

Mechinagar Municipality

Internal Office and Highway CCTV Shifting, Maintenance & Up-gradation Project

General Specification of CCTV and Related Equipments

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S.N	Particulars	Specification	Unit	Rate (ex vat)
1	4MP Full Color Bullet Network Camera	4.0 MP Fixed Iris HD Lens Color Hunter Mini Bullet Camera 1/3" CMOS sensor 4.0 MP (2560*1440)@ 25/20fps; Colour : 0.1 lux Digital WDR 10M/100M Base-TX Ethernet IP67 Warm Light & Smart IR, upto 30m Or Equivalent	Pcs	
2	4MP Full Color Bullet Network Camera	4.0 MP Fixed Iris HD Lens Color Bullet Network Camera, 1/3" CMOS sensor or better, minimum 4.0 MP (2560×1440) resolution at 25/20 fps, minimum color illumination 0.01 lux or better, Digital WDR/DWDR, fixed lens 2.8 mm or 4.0 mm, 10/100 Mbps Base-TX Ethernet, Smart IR and/or Warm/White Light illumination up to 30 m, H.265/H.264 video compression, IP67 weather protection, PoE (IEEE 802.3af) and suitable for outdoor installation, or equivalent.	Pcs	
3	5MP Full Color Bullet Network Camera	5.0 MP Fixed Iris Color Bullet Network Camera, with 1/1.8" CMOS sensor or better; minimum 5.0 MP (2880×1620) resolution at 25/20 fps; fixed iris lens with F1.0 or better aperture; minimum color illumination of 0.0003 Lux @ F1.0 or better; advanced low-light/color imaging technology; True WDR of 120 dB or better; Auto/Manual shutter speed range approximately 1/100000 second or wider; Warm/White Light illumination up to 50 m; 10/100 Mbps Ethernet; H.265/H.264 video compression; IP67 or better protection; PoE support; suitable for outdoor installation; or equivalent/better.	Pcs	
4	8MP Full Color Bullet Network Camera	8.0 MP Fixed Lens Color Bullet Network Camera with 1/1.8" CMOS sensor or better; minimum 8.0 MP (3840×2160) resolution at 20 fps; fixed lens with F1.0 or better aperture; minimum color illumination of 0.0003 Lux or better; 120 dB True WDR or better; Auto/Manual shutter speed from approximately 1/100000 second or wider; White/Warm Light and/or Smart IR illumination up to 30 m; H.265/H.264 video compression; 10/100 Mbps Ethernet; PoE support; IP67 or better weather protection; suitable for outdoor installation; or equivalent/better.	Pcs	
5	Motorized Bullet 5MP Camera	5.0 MP Motorized Varifocal Bullet Network Camera, 1/2.7" CMOS sensor or better; minimum 5.0 MP (2880×1620) resolution at 25/20 fps; motorized varifocal lens of approximately 2.8–12 mm or wider, with minimum 4× optical zoom and automatic focus; minimum color illumination ≤0.003 Lux or better; 120 dB True WDR or better; Auto/Manual electronic shutter from approximately 1/1 to 1/100000 second or wider; Smart IR illumination up to 50 m or better; MicroSD card support; 10/100 Mbps Base-TX Ethernet or better; H.265/H.264 compression; PoE support; IP67 or better weather protection; suitable for outdoor installation; or equivalent/better.	Pcs	
6	ANPR LIGHT	Adjustable Warm-White LED Constant Illuminator suitable for ANPR/traffic surveillance camera, using high-power LED light source; color temperature approximately 3000K; luminous flux minimum 4,000 lm; adjustable illumination angle approximately 30°; effective illumination distance 12–25 m or better; capable of illuminating a minimum of 2 traffic lanes; adjustable brightness/dimming; automatic day/night operation and/or external camera control; suitable for continuous operation; outdoor weather-resistant housing with minimum IP65 protection; 220–240 VAC, 50 Hz power supply; adjustable mounting bracket; or equivalent/better.	pcs	
