

**Subhead-15**  
**CCTV & Surveillance Systems**

Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna, Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
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**15.1 IP Camera & Accessories :Type -A**

**15.1.1** Supply and fixing of 16 Channel NETWORK VIDEO RECORDER (NVR) of following technical specification or equivalent :

IP Camera Input : 16 channels  
 Network Bandwidth : Incoming-256 Mbps or above , Outgoing -128 Mbps or above  
 Resolution : 8MP, 6MP, 5MP, 4MP, 3MP, 1080p, 1.3MP, 720p, etc.  
 Video Output : 3840 × 2160; 1920 × 1080; 1280 × 1024; 1280 × 720  
 Video compression : H.265/H.264/MJPEG  
 Network Protocol : HTTP; HTTPS; TCP/IP; IPv4/IPv6; RTSP; SMTP; NTP; DHCP; DNS; DDNS; FTP; etc.  
 Sync Playback : 1/4/8/16  
 Playback Function : 1. Play; pause; stop; fast forward; fast backward; rewind; play by frame  
 Audio Input : 1 channel, RCA connector  
 Audio Output : 1-ch, RCA  
 HDD : 2 SATA interfaces At least 6 TB capacity for each disk  
 Alarm Input : 4 channels  
 Alarm Output : 2 channels  
 Network : 1 RJ-45 10/100/1000 Mbps self-adaptive Ethernet port  
 PoE : 16 ports (IEEE802.3at/af)  
 Power Supply : Single, 100V-240V AC, 50 Hz

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Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna, Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
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Power Consumption : NVR: ≤ 20 W(without HDD)  
 ≤ 130 W Supported standard IEEE 802.3 af/at

Operating Temperature : +0°C to +40°C

Operating Humidity : 10% to 90%

Certifications : CE, UL, FCC

country of origin : USA/Japan /UK/ EU countries or equivalent accepted/ approved by the Engineer in Charge

Each 120,864.00 120,864.00 120,864.00 120,864.00

**15.1.2** Supply and fixing of 32 Channel NETWORK VIDEO RECORDER (NVR) of following technical specification or equivalent :

IP Camera Input : 32 channels

Network Bandwidth : Incoming-256 Mbps or above , Outgoing -128 Mbps or above

Resolution : 12MP, 8MP, 6MP, 5MP, 4MP, 3MP, 1080p, 1.3MP, 720p, etc.

Video Output : 3840 × 2160; 1920 × 1080; 1280 × 1024; 1280 × 720

Video compression : H.265/H.264/MJPEG

Network Protocol : HTTP; HTTPS; TCP/IP; IPv4/IPv6; RTSP; SMTP; NTP; DHCP; DNS; DDNS; FTP; etc.

Sync Playback : 1/4/8/16

Playback Function : 1. Play; pause; stop; fast forward; fast backward; rewind; play by frame

Audio Input : 1 channel, RCA connector

Audio Output : 1-ch, RCA

HDD : 4 SATA interfaces At least 6 TB capacity for each disk

Alarm Input : 4 channels

Alarm Output : 2 channels

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	Network : 1 RJ-45 10/100/1000 Mbps self-adaptive Ethernet port					
	PoE : 16 ports (IEEE802.3at/af)					
	Power Supply : Single, 100V-240V AC, 50 Hz					
	Power Consumption : NVR: ≤ 20 W(without HDD) ≤ 185 W Supported standard IEEE 802.3 af/at					
	Operating Temperature : +0°C to +40°C					
	Operating Humidity : 10% to 90%					
	Certifications : CE, UL, FCC					
	country of origin : USA/Japan /UK/ EU countries or equivalent accepted/ approved by the Engineer in Charge					
		Each	218,415.00	218,415.00	218,415.00	218,415.00

**15.1.3 Supply and fixing of 2 MP, varifocal, IP Dome CAMERA (including lens, bracket, housing) of following technical specification or equivalent**

- :
- Image Sensor : 1/2.8" Progressive Scan CMOS, 2 Megapixel (minimum)
  - Min. Illumination : At least 0.05lux/F1.4(color, 30IRE) or 0.1lux/F1.8(color, 50IRE), B/W: 0 Lux with IR
  - Shutter Speed : At least 1/25 s to 1/15000 s
  - Wide Dynamic Range : 120 dB or above
  - Angle Adjustment : Pan: 350°, tilt: 130°, rotate: 350°
  - Lens Type and Focal Length : Varifocal lens, at least 3.4 to 8.9 mm
  - Focal Length & FOV : horizontal FOV 100°-37°, vertical FOV : 49°-21° or above
  - Aperture : F1.8 maximum
  - Supplement Light Type : IR
  - IR Range : minimum 30m
  - Max. Resolution : 1920 (H) × 1080 (V)

