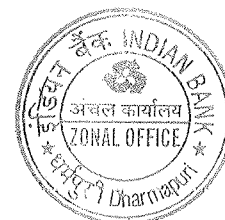


## CCTV SYSTEM

1. **NVR BASED CLOSE CIRCUIT TELEVISION SYSTEM (Brand- Hikvision )**

(A) **NVR 4/8/16 CHANNEL NETWORK VIDEO RECORDER**  
(Model No. DS-7604-Q1/ DS-7608-Q2/DS-7716-Q4)

System Parameter	Technical Specifications	Compliance Status (Yes/No)
Main Processor	Quad-core embedded processor	
Operating System	Embedded LINUX	
<b>Display</b>		
Interface	2 HDMI (1 HDMI up to 3840x2160, Different Source), 1 VGA	
Resolution	3840x2160, 1920x1080, 1280x1024, 1280x720, 1024x768	
Multi-screen	1 <sup>st</sup> screen: 8/16 CH: 1/4/8/9/16 2 <sup>nd</sup> screen: 1/4/8/9/16	
OSD	Camera title, Time, Video loss, Camera lock, Motion detection, Recording	
<b>Video Detection and Alarm</b>		
Trigger Events	Recording, PTZ, Tour, Alarm Out, Video Push, Email, FTP, Snapshot, Buzzer and Screen Tips	
Video Detection	Motion Detection, MD Zones: 396 (22 x 18), Video Loss and Tampering, Scene Change Detection	
Alarm input	16 Channel ( Low Level Effective)	
Alarm Output	4 Channel ( NO/NC Programmable)	
<b>Playback and Backup</b>		
Sync Playback	1/4/9/16	
Search Mode	Time /Date, Alarm, 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, Repeat, Shuffle, Backup Selection, Digital Zoom	
Backup Mode	USB Device/Network/Internal SATA burner / eSATA Device	
<b>Storage</b>		
Internal HDD	1/2 / 4 SATA Ports, with minimum 8 TB capacity for each HDD	
eSATA	1 e SATA port	
<b>Auxiliary Interface</b>		
USB	Minimum 2 ports (Minimum 2 USB 3.0)	
RS232	1 Port, for PC Communication	
RS485	1 Port, for PTZ Control , keyboard	
<b>Audio and Video</b>		
IP Camera Input	4/8/16 Channel	
Two-way talk	1 Channel Input, 1 Channel Output	
<b>Recording</b>		
Compression	H.265+ /H.265/H.264/MJPEG/MPEG4	
Resolution	12MP /8MP / 5MP / 4MP /3MP / 1080P / D1 &etc.	
Record Rate	320Mbps Incoming	



Bit Rate	16kbps-20Mbps for per channel	
Record Mode	Manual, Schedule(Regular(Continuous), MD, Alarm), Stop	
Record Interval	1-120 min (default: 60 min), Pre-record: 1-30 sec, Post- record: 10-300 sec	
<b>Network</b>		
Interface	1 RJ-45 ports (10/100/1000Mbps)	
Network Function	TCP/IP, DHCP, Cloud P2P, DNS, DONS, NTP, SADP, SMTP, NFS, FTP UpnPM , HTTPS	
Interoperability	ONVIF, PSIA, CGI Conformant	
Certifications	UL/FCC/CE and BIS approved	

**B. 02 MEGAPIXEL IP BASED HD IR DOME CAMERA WITH FIXED LENS**

(Model-DS-2CD3321G2E-I)