7	PTZ Camera Dual Lens	4.0 MP Dual-Lens Network PTZ Camera, consisting of a panoramic camera and a motorized PTZ camera; minimum 4.0 MP resolution with 2688×1520 @ 30 fps or better; 1/2.7" CMOS sensor or better; PTZ camera with 4.8–120 mm or wider motorized autofocus zoom lens and minimum 25× optical zoom; 360° continuous motorized pan and suitable tilt range; minimum 100 m Smart IR illumination; WDR 120 dB or better; low-light color imaging technology; built-in microphone and speaker; motion and audio detection; MicroSD card support; H.265/H.264 video compression; 10/100 Mbps Ethernet; PoE/PoE+; IP66 or better outdoor protection; ONVIF compliant; or equivalent/better.	pcs	
8	ANPR Camera 8MP	ANPR/LPR Bullet Network Camera with minimum 4MP resolution, 1/1.8" CMOS sensor or better; 2688×1520 resolution at minimum 60 fps; motorized varifocal lens 8–32 mm or wider, with minimum 4× optical zoom and autofocus; 120 dB True WDR or better; ICR/True Day-Night; minimum color illumination ≤0.001 Lux or better; Smart IR and/or Warm Light illumination up to 40 m or better; intelligent vehicle and license plate detection/recognition supporting minimum 4 traffic lanes; H.265/H.264/MJPEG or equivalent compression with triple video streams; MicroSD card support; minimum 2 alarm inputs and 1 alarm output; DC 12V and PoE+ power; 10/100 Mbps Ethernet or better; IP67 or better; suitable for outdoor ANPR applications; or equivalent/better.	pcs	

9	8 MP Fixed Lens Bullet Network Camera	1/1.8" Progressive Scan CMOS; resolution 3840×2160 @ ≥20fps; 24/7 full-color low-light imaging; minimum illumination ≤0.0005 Lux @ F1.0; fixed 2.8/4 mm, F1.0 lens; ≥120 dB True WDR; ICR/True Day & Night; shutter 1–1/100,000s or wider; built-in white/warm light; H.265/H.264/MJPEG; human/vehicle detection; 10/100 Ethernet; PoE/12VDC; IP67; suitable for outdoor 24/7 operation. or equivalent/better	pcs	
10	Network Bullet CCTV Camera	1/3" Progressive Scan CMOS; 1920×1080 @30fps; built-in microphone; Color ≤0.01 Lux, 0 Lux with IR; Smart IR up to 30m; 2D/3D DNR; DWDR/WDR; H.265/H.264 or equivalent compression; 10/100 Mbps Ethernet with PoE; MicroSD support preferred; IP67 outdoor protection; robust/big housing; suitable for 24/7 outdoor surveillance; or equivalent/higher specification.	Pcs	
11	Network Bullet CCTV Camera Color	1/3" Progressive Scan CMOS; 1920×1080 @30fps or higher; minimum color illumination ≤0.005 Lux; fixed lens, F1.0 or better; Digital WDR/DWDR; built-in Warm Light & Smart IR up to 30m; MicroSD ≥256GB; 10/100 Mbps Ethernet; H.265/H.264 or equivalent compression; IP67 outdoor protection; suitable for 24/7 surveillance; or equivalent/higher specification.	pcs	
12	Network Dome CCTV Camera	1/2.8" Progressive Scan CMOS; 1920×1080 @30fps or higher; fixed iris lens;; Smart IR up to 30m; H.265/H.264 or equivalent compression; 10/100 Mbps Ethernet; PoE support; IP67 protection; suitable for 24/7 outdoor surveillance; or equivalent/higher specification.	Pcs	
13	Network Dome CCTV Camera (lux)	1/2.8" Progressive Scan CMOS; 1920×1080 @30fps or higher; fixed iris lens; Color ≤0.01 Lux, 0 Lux with IR; Smart IR up to 30m; H.265/H.264 or equivalent compression; 10/100 Mbps Ethernet; PoE support; IP67 protection; suitable for 24/7 outdoor surveillance; or equivalent/higher specification.		