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Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna, Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
	Video Stream : At least 2 streams ,Main Stream: 1080P (1 fps-25/30 fps)					
	Video Compression : H.265/H.264/MJPEG					
	Region of Interest (ROI) : Off/On					
	Audio Sampling Rate : 8 kHz/16 kHz/48 kHz					
	Audio Compression : G.711ulaw/G.711alaw/G.722.1/G.726/M2L2/PCM/MP3/AAC					
	API : ONVIF (Profile S/Profile G/Profile T)					
	Protocols : IPv4, IPv6, UDP, TCP, HTTP,HTTPS, RTP/RTCP, IGMP, ICMP, NTP, DNS, DHCP, SMTP etc.					
	SNR : >55 dB					
	Day/Night Switch : Day, Night, Auto					
	On-Board Storage : Micro SD card					
	Ethernet Interface : RJ-45 (10/100 Base-T)					
	Basic Event : Motion detection, Tamper Detection					
	Power Supply : 12 VDC ±5%, 24 VAC ±10% or Power-over-Ethernet , PoE (802.3 at /af)					
	Power Consumption : maximum 12 Watt					
	Camera Material : Metal					
	Operating Temperature and humidity : Temperature :-43 °C to +50 °C for continuous operation Humidity: 5% to 93% RH non condensing					
	Protection : IP 66, IK10					
	Certifications : CE,UL,FCC					
	country of origin : USA/Japan /UK/ EU countries or equivalent accepted/ approved by the Engineer in Charge					
		Each	76,384.00	76,384.00	76,384.00	76,384.00

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**15.1.4** Supply and fixing of **2 MP, varifocal , IP Bullet CAMERA** (including lens, bracket, housing) of following technical specification or equivalent :

Image Sensor : 1/2.8" Progressive Scan CMOS , 2 Megapixel (minimum)

Min. Illumination : At least 0.052lux/F1.4(color, 30IRE) or 0.07lux/F1.6(color, 50IRE), B/W: 0 Lux with IR

Shutter Speed : At least 1/25 s to 1/15000 s

Wide Dynamic Range : 120 dB or above

Lens Type and Focal Length : Varifocal lens, at least 3 to 9 mm

Focal Length & FOV : horizontal FOV 100°-37°, vertical FOV : 52°-21° or above

Aperture : F1.6 maximum

Supplement Light Type : IR

IR Range : minimum 40 m

Max. Resolution : 1920 (H) × 1080 (V)

Video Stream : At least 2 streams ,Main Stream: 1080P (1 fps-25/30 fps)

Video Compression : H.265/H.264/MJPEG

Region of Interest (ROI) : Off/On

Audio Sampling Rate : 8 kHz/16 kHz/48 kHz

Audio Compression : G.711ulaw/G.711alaw/G.722.1/G.726/M P2L2/PCM/MP3/AAC

API : ONVIF (Profile S/Profile G/Profile T)

Protocols : IPv4, IPv6, UDP, TCP, HTTP,HTTPS, RTP/RTCP, IGMP, ICMP, NTP, DNS, DHCP, SMTP etc.

SNR : >55 dB

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	Day/Night Switch : Day, Night, Auto					
	On-Board Storage : Micro SD card					
	Ethernet Interface : RJ-45 (10/100 Base-T)					
	Basic Event : Motion detection, Tamper Detection					
	Power Supply : 12 VDC ±5%, 24 VAC ±10% or Power-over-Ethernet , PoE (802.3 at /af)					
	Power Consumption : maximum 15 Watt					
	Camera Material : Metal					
	Operating Temperature and humidity : Temperature :-43 °C to +50 °C for continuous operation Humidity: 5% to 93% RH non condensing					
	Protection : IP 66, IK10					
	Certifications : CE,UL,FCC					
	country of origin : USA/Japan /UK/ EU countries or equivalent accepted/ approved by the Engineer in Charge					
		Each	76,384.00	76,384.00	76,384.00	76,384.00

