| 1. CCTV SURVEILLANCE AND ACCESS CONTROL | | **UNIT** | | **DATA** | | |
| --- | --- | --- | --- | --- | --- | --- |
|  | |  | | **REQUIRED** | | **OFFERED** |
| 1.0 | **OUTDOOR IP CAMERA** | | | | | |
| 1.1 | Manufacturer and Country of Origin | |  | | To be Specified |  |
| 1.2 | Type | |  | | Outdoor IP Camera |  |
| 1.3 | Standards | |  | | EN 55022 Class B, EN 55024, EN 50130-4, EN61000-6-1/3/2, EN 61000-3-2/3 and FCC Part 15 Subpart B Class B,  IEC62262, IEC61000-4-5, IEC60068-2-11. |  |
| 1.4 | Image Sensor | |  | | 1/2.8” 2.0-megapixel progressive scan CMOS sensor |  |
| 1.5 | Resolution and Day/Night Mode | |  | | 1920\*1080 resolution  Auto/Color/Monochrome (removable infrared-cut filter) mode |  |
| 1.6 | Shutter Speed | |  | | 1/100000s to 1s electronic shutter speed |  |
| 1.7 | Dynamic Range | |  | | 128dB wide dynamic mode |  |
| 1.8 | Digital Noise Reduction | |  | | Self-adaptive to 2D or 3D DNR |  |
| 1.9 | Backlight Compensation | |  | | Supported |  |
| 1.10 | Defog | |  | | Automatic/manual |  |
| 1.11 | Image Stabilisation | |  | | Electronic Image Stabilisation |  |
| 1.12 | IR coverage | |  | | Up to 80meters |  |
| 1.13 | Angular Field of View | |  | | Horizontal: [43° Wide 14°(Tele)] and Vertical: [22° (Wide) 9° (Tele)] |  |
| 1.14 | Video Compression | |  | | H.265/H.264/MJPEG |  |
| 1.15 | Multiple streaming | |  | | Double Full HD streams and Treble streams (30fps or 25fps) |  |
| 1.16 | Audio Compression | |  | | G.711a/G.711u/G.726/OPUS |  |
| 1.17 | Network Protocols | |  | | TCP, UDP, IPv4, IPv6, DHCP, DHCPv6, DNS, ICMP, SIP, RSP, SSL, NTP, SNMP, 802.1x, QoS, DDNS |  |
| 1.18 | Streaming Transmission and Encryption | |  | | Unicast/Multicast  AES 128/192/256 encryption algorithm |  |
| 1.19 | Intelligent Analytics | |  | | Loitering detection, Intrusion detection, Abandoned object detection, removed object detection, Target color recognition, Humans and vehicles distinguish, motion detection, tampering detection |  |
| 1.20 | Electrical and Serial Interfaces | |  | | 1xRJ-45 10/100Base-T self-adaptive Ethernet port,  At least 1\*RJ-45 10/100Base-T self-adaptive Ethernet port |  |
| 1.21 | Alarm and Audio Interfaces | |  | | Alarm: 2 channel input and 2 channel output,  Audio: 1 channel input and 1 channel output |  |
| 1.22 | Memory card Slot | |  | | Built in 32G memory slot |  |
| 1.23 | Power Supply | |  | | DC12V±25%, DC24V±25%, AC24V±25%, POE(IEEE802.3at) |  |
| 1.24 | Physical Characteristics | |  | | 6kV surge voltage protection, IK10 vandal proof metal casing, IP66 IP protection, 10-day salt spray test rating |  |
| **2.0** | **IP PAN TILT ZOOM CAMERA** | | | | | |
| 2.1 | Manufacturer and Country of Origin | |  | | To be specified |  |
| 2.2 | Type | |  | | IP Pan Tilt Zoom Camera |  |
| 2.3 | Standards | |  | | EN 55022 Class B, EN 55024, EN 50130-4, EN61000-6-1/3/2, EN 61000-3-2/3 and FCC Part 15 Subpart B Class B,  IEC62262, IEC61000-4-5, IEC60068-2-11. |  |