14	Network Dome CCTV Camera Color	1/3" Progressive Scan CMOS; 1920×1080 @30fps or higher; built-in microphone; minimum illumination Color ≤0.005 Lux, 0 Lux with IR; IR up to 30m and supplementary warm/white light up to 15m; 2D/3D DNR; H.265/H.264 or equivalent compression; 10/100 Mbps Ethernet with PoE; IP67 protection; suitable for 24/7 indoor/outdoor surveillance; or equivalent/higher specification.	pcs	
15	32CH NVR (Double SATA)	Supports minimum 32 IP cameras with recording/resolution support up to 8 MP or higher; incoming bandwidth ≥320 Mbps and outgoing bandwidth ≥160 Mbps; AI-enabled bandwidth/processing mode supported; decoding capability of at least 10×1080P@30fps, 5×4MP@30fps or 2×4K@30fps; 2 SATA HDD bays supporting high-capacity surveillance HDDs; 2×USB 2.0 or higher; 1×RJ45 Gigabit Ethernet port; RS-485 interface; H.265/H.264 compression; HDMI/VGA video output; simultaneous live view, recording, playback and remote access; ONVIF support; suitable for 24/7 surveillance; or equivalent/higher specification.	Pcs	
16	16 CH NVR	Supports minimum 16 IP cameras with recording resolution of 1080P or higher; incoming bandwidth ≥64 Mbps and outgoing bandwidth ≥48 Mbps; decoding capability of at least 4×1080P@30fps, 2×4MP@30fps and 1×4K@30fps or equivalent; 1×SATA HDD bay supporting high-capacity surveillance HDD; 2×USB 2.0 or higher; 1×Gigabit RJ45 Ethernet; RS-485 interface; H.265/H.264 compression; HDMI/VGA video output; ONVIF support; simultaneous live view, recording, playback and remote access; suitable for 24/7 operation; or equivalent/higher specification.	Pcs	
17	16 CH NVR	Supports minimum 16 IP camera inputs with 16 built-in PoE ports and plug-and-play camera connectivity; supports H.265+/H.265/H.264+/H.264 or equivalent compression; decoding capability of at least 2×12MP, 3×8MP, 6×4MP or 12×1080P; incoming bandwidth ≥160 Mbps; 2×SATA HDD interfaces, supporting up to 16 TB per HDD or higher; supports TCP/IP, IPv4/IPv6, DHCP, DNS, DDNS, NTP, RTSP, SMTP, SNMP, HTTP/HTTPS and ONVIF or equivalent network protocols; HDMI/VGA display output; suitable for 24/7 operation; or equivalent/higher specification.	Pcs	

18	8 CH NVR	Supports minimum 8 IP camera inputs with recording resolution of 1080P or higher; incoming bandwidth ≥ 64 Mbps and outgoing bandwidth ≥ 48 Mbps; decoding capability of at least 4x1080P@30fps, 2x4MP@30fps, 1x5MP@30fps and 1x4K@30fps or equivalent; 1xSATA HDD bay supporting high-capacity surveillance HDD; 2xUSB 2.0 or higher; 1xGigabit RJ45 Ethernet; RS-485 interface; H.265/H.264 or equivalent compression; HDMI/VGA video output; ONVIF support; suitable for 24/7 operation; or equivalent/higher specification.	Pcs	
19	64 CH NVR	Supports minimum 64 IP cameras and recording of up to 1080P or higher; incoming bandwidth ≥ 320 Mbps and outgoing bandwidth ≥ 160 Mbps; decoding capability of at least 2x16MP@30fps and 2x12MP@30fps or equivalent; 8xSATA HDD bays supporting high-capacity surveillance HDDs; 2xUSB 2.0 or higher; 1xGigabit RJ45 Ethernet; RS-485 interface; H.265/H.264 compression; HDMI/VGA video output; ONVIF support; simultaneous live view, recording, playback and remote access; suitable for 24/7 operation; or equivalent/higher specification.	Pcs	
20	32 CH NVR 4 sata	Supports minimum 32 IP camera inputs with recording resolution of 1080P or higher; incoming bandwidth ≥ 384 Mbps and outgoing bandwidth ≥ 384 Mbps; decoding capability of at least 2x12MP@30fps, 4x4K@30fps and 8x4MP@30fps or equivalent; 4xSATA HDD bays supporting high-capacity surveillance HDDs; 2xUSB 2.0 or higher; 1xGigabit RJ45 Ethernet; RS-485 interface; H.265/H.264 or equivalent compression; HDMI/VGA video output; ONVIF support; suitable for 24/7 operation; or equivalent/higher specification.	Pcs	