**15.1.5** Supply and fixing of **5 MP, varifocal , IP Dome** CAMERA (including lens, bracket, housing) of following technical specification or equivalent :

- Image Sensor : 1/2.9" or above Progressive Scan CMOS , 5 Megapixel (minimum)
- Min. Illumination : At least 0.24 lux/F1.3(color, 30IRE) or 0.13lux/F1.3(color, 50IRE), B/W: 0 Lux with IR
- Shutter Speed : At least 1/25 s to 1/15000 s
- Wide Dynamic Range : 120 dB or above
- Angle Adjustment : Pan: 350°, tilt: 130°, rotate: 350°
- Lens Type and Focal Length : Varifocal lens, at least 3 to 8 mm
- Focal Length & FOV : horizontal FOV 88°-40°, vertical FOV : 53°-23° or above

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Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna, Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
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Aperture : F1.4 maximum  
 Supplement Light Type : IR  
 IR Range : minimum 30m  
 Max. Resolution : 3072 x 1728 or 2592x1944 or 2560 x  
 Video Stream : At least 2 streams ,Main Stream: 5MP (1  
 fps-25/30 fps)  
 Video Compression : H.265/H.264/MJPEG  
 Region of Interest (ROI) : Off/On  
 Audio Sampling Rate : 8 kHz/16 kHz/48 kHz  
 Audio Compression : G.711ulaw/G.711alaw/G.722.1/G.726/M  
 P2L2/PCM/MP3/AAC  
 API : ONVIF (Profile S/Profile G/Profile T)  
 Protocols : IPv4, IPv6, UDP, TCP, HTTP,HTTPS,  
 RTP/RTCP, IGMP, ICMP, NTP, DNS,  
 DHCP, SMTP etc.  
 SNR : >55 dB  
 Day/Night Switch : Day, Night, Auto  
 On-Board Storage : Micro SD card  
 Ethernet Interface : RJ-45 (10/100 Base-T)  
 Basic Event : Motion detection, Tamper Detection  
 Power Supply : 12 VDC  $\pm$ 5%, 24 VAC  $\pm$ 10% or  
 Power-over-Ethernet , PoE (802.3 at /af)  
 Power Consumption : maximum 13 Watt  
 Camera Material : Metal  
 Operating Temperature and humidity : Temperature :-43  $^{\circ}$ C to +50  $^{\circ}$ C for  
 continuous operation Humidity: 5% to  
 93% RH non condensing  
 Protection : IP 66, IK10  
 Certifications : CE,UL,FCC

Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna, Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
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country of origin : USA/Japan /UK/ EU countries or equivalent accepted/ approved by the Engineer in Charge

Each 106,907.00 106,907.00 106,907.00 106,907.00

**15.1.6** Supply and fixing of **5 MP, varifocal , IP Bullet CAMERA** (including lens, bracket, housing) of following technical specification or equivalent :

- Image Sensor : 1/2.8" or above Progressive Scan CMOS , 5 Megapixel (minimum)
- Min. Illumination : At least 0.185lux/F1.3(color, 30IRE) or 0.15lux/F1.2(color, 50IRE), B/W: 0 Lux with IR
- Shutter Speed : At least 1/25 s to 1/15000 s
- Wide Dynamic Range : 120 dB or above
- Lens Type and Focal Length : Varifocal lens, at least 3 to 8.5 mm
- Focal Length & FOV : horizontal FOV 88°–36°, vertical FOV : 50°–23° or above
- Aperture : F1.4 maximum
- Supplement Light Type : IR
- IR Range : minimum 30m
- Max. Resolution : 3072 x 1728 or 2592x1944 or 2560 x 1920
- Video Stream : At least 2 streams ,Main Stream: 5 MP (1 fps–25/30 fps)
- Video Compression : H.265/H.264/MJPEG
- Region of Interest (ROI) : Off/On
- Audio Sampling Rate : 8 kHz/16 kHz/48 kHz
- Audio Compression : G.711ulaw/G.711alaw/G.722.1/G.726/M P2L2/PCM/MP3/AAC
- API : ONVIF (Profile S/Profile G/Profile T)