Parameter	Technical Specifications	Compliance Status (Yes/No)
Image Sensor	1 /2.9" 2 Megapixel progressive scan CMOS or better	
Effective Pixels	1920(H)x1080(V) or better	
Electronic Shutter	Auto/Manual, 1 /3(4)-1 /100000s	
Video Frame Rate	25/30 fps @ 2 Mega Pixel	
Scanning System	Progressive	
Min. Illumination	0.01Lux/F1 .4(Color); 0Lux/F1 .4(1R on)	
S/N Ratio	More than 50dB	
Min. IR Array LEDs Length	More than 50dB	
Day/Night	Auto(ICR) / Color I B/W	
Back Light Compensation & WDR	DWDR	
White Balance	Auto/ Manual	
Focal Length (Lens)	3. 6 mm Fixed lens	
Video Compression	H.265+ ,H.265,H.264,H.264H, MJPEG	
Resolution Frame Rate	2 M(1920x 1080)/01 (704x 576/704x 480)/CIF(352 x288/352x 240) Main stream: {2 M/1080P(1 - 25/30fps)} 6: Sub stream: 01 /CIF(1 - 25/30fps)	
Bit Rate	H.265/H.264H: 40K - 8192Kbps; MJPEG: 40K-16384Kbps	
Network Ethernet	RJ-45 (10/100Base-T)	
Protocol	TCP/IP, UDP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DONS, RTP, RTSP, RTCP, NTP, UpnP, SMTP, IGMP, 802.1x, QoS, Ipv6	
Compatibility	ONVIF, PSIA, CGI	
Power Supply	DC12V, PoE (802.3af)	
Working Environment	-30° C-+60° C   Less than 95%RH (no condensation)	
Detection	Target classification for only human and vehicles	
Ingress Protection	IP66 or above	
Certification	UL/FCC/CE and BIS approved	

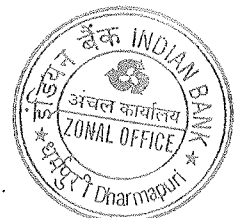


## C. 02 MEGAPIXEL IP BASED HD IR VERIFOVAL LENS BULLET CAMERA

(Model No. DS-2CD3621G2-IZS)

Parameter	Technical Specifications	Compliance Status (Yes/No)
Image Sensor	1/2.8" progressive scan CMOS	
Min. Illumination	Color: 0.01@F1.4, 0 Lux with IR	
Shutter Speed	Auto/Manual, 1/3(4)-1/100000s	
Lens	2.8 mm to 12 mm motorize @F1.4,	
Day/Night	IR cut filter with auto switch	
DNR (Digital Noise Reduction)	30 DNR	
WDR (Wide Dynamic Range)	120 dB True WDR	

Compression Standard		
Video Compression	Main stream: H.265.H.265+	
Video Bit Rate	32 Kbps to 8 Mbps	
Dual Stream	Support	
Image		
Max. Resolution	1920 X 1080	
Main Stream Max.	50Hz: 25fps @(1920 x 1080, 1280 x 960, 1280 x 720)	
Sub-stream	50Hz: 25fps @(704 x 576, 640 x 480, 352 x 288, 320x 240)	
Image Settings	Brightness, saturation, contrast, sharpness are adjustable via web browser or client software.	
Image Settings	Support auto, scheduled	
Others	Mirror, BLC (area configurable), region of interest (support 1 fixed region)	
Detections	Motion detection	
Alarms	Video tampering, network disconnected, IP address conflicted, HDD full, HOD error.	
Protocols Standard	TCP/IP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DONS, RTP, RTSP, RTCP, NTP, UpnP, SMTP, IGMP, 802.1X, QoS, Ipv6, ONVIF (PROFILE S, PROFILE G), PSIA, CGI, ISAPI	
General Function	One-key rest, anti-flicker, password protection, privacy mask, watermark, IP address filter	
Interface		
Communication Interface	1 RJ45 10M/100M self-adaptive Ethernet port	
Reset	Support	
General		
Operating Conditions	-30 ° C to 60° C, humidity: 95% or less (non-condensing)	
Power Supply	DC12V ± 25%, PoE (802.3af)	
Ingress Protection	IP 67	
IR array Range	Up to 30 Mtrs	
Certification	UL/FCC/CE and BIS approved	



**D. POE + SWITCH 08 CHANNEL SPECIFICATION**

Interface	8 x 10/100 Mbps PoE ports, UPLINK PORT 2 x 10/100/1000	
Port Standards 8: Functions	Ports 1 to 8 compliant with 802.3at	