21	32 CH NVR 4 SATA	Supports minimum 32 IP camera inputs; incoming bandwidth ≥ 256 Mbps and outgoing bandwidth ≥ 160 Mbps; supports H.265/H.265+/H.264+/H.264 or equivalent video compression; recording resolution support up to 12 MP or higher, including 8MP, 6MP, 5MP, 4MP, 3MP and 1080P; 2x10/100/1000 Mbps self-adaptive RJ45 Ethernet interfaces; supports TCP/IP, IPv4/IPv6, DHCP, DNS, DDNS, NTP, RTSP, SMTP, SNMP, HTTP/HTTPS and ONVIF or equivalent network protocols; HDMI/VGA video output; suitable for 24/7 operation; or equivalent/higher specification.	Pcs	
22	4 Port PoE Switch	Layer-2 unmanaged Ethernet switch with minimum 4x10/100/1000 Mbps PoE ports and 1xGigabit RJ45 uplink port; supports IEEE 802.3af/802.3at PoE; minimum 35W total PoE power budget; ≥ 6 kV surge protection on PoE ports; auto negotiation, auto MDI/MDIX; solid high-strength metal housing; suitable for 24/7 operation and outdoor/industrial CCTV applications; or equivalent/higher specification.	Pcs	
23	8 Port Gigabit Unmanaged POE Switch With 2SFP Up-Link Port	8x10/100/1000 Mbps PoE RJ45 ports plus 2xSFP fiber uplink ports; supports IEEE 802.3af/802.3at PoE; full Gigabit switching bandwidth; PoE transmission distance up to 250m or better using supported long-range mode; industrial-grade IP rated waterproof and dustproof metal enclosure; suitable for outdoor CCTV and harsh environmental conditions; or equivalent/higher specification.	Pcs	
24	4 Port Gigabit Unmanaged POE Switch With 2SFP Up-Link Port	4x10/100/1000 Mbps PoE RJ45 ports with 2xSFP Gigabit uplink ports; supports IEEE 802.3af/at/bt PoE; PoE power output up to 60W per port or higher; total PoE power budget as per manufacturer; PoE-powered operation supported; fanless design; sturdy metal enclosure with shielded ports; suitable for 24/7 CCTV/network operation; or equivalent/higher specification.	pcs	
25	8 Port POE SWITCH	Minimum 8x10/100 Mbps PoE ports + 2x10/100 Mbps uplink ports, IEEE 802.3af/at or equivalent, 96 W minimum PoE budget, 2.0 Gbps switching capacity, 1.49 Mpps forwarding rate, PoE protection, durable enclosure, 100-240 VAC power supply, wall/desktop mountable, or equivalent.	Pcs	

26	8 Port Gigabit POE Switch	1000 Mbps Gigabit PoE ports; intelligent PoE watchdog function for automatic detection and restart of unresponsive PoE-connected devices; long-distance PoE transmission mode supporting up to 250 m at reduced data rate or better; minimum 4 kV surge/lightning protection and 8 kV ESD protection; suitable for 24/7 CCTV/network operation; or equivalent/higher specification.	Pcs	
27	16 Port Poe Switch	16×10/100 Mbps PoE RJ45 ports; 1×10/100/1000 Mbps RJ45 uplink and 1×1000 Mbps Combo (RJ45/SFP) uplink; minimum 250W PoE power budget; switching capacity ≥7.2 Gbps; IEEE 802.3af/at PoE support; rack-mountable 1U metal chassis; suitable for 24/7 CCTV/network operation; or equivalent/higher specification.	pcs	
28	24 Port PoE Switch	24 Port - 1U Rack Mount POE Switch PoE : 370W Switching >= 8.8 Gbps 24*100Mbps RJ45 + 1*1000Mbps RJ45 + 1*1000Mbps Combo Or Equivalent	pcs	
29	22" Surveillance Monitor	Screen size 21.5 inches or larger; resolution 1920×1080 (Full HD); 8-bit color or better; 178° horizontal/vertical viewing angle; 3-sided narrow/bezel-less design; low-blue-light/eye-care feature; HDMI and VGA inputs; VESA wall-mount compatible; LED-backlit display; suitable for continuous operation; or equivalent/higher specification.	Pcs	