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Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna, Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
	Protocols : IPv4, IPv6, UDP, TCP, HTTP, HTTPS, RTP/RTCP, IGMP, ICMP, NTP, DNS, DHCP, SMTP etc. SNR : >55 dB Day/Night Switch : Day, Night, Auto On-Board Storage : Micro SD card Ethernet Interface : RJ-45 (10/100 Base-T) Basic Event : Motion detection, Tamper Detection Power Supply : 12 VDC ±5%, 24 VAC ±10% or Power-over-Ethernet , PoE (802.3 at /af)  Power Consumption : maximum 15 Watt Camera Material : Metal Operating Temperature and humidity : Temperature :-43 °C to +50 °C for continuous operation Humidity: 5% to 93% RH non condensing Protection : IP 67, IK10 Certifications : CE,UL,FCC country of origin : USA/Japan /UK/ EU countries or equivalent accepted/ approved by the Engineer in Charge	Each	98,164.00	98,164.00	98,164.00	98,164.00
15.1.7	Supply and fixing of <b>2 MP, Outdoor PTZ CAMERA</b> (including lens, bracket, housing) of following technical specification or equivalent : Image Sensor : 1/2.8" Progressive Scan CMOS , 2 Megapixel (minimum) Min. Illumination : At least Color: 0.0186 lux /F1.6), B/W: 0 Lux with IR Shutter Speed : 1/3 s to 1/30,000 s Wide Dynamic Range : 120 dB or above Focal Length : At least 4.8 to 135 mm Optical Zoom : 30 x or above Digital Zoom : 12x					

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	Focal Length & FOV : horizontal FOV 58.3°-2.6°,					
	Aperture : At least F1.6 - F4.4					
	Supplement Light Type : IR					
	IR Range : minimum 180 m					
	Pan/Tilt range : 0°~360° ; -15°~90° or -90° to 20°( auto flip)					
	Pan speed : preset speed :240°/s					
	Tilt speed : preset speed :160°/s					
	Presets : minimum 256					
	Max. Resolution : 1920x1080 or above					
	Main Stream : Main Stream: 1920x1080 (1 fps-25 fps) with at least 1 sub-stream					
	Video Compression : H.265/H.264/MJPEG					
	Audio Sampling Rate : 8 kHz/16 kHz/32 kHz/44.1 kHz/48 kHz					
	Audio Compression : G.711ulaw/G.711alaw/G.722.1/G.726/M P2L2/PCM/MP3/AAC					
	API : ONVIF (Profile S/Profile G/Profile T)					
	Protocols : TCP/IP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, NTP, UPnP, SMTP, IGMP, 802.1X, QoS, IPv4, IPv6, UDP,, PPPoE, ARP, SNMP etc.					
	SNR : ≥ 56 dB					
	Day/Night Switch : Day, Night, Auto, Schedule					
	Alarm : 1 input, 1 output					
	Audio : 1 input (line in), 1 output (line out)					
	On-Board Storage : Micro SD					
	Ethernet Interface : RJ-45 (10/100 Base-T)					

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	Basic Event : Motion detection ,video tampering alarm					
	Power Supply : DC 12V /24 V /AC 24 V (±30%), PoE (802.3 at /af)					
	Power Consumption : maximum 25 Watt					
	Camera Material : Metal					
	Operating Temperature and humidity : Temperature :-43 °C to +50 °C for continuous operation Humidity: 5% to 90% RH non condensing					
	Protection : IP 66 or above					
	Certifications : CE,UL,FCC					
	country of origin : USA/Japan /UK/ EU countries or equivalent accepted/ approved by the Engineer in Charge					
		Each	283,448.00	283,448.00	283,448.00	283,448.00

**15.2 IP Camera & Accessories :Type -B**

15.2.1 Supply and fixing of 8 Channel NETWORK VIDEO RECORDER (NVR) of following technical specification or equivalent :

- IP Camera Input : 8 Channel
- Network Bandwidth : Incoming-80 Mbps , Outgoing -80 Mbps or above
- Audio Output : yes
- Interface : 1 HDMI, 1 VGA
- Resolution : HDMI: 3840×2160, 1920×1080, 1280×1024, 1280×720  
: VGA: 1920×1080, 1280×1024, 1280×720