**E. POE + SWITCH 16 CHANNEL SPECIFICATION**

Interface	16 x 10/100 Mbps PoE ports, UPLINK PORT 2 x 10/100/1000	
Port Standards 8: Functions	Ports 1 to 4 compliant with 802: 3at • Ports 5 to compliant with 802. 3af	

**F. OTHER COMPONENTS OF CCTV**

Parameter	Technical Specifications	Compliance Status (Yes/No)
SN. Hard Disk Drive (SATA II or III)	Video Enterprise Series (Rated for 24/7 operation).	
Capacity	2TB, 4TB, 6TB, 8TB	
<b>Monitor</b>		
Screen size	15.5"/18.5" diagonal LED	
Resolution (Min)	Minimum 1920 x 1080 Pixels - full HD	
<b>Data Cable CAT-6</b>		
Category	CAT-6E	
Type	Unarmored	
<b>PVC Conduits for cabling should be ISI marked</b>		
6 U Rack - (Wall Mount)	Power Strip: 6 Socket power supply: 1 No. Equipment Mounting Tray: 1 No Mounting screws & studs: 1 pack Transparent front door with Lock and 2 Fans. Provision for cable routing at the bottom of Rack.	
2 U Rack - (Wall Mount)	Power Strip: 6 Socket power supply: 1 No. Mounting screws & studs: 1 pack Transparent front door with Lock and Fans. Provision for cable routing at the bottom of Rack.	

**2. STANDALONE VANDAL RESISTANT CAMERA WITH INBUILT BACKUP CAPACITY**

	Technical Specifications	Status (Yes/No)
Image Sensor	1/2.8" Progressive Scan CMOS	
Minimum Illumination	Color: 0.01 Lux @(F1.2, AGC ON), 0.028 Lux (F2.0, AGC ON); B/W: 0.001 Lux @(F1.2, AGC ON), 0.0028 Lux @(F2.0, AGC ON), 0 Lux with IR	
Shutter Speed	1/3 s to 1/100,000 s	
Slow Shutter	Yes	
Auto-Iris	No	
Day and Night	IR Cut Filter	
Digital Noise Reduction	3D DNR	
Wide Dynamic Range	120 dB	
3-Axis Adjustment	Pan: 0° to 355°, tilt: 0° to 70°, rotate: 0° to 355°	



IR Range	Up to 40 m	
Wavelength	850nm	
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 8 Mbps	
Audio Compression (-S)	G.711/G.722.1/G.726/MP2L2/PCM	
Audio Bit Rate (-S)	64Kbps(G.711)/16Kbps(G.722.1)/16Kbps(G.726)/32- 192Kbps(MP2L2)	

<b>Image</b>		
Maximum Resolution	1920 × 1080	
Image Enhancement	BLC/3D DNR/HLC	
Image Settings	Rotate mode, saturation, brightness, contrast, sharpness adjustable by client software or web browser	
On-board Storage	Built-in micro SD/micro SDHC/micro SDXC slot, up to 128 GB	
Target Cropping	No	
Day / Night Switch	Day/Night/Auto/Schedule/Triggered by alarm in (-S)	
Network Storage	Support built-in micro SD/micro SDHC/micro SDXC card (128 GB), 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	
Protocols	TCP/IP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, RTCP, PPPoE, NTP, UPnP™, SMTP, SNMP, IGMP, 802.1X, QoS, IPv6, Bonjour	
General Function	One-key reset, anti-flicker, heartbeat, mirror, password protection, privacy mask, watermark, IP address filter	
Firmware Version	V5.5.3	
On-board Storage	Built-in micro SD/micro SDHC/micro SDXC slot, up to 64 GB/ 128 GB	
Reset Button	Yes	
Frequency Range	2.4 GHz to 2.4835 GHz	
Channel Bandwidth	20/40MHz	
Wireless Range	50 m	
Env. Noise Filtering	Yes	
Protection Level	IP 67,IK10	
Certificates	CE,FCC,UL,	