30	43" 4K Surveillance Monitor	Screen size 43 inches or larger; 3840×2160 UHD resolution; 16:9 aspect ratio; viewing angle 178° horizontal/vertical or better; minimum 2× HDMI and 2× DisplayPort inputs; built-in speakers 2×10W or better; response time ≤8ms; multi-language OSD; VESA 200×200 mm or compatible wall mounting; suitable for 24/7 continuous CCTV monitoring; HDMI cable included; or equivalent/higher specification.	Pcs	
31	Surveillance Monitor 32"	32-inch or larger LED-backlit display; 1920×1080 Full HD resolution; 16.7 million colors (8-bit); viewing angle 178° horizontal/vertical or better; HDMI input supporting 1080P, VGA input and audio input; built-in speakers; suitable for 24/7 continuous operation; or equivalent/higher specification.	Pcs	
32	Electricity Wire	1.5 Sq. MM Flexible Multistrand Electrical Wire 100% Pure Copper Cable For House Wiring And DIY (6Meter To 90 Mtr) NS Certified Brands (6 Colours) Or Equivalent	Pcs	
33	Optical SFP Module	TX1310nm/1.25G, RX1550nm/1.25G, LC, single mode and single fiber, 20km, 0~70°C, SFP or Equivalent	Pcs	
34	Optical SFP Module	TX1550nm/1.25G, RX1310nm/1.25G, LC, single mode and single fiber, 20km, 0~70°C, SFP or Equivalent	Pcs	
35	Optical Fiber 6 Core FRP Cable (with laying charge)	6-core Single-Mode Optical Fiber (SMF) cable, 9/125 μm, loose-tube or suitable outdoor fiber construction, with FRP (Fiber Reinforced Plastic) strength member, HDPE/PE outer jacket, suitable for outdoor/duct/aerial installation as applicable, UV and moisture resistant, low-loss optical fiber complying with ITU-T G.652.D or better, with suitable tensile strength and mechanical protection. Cable shall be supplied, laid and installed including laying charges, accessories and testing, complete in all respects. Or Equivalent	Meter	
36	ONU	Dual-mode GPON/EPON ONU/ONT, supporting ITU-T G.984.x GPON and IEEE 802.3ah EPON standards or equivalent; 1× SC/UPC PON optical interface with transmission distance up to 20 km or better; GPON upstream ≥1.244 Gbps and downstream ≥2.488 Gbps; EPON upstream/downstream ≥1.244 Gbps; 1×10/100/1000 Mbps auto-negotiating RJ45 Ethernet port; LED indicators for Power, PON, LOS and LAN; reset and power controls; external power adapter 100–240V AC, 50/60Hz input, 12V DC output, approximately 0.5A or suitable; power consumption ≤6W; operating temperature approximately -10°C to +45°C; relative humidity 5–95% non-condensing; suitable for FTTH/FTTO network deployment. Or Equivalent	Pcs	
37	Splicing Cost	Splicing Cost Per Spot	Spot	

38	Patchcord	Connector : (2) LC UPC Cable Type : Fiber-Optic Fiber Type Single Mode Cable Length : 1.5M Operating Temperature : -40 °C to 80 °C Or Equivalent	Pcs	
39	Tiffin Box	Fiber Optic Tiffin Box with a self-locking system and screws lightweight and compact size with 20 cm length x 10cm width x 4 cm Height Capacity: 6 core per splice tray two points of entry and exit, making it more convenient commonly used for communication, network systems, FTTH, Telecom, CATV, fiber optic Cable TV, and network Product designed for cable protection. Or Equivalent	Pcs	
40	CCTV Camera Stand	Metal Stand	Pcs	
41	Miscellaneous Accessories	RJ45,Screw, Tape, Cable Clip, Wall Pin, Pvc Box Or Equivalent	Per CCTV	
42	Exsisting CCTV Maintanance and Shifting	Managed, shift and maintanance old and exist CCTV camera Or Equivalent	Per CCTV	