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	Decoding Capacity	:	1ch@8MP 30fps, 4ch@1080P 30fps/2-ch@12 MP (20 fps)/4-ch@8 MP (25 fps)/8-ch@4 MP (30 fps)			
	Compression	:	Video:H.265+/H.265/H.264+/H.264/ Audio compression: G.711ulaw /G.711alaw / G.722/ G.726			
	Resolution	:	8MP/6MP/5MP/4MP/3MP/1080P/ 720P/etc..			
	Two-way Talk	:	1-ch, RCA			
	Sync Playback	:	4 ch			
	Search Mode	:	Time /Date, MD and Exact Search : (accurate to second)			
	Playback Function	:	Play, Pause, Stop, Rewind, Fast play, Slow Play, Next File, Previous File, Next Camera, Previous Camera, Full Screen, Shuffle, Backup Selection, Digital Zoom			
	Interface	:	1, RJ-45 10/100/1000 Mbps self-adaptive Ethernet interface			
	PoE	:	8 ports (IEEE802.3at/af)			
	Network Function	:	TCP/IP, DHCP, IPv4, IPv6, DNS, DDNS, RTSP, , HTTP, HTTPS etc.			
	Max. User Access	:	64			
	Internal HDD	:	At least 1 SATA interfaces Up to 10 TB capacity for each HDD			
	USB	:	Front panel: 1 × USB 2.0; Rear panel: 1 × USB 3.0/USB 2.0			
	Power Supply	:	Single, DC54V/ 100 to 240 VAC, 50 Hz			
	Power Consumption	:	NVR: ≤ 15 W (without HDD) : PoE: ≤ 80W			

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Operating Conditions : -10 °C to 55 °C (14 °F to 131 °F)  
30-85% RH

Certifications : CE, FCC

Accepted/ Approved by the Engineer in Charge

Each 18,406.00 18,406.00 18,406.00 18,406.00

**15.2.2** Supply and fixing of 16 Channel NETWORK VIDEO RECORDER (NVR) of following technical specification or equivalent :

IP Camera Input : 16 channels

Network Bandwidth : Incoming-160 Mbps , Outgoing -96 Mbps or above

Resolution : 8MP, 6MP, 5MP, 4MP, 3MP, 1080p, 1.3MP, 720p, etc.

Decoding Capability : 2-ch@12 MP (20 fps)/4-ch@8 MP (25 fps)/8-ch@4 MP (30 fps)/16-ch@1080p (30 fps)/ 8 channels@1080p (30 fps)

Video Output : HDMI: 3840 × 2160; 1920 × 1080; 1280 × 1024; 1280 × 720  
: VGA: 1920 × 1080; 1280 × 1024; 1280 × 720

Video Compression : H.265+/H.265/H.264+/H.264

Audio : PCM/G.711A/ G.711U; /G.722/G.726

Network Protocol : HTTP; HTTPS; TCP/IP; IPv4/IPv6; SNMP; RTSP; SMTP; NTP; DHCP; DNS; DDNS; FTP; etc.

Playback Function : 1. Play; pause; stop; fast forward; fast backward; rewind; play by frame  
: 2. Full screen; backup (cut/file) ; partially enlarge; audio on/off

Audio Input : 1 channel, RCA connector

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	Audio Output : 1-ch, RCA					
	HDD : 4 SATA interfaces Up to 10 TB capacity for each disk					
	Alarm Input : 16 channels					
	Alarm Output : 4 channels					
	RS-232 : 1 RS-232					
	RS-485 : 1 RS-485					
	USB : 1 front USB 2.0 port, 1 rear USB 3.0 port					
	Network : 1 RJ-45 10/100/1000 Mbps self-adaptive Ethernet port					
	PoE : 16 ports (IEEE802.3at/af)					
	Power Supply : Single, 100V-240V AC, 50 Hz					
	Power Consumption : NVR: ≤ 20 W(without HDD)					
	: ≤ 150 W					
	Supported standard IEEE 802.3 af/at					
	Operating Temperature : -10 °C to 55 °C (14 °F to 131 °F)					
	Operating Humidity : 10% to 90%					
	Certifications : CE, FCC					
	Accepted/ Approved by the Engineer in Charge	Each	58,898.00	58,898.00	58,898.00	58,898.00
15.2.3	Supply and fixing of 2 MP, Fixed-focal ,IP DOME CAMERA (including lens, bracket, housing) of following technical specification or equivalent :					
	Image Sensor : 1/2.8" or above ,2 Megapixel (minimum) progressive CMOS					
	Max. Resolution : 1920 (H) ×1080 (V)					
	Scanning System : Progressive					
	Electronic Shutter Speed : 1/3 s to 1/100,000 s					
	Min. Illumination : Color: minimum 0.005 Lux @ (F1.2/F1.6, AGC ON), 0 Lux with IR					
	S/N Ratio : ≥ 52 dB					

