 4K VLAN, QinQ, Private VLAN, Voice VLAN, or more
6	Security Support Port Isolation, Port Security, IP-MAC-Port Binding, L2/L3/L4 ACL, IEEE 802.1X, RADIUS, TACACS+, DHCP

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		Snooping, or more
7	Network Redundancy	STP/RSTP/MSTP/ERPS/EAPS
8	IPv6	ICMPv6, DHCPv6, ACLv6, IPv6 Telnet, IPv6 Neighbor Discovery MLD v1/v2, MLD Snooping
9	Multicast	IGMP v1/v2/v3, IGMP Snooping, IGMP Fast Leave
10	Quality of Service	IEE 802.1p compliance, DSCP Prioritization, SP, WRR
11	Reliability	Support Static/LACP link aggregation
12	Management	Support Console, Telnet, SSH, Web management, SNMP v1/v2/v3, TFTP or more
13	Power	220V AC or 48V DC
14	Protection	IP40
15	Operating Temperature	-40°C to 85°C
16	Documents	Product datasheet and ISO certificate should be submitted. Original Manufacturer Authorization Certificate on attached or manufacturers' format to be submitted along with the bid.

Industrial Media Converter		
S. No.	Minimum Technical Specification of Industrial Media Converter	
	Brand:	..... (Should be mentioned by bidder)
	Model:	..... (Should be mentioned by bidder)
1	Ethernet Port	2*1000 Base-X(SFP) 1*10/100/1000 Base-T(Hi-PoE/PoE+/PoE) 3*10/100 Base-T (PoE+/PoE)
2	PoE Budget	≥ 96W
3	PoE Protocol	PoE(802.3af), PoE+(802.3at), Hi-PoE
4	Switching Capacity	6.8 Gbps


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5	Packet Forwarding Rate	4.91 Mpps
6	Packet Buffer Memory	1Mb
7	MAC Table Size	8K
8	Power	DC48~57V
9	Operating Temperature and Humidity	-30°C~65°C and 10%~90%
10	Lightning Protection	4KV or better
11	Documents	Product datasheet and ISO certificate should be submitted. Original Manufacturer Authorization Certificate on attached or manufacturers' format to be submitted along with the bid.

Optical Fiber 6 Core with laying, splicing, and accessories

S. No.	Minimum Technical Specification of Optical Fiber 6/12 Core with laying, splicing, and accessories	
1	Brand	..... (Should be mentioned by bidder)
2	Model	..... (Should be mentioned by bidder)
3	Messenger Wire	Number: At least 7 Wire Thickness: Min 0.6 mm Sheath: Min 1.2 mm
4	Loose Tube	Material: PBT filled with jelly Outer diameter: Min 3 mm
5	Armoring	Material: PE-coated corrugated steel tape Armor steel number: Min 12 unit
6	Outer sheath	Material: PE Thickness: Min 1.6 mm
7	Maximum Attenuation	@1310 nm: ≤0.35 dB/Km @1550 nm: ≤0.20 dB/Km @Other wavelength applicable: ≤0.40 dB/Km
8	Temperature Dependency	Operating temperature: 0 to 60 °C or better Temperature Dependency: ≤0.1 dB/Km
9	Accessories	Fiber Patch Cable and Fiber enclosure box (Bamboo/Tiffin) for splicing

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10	Document	Product datasheet, Product Datasheet, Manufacturer's Authorization Certificate, Warranty Letter, and Compliance Sheet must be submitted along with the bid.
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Concentric Power Cable with laying and accessories

S No.	Minimum Technical Specification of Power Cable with laying
	Brand: (..... Should be mentioned by Bidder)
	Model: (..... Should be mentioned by Bidder)
1	Outdoor concentric type suitable power cable for offer solutions. Cable size (6mm to 10mm as required) should be recommended as per calculation for various length and load.
2	Standard Cable for UPS systems with proper protection systems.
3	Proposed cable should be suitable for the solutions.
4	All required multiplug, power cable, cable connector; DB/MCCB should be provided.

6TB Surveillance HDD

Surveillance Series HDD, min. SATA 6 Gbps, 5400 RPM and 6TB. Must be compatible with proposed NVR.

1KVA Inverter

S. No.	Minimum Technical Specification of 1KVA Inverter
1	Brand (Should be mentioned by bidder)
2	Model (Should be mentioned by bidder)
3	Type Pure sine wave UPS
4	Input
4.1	Voltage 175 VAC - 265 VAC
4.2	Frequency 40 Hz to 60 Hz
4.3	DC Voltage 12V
5	Output
5.1	Voltage 220 VAC
5.2	Frequency 50 Hz \pm 0.2 Hz
5.3	THD of output power \leq 5%
6	Other Characteristics

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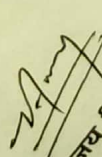
6.1	Display	LED Status Display (Mains On, Input Voltage, Input Frequency, Battery Voltage, Battery Charging, UPS On/Off, Output Voltage, Output Frequency or more)
6.2	Sound	Audible beep for overload, short circuit, back feed, low battery, over temperature, mains fuse blown
7	Battery	Must include minimum 1 x 12V 100Ah Tubular Gel Battery
8	Document	Product datasheet and ISO certificate should be submitted.

12U Server Rack

S. No.	Minimum Technical Specification of 12U Server Rack
	Brand: (..... Should be mentioned by Bidder)
	Model: (..... Should be mentioned by Bidder)
1	Racks manufactured out of steel sheet punched, formed welded and Powder coated, idle panel and vented top cover or better
2	Rack should have adjustable mounting depth, numbered U positions, proper grounding, and bonding; have proper cooling mechanism and power distribution unit
3	Rack must be compatible for mounting servers and switches
4	Accessories: PDU 13A 8SKT MCB PLG A- 1 Pcs, PVC Cable Manager 1u A- 1 Pcs, Two Fans- 1 Pcs
5	Documents: Product datasheet and ISO certificate should be submitted. Original Manufacturer Authorization Certificate on attached or manufacturers' format to be submitted along with the bid.

Terms and Conditions

1. Brochure, Technical Specification Detail, Manufacture Authorization Letter, ISO Certificate is essential for Camera, LPR System, NVR, Monitor, Media Converter, SFP, and Switch.
2. All the datasheets, technical specifications and related catalogues must be submitted which should be reflected on OEM global website for cross checking.
3. Technical compliance sheet and 1-year product warranty with support statement on letter head with duly stamp and signed must be submitted for all the items with the submission of bid document.


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4. Bidder must have experienced and well qualified technical manpower.
5. Detail Document of video surveillance system and its all-related hardware and software connection, optical fiber network, CCTV camera, Switching, power cable along with color code/core and detail route map showing all block diagram of the network connection must be provided before receiving first payment and works on those documents within the installation period.
6. Proper training shall be provided to the local police technical officers about the operation of the system.
7. Florescent waterproof sticker with plastic lamination tag must be attached in every 80-100-meter optical fiber and color spray must be used for fiber identification in spliced fibers, U-knot should be used in every pole.
8. Must use international standard power supply tor Network switch recommended by OEM and standard cat-6 cable as well.
9. Vendor must have minimum 2 years of working experience in Optical fiber, Networking and CCTV installation.


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