43	Installation cost for New CCTV	IP Configuration, NVR Installation, Camera Installation and Setup Or Equivalent	Per CCTV	
44	150 AH Tubular Battery	150Ah/12V Tall Tubular Battery TechnologyTall Tubular Capacity150 Ah Dimensions (L x W x H)505 mm x 190 mm x 432 mm Or Equivalent	Pcs	
45	1050 VA UPS	1050VA/12V UPS LCD Digital Display to monitor inverter status Built-in Battery Charger - no need to spend on external charger Equipped with 6-Stage Battery Charging for Long Battery Life Designed to Efficiently Charge Battery even at Low Voltage Current Has Resettable Fuse UPS Feature with Zero Change-over time - Ideal for Sensitive Appliances like TV, desktop, routers Automatic By-pass System (to by-pass the System if Need be) 12V (Single Battery Inverter 700W Rating" Or Equivalent	Pcs	
46	1700 VA UPS	Pure Sine Wave output supply. Advanced DSP control technology. Smart charging up to 90V mains input voltage. Changeover time is less than 10 milliseconds. Graphical display for easy user interface. Inbuilt independent battery charger to recover any deep discharged battery. Compatible with all type of batteries (LA/TUB/SMF). Output Wattage:1360 Watt Output Voltage/ Frequency:220VAC + 5% -10% (until battery low alarm) Or Equivalent	Pcs	
47	Pole Box	waterproof, Metallic Or Equivalent	Pcs	
48	HDMI CABLE	4K HDMI Cable 5 MTR	Pcs	
49	Cat 6 Cable	CAT 6 Unshielded Twisted Pair (UTP) cable, 4-pair / 8-conductor, solid annealed bare copper conductor, 23-24 AWG, nominal conductor diameter approximately 0.50-0.60 mm, PVC insulated and PVC outer jacket, suitable for 1000 Mbps Ethernet and supporting frequencies up to 250 MHz, with nominal outer diameter approximately 5.5-6.5 mm. Or Equivalent	Meter	
50	Bamboo Box Joint Encloser	Fiber Joint Encloser Or Equivalent	Pcs	
51	Extension Cord 4 Socket	Branded;Total Power Outlets:4;Voltage:250 Volts;Special Feature:Led Indicator Or Equivalent	Pcs	
52	Optical Fiber Tag	2*2" Acrylic board with laser cutting Or Equivalent	Pcs	

53	Cable Tie	Material: Nylon 66 Length: 200mm Width: 3.6mm Or Equivalent	Packet	
54	Rack	Main Material SPCC cold rolled steel Thickness: Mounting profile 1.5mm, mounting angle 1.2mm. Surface Finish Degreasing, pickling, phosphoric, powder coated Degree of Protection IP20 Loading Capacity Static loading: Max. 60KG Color Black RAL9004, Grey RAL7035; Height: 340mm Width: 19"/550mm Or Equivalent	Pcs	
55	RJ 45 Connector	15u/30u inch gold plated contacts Support 1000 Base-T Ethernet Compliant With ROHS Standard 8 pins x 8 conductors Or Equivalent	Pcs	
56	Surveillance HDD- 1TB	Capacity 1TB Form Factor 3.5-Inch Connector SATA Interface SATA Transfer Rate up to 110MB/s Disk Speed (RPM) 5400 RPM Recording Technology CMR Cache Size 64MB Or Equivalent	pcs	
57	Surveillance HDD- 2TB	Capacity 2TB Form Factor 3.5-Inch Connector SATA Interface SATA Transfer Rate up to 175MB/s Disk Speed (RPM) Recording Technology CMR Cache Size 256MB Or Equivalent	pcs	
58	Surveillance HDD- 4TB	• SATA 6Gb/s Interface, Capacity: 4TB Interface: SATA Form Factor: 3.5 Inch • Surveillance Certified Built for 24/7 always-on surveillance in HD security systems Rotational Speed: 5400 RPM Cache size: 64MB Or Equivalent	Pcs	
59	Surveillance HDD 8TB	• SATA 6Gb/s Interface, • 64MB Cache, • 5400 RPM Performance Class, • 3.5-inch Form Factor • 300,000 Load/unload cycles • Surveillance Certified Built for 24/7 always-on surveillance in HD security systems Superior storage, Superior surveillance Or Equivalent	Pcs	