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	IR Illumination Distance	: 30 m or above				
	Pan/Tilt/Rotation Range	: Pan: 0° to 355°, tilt: 0° to 65°, rotate: 0° to 355°				
	Lens Type	: Fixed-focal				
	Mount Type	: M12				
	Focal Length	: 2.8/3.6/4/6mm				
	Max. Aperture	: F1.6				
	Field of View	: 2.8 mm, horizontal field of view: 106° or above; 3.6 mm, horizontal field of view: 87° or above; 4 mm, horizontal field of view: 86.4° or above				
	Iris Type	: Fixed				
	Smart event	: Line crossing /Tripwire detection, intrusion detection				
	Video Compression	: H.265/H.264				
	Video Frame Rate	: Main :1920 × 1080 (1 fps-25/30 fps) Sub:704 × 576 (1 fps-25fps)/50Hz: 25fps (640 × 480)				
	Stream Capability	: 2 streams				
	Video Bit Rate	: 32 kbps-6144 kbps/32 Kbps to 16 Mbps				
	BLC	: Yes				
	HLC	: Yes				
	WDR	: 120dB				
	White Balance	: yes				
	Noise Reduction	: 3D NR				
	Motion Detection	: yes				
	Region of Interest(ROI)	: yes				
	Smart Illumination	: yes				

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Image Rotation : yes  
 Privacy Masking : yes  
 Alarm Event : Motion detection, video tampering alarm, exception (network disconnected, IP address conflict, illegal login, HDD full, HDD error) intrusion detection, line crossing /tripwire detection

Network : 1 RJ45 10M/100M self-adaptive Ethernet port

Cyber Security : Password protection, encryption, , 802.1X authentication, IP address filtering, Digest, WSSE etc.

Protocol : TCP/IP, UDP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, RTCP, PPPoE, NTP, UPnP, SMTP, IGMP, 802.1X, IPv6, UDP, Bonjour, etc.

Interoperability : ONVIF (PROFILE S, PROFILE G, PROFILE T)

User/Host : at least 20

Storage : Micro SD card (support min 128 GB); NAS;FTP

Browser : IE, Chrome, Firefox

Power Supply : 12V DC/PoE (802.3 at /af)

Operating Conditions : -30 °C to +60 °C (-22 °F to +140 °F), Humidity 95% or less (non-condensing)

Protection : IP67, IK10

Casing : Camera body: metal, bubble: plastic

Certifications : CE,FCC

*(Handwritten signatures and marks)*



Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna, Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
	Accepted/ Approved by the Engineer in Charge	Each	9,816.00	9,816.00	9,816.00	9,816.00
15.2.4	Supply and fixing of 2 MP, Fixed-focal ,IP Bullet CAMERA (including lens, bracket, housing) of following technical specification or equivalent :					
	Image Sensor : 1/2.8" Progressive Scan CMOS					
	Max. Resolution : 1920 × 1080					
	Scanning System : Progressive Scan					
	Electronic Shutter Speed : 1/3 s to 1/100,000 s					
	Min. Illumination : Color: 0.005 Lux @ (F1.2/F1.6, AGC On) , 0 Lux with IR					
	S/N Ratio : ≥ 52 dB					
	IR Illumination Distance : up to 80 m					
	Pan/Tilt/Rotation Range : Pan: 0° to 360°, tilt: 0° to 100°, rotate: 0° to 360°					
	Lens Type : Fixed-focal					
	Mount Type : M12					
	Focal Length : 3.6/4/6/8 mm					
	Max. Aperture : F1.6					
	Field of View : 3.6~4 mm, horizontal field of view: 86.4° 87°, 6 mm, horizontal field of view: 52°~54°, 8 mm, horizontal field of view: 41°~44°,					
	Iris Type : Fixed					
	Smart event : Line crossing /Tripwire detection, intrusion detection					
	Video Compression : H.265; H.264;					
	Video Frame Rate : main: 1920 × 1080 (1 fps~25/30 fps) sub (704 × 576, 640 × 480, 640 × 360, 320 × 240 )(1 fps~25 fps)					
	Stream Capability : minimum 2 streams					

Handwritten signatures and initials are present at the bottom of the page, including a blue signature on the left and several black signatures on the right.

Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna, Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
	Video Bit Rate	:	12 kbps–6144 kbps or above			
	BLC	:	Yes			
	HLC	:	Yes			
	WDR	:	120 dB			
	White Balance	:	adjustable by client software or web browser			
	Noise Reduction	:	3D NR			
	Motion Detection	:	yes			
	Region of Interest (RoI)	:	Yes (2 areas- minimum)			
	Smart Illumination	:	yes			
	Image Rotation	:	0°/90°/180°/270° (Supports 90°/270° with 1080p resolution and lower.)			
	Mirror	:	yes			
	Privacy Masking	:	yes			
	Audio Compression	:	G.711a; G.711Mu; G.726			
	Alarm Event	:	Motion detection, video tampering alarm, exception (network disconnected, IP address conflict, illegal login, HDD full, HDD error) intrusion detection, line crossing /tripwire detection			
	Network	:	1 RJ45 10M/100M self-adaptive Ethernet port			
	Cyber Security	:	Password protection, encryption, HTTPs, 802.1X authentication, IP address filtering, Digest, WSSE etc.			

Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna, Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
	Protocol : TCP/IP, UDP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, RTCP, PPPoE, NTP, UPnP, SMTP, IGMP, 802.1X, IPv6, UDP, Bonjour, etc.					
	Interoperability : ONVIF (PROFILE S, PROFILE G, PROFILE T)					
	User/Host : minimum 20 users					
	Storage : FTP; Micro SD card (support up to. 128 GB); NAS; SFTP					
	Browser : IE, Chrome, Firefox					
	Power Supply : 12 VDC $\pm$ 25%, PoE(802.3 at /af)					
	Power Consumption : 12.5 W max					
	Operating Conditions : -30 °C to +60 °C (-22 °F to +140 °F), Humidity 95% or less (non-condensing)					
	Protection : IP 67					
	Casing : Metal					
	Certifications : CE,UL,FCC					
	Accepted/ Approved by the Engineer in Charge	Each	9,816.00	9,816.00	9,816.00	9,816.00
15.2.5	Supply and fixing of 4 MP, Fixed-focal ,IP Dome CAMERA (including lens, bracket, housing) of following technical specification or equivalent :					
	Image Sensor : 1/3" or above 4 Megapixel (minimum) progressive CMOS					
	Max. Resolution : 2688 (H) $\times$ 1520 (V)					
	Scanning System : Progressive					
	Electronic Shutter Speed : 1/3 s to 1/100,000 s					
	Min. Illumination : Color: minimum 0.008 lux @(F1.2/F1.6, AGC ON), 0 lux with IR					

Item No.	Description of Items	Unit	Unit Rate in Dhaka & Mymensingh Zone (Tk)	Unit Rate in Chattogram & Sylhet Zone (Tk)	Unit Rate in Khulna, Barishal & Gopalganj (Tk)	Unit Rate in Rajshahi & Rangpur (Tk)
	S/N Ratio	:	≥ 52 dB			
	IR Illumination Distance	:	30 m or above			
	Pan/Tilt/Rotation Range	:	Pan: 0° to 355° , tilt: 0° to 65° , rotate: 0° to 355°			
	Lens Type	:	Fixed-focal			
	Mount Type	:	M12			
	Focal Length	:	2.8/3.6/4 mm			
	Max. Aperture	:	F1.6			
	Field of View	:	2.8mm- Horizontal 102.0° or above × Vertical 55.0° or above × Diagonal 121.0° or above; 3.6mm- Horizontal 84.0° (or above) × Vertical 45.0° or above × Diagonal 100.0° or above; 4 mm- horizontal FOV: 88° (or above), vertical FOV: 46° (or above), diagonal FOV: 105° (or above)			
	Iris Type	:	Fixed			
	Smart event	:	Line crossing / Tripwire detection, intrusion detection			
	Video Compression	:	H.265/H.264			
	Video Frame Rate	:	Main stream 2688 × 1520 (1 fps-20 fps/25fps) Sub-stream 704 × 576 (1 fps-25 fps)/25 fps (640 × 480)			
	Stream Capability	:	2 streams			
	Resolution	:	(2688 × 1520, 2304 × 1296, 1920 × 1080, 1280 × 720)			
	Video Bit Rate	:	32 kbps–6144 kbps/ 32 Kbps to 16 Mbps			
	Day/Night	:	Yes			
	BLC	:	Yes			
	HLC	:	Yes			