| 2.4 | Image Sensor | |  | | 1/2.8” 2.0-megapixel progressive scan CMOS sensor |  |
| 2.5 | Resolution and Day/Night Mode | |  | | 1920\*1080 resolution  Auto/Color/Monochrome |  |
| 2.6 | Shutter Speed and Iris Diaphragm | |  | | 1/100000s to 1s,  Automatic iris diaphragm |  |
| 2.7 | Dynamic Range | | dB | | 120dB WDR |  |
| 2.8 | Digital Noise Reduction | |  | | self-adaptive to 2D or 3D |  |
| 2.9 | Backlight Compensation and highlight suppression | |  | | Supported |  |
| 2.1 | Defog | |  | | Automatic/Manual |  |
| 2.11 | Image Stabilisation | |  | | G-Sensor Unit Electronic Image stabilization |  |
| 2.12 | Lens | |  | | Focal Length: 4.5mm-135mm,  Zoom: 30X Optical zoom and 16X Digital zoom, |  |
| 2.13 | Angular and Rotational Field of View | |  | | Angular: [60.89° Wide 2.67°(Tele)] and Vertical: [37.34° (Wide) 1.51° (Tele)]  Rotation: (Horizontal:0° to 360°, Vertical: -20° to +90°),  Horizontal Rotation Speed: [Manual: 0.1°/s to 450°/s, Preset≥450°/s],  Vertical rotation speed: [Manual: 0.1°/s to 400°/s, Preset≥400°/s], 256 preset positions, : 8 scan lines each with 32 preset positions  Max of 5 scan lines each 10minutes, |  |
| 2.14 | Video Compression | |  | | H.265/H.264/MJPEG |  |
| 2.15 | Multiple streaming | |  | | Double Full HD streams and Treble streams (30fps or 25fps) |  |
| 2.16 | Media Encryption | |  | | AES128/192/256 encryption algorithm |  |
| 2.17 | Network Protocols | |  | | TCP, UDP, IPv4, IPv6, DHCP, DHCPv6, DNS, ICMP, SIP, RSP, SSL, NTP, SNMP, 802.1x, QoS, DDNS |  |
| 2.18 | Streaming Transmission and Encryption | |  | | Unicast/multicast steaming transmission and stream encryption capable |  |
| 2.19 | Intelligent Analytics | |  | | Park Action: Home position, preset position tour, pattern scan, horizontal scan, vertical scan, random scan, frame scan and panoramic scan  ISP Packages: 5 defined scenarios (outdoor, indoor, motion capture, lowlight, and backlight modes),  Event Triggers: motion detection, covering detection, alarm input, intelligent analytics alarm and network disconnection |  |
| 2.2 | Electrical and Serial Interfaces | |  | | One RJ-45 10/100/1000Base-TX self-adaptive Ethernet port |  |
| 2.21 | Alarm Interfaces | |  | | 4-channel alarm input and 1-channel alarm output(pigtail) |  |
| 2.22 | Memory card Slot | |  | | Micro SD cards in 64GB maximum memory slot of Speed class≥6 |  |
| 2.23 | Power Supply | |  | | DC12V±25%, DC24V±25%, AC24V±25%, POE(IEEE802.3at) |  |
| 2.24 | Maximum Power consumption | |  | | 45W |  |
| 2.25 | Physical Characteristics | |  | | 6kV surge voltage protection, IK10 vandal proof metal casing, IP66 IP protection, 10-day salt spray test rating |  |
| 3.0 | **IP DOME CAMERA** | | | | | |
| 3.1 | Manufacturer and Country of Origin | |  | | To be Specified |  |
| 3.2 | Type | |  | | IP Dome Camera |  |
| 3.3 | Standards | |  | | EN 55022 Class B, EN 55024, EN 50130-4, EN61000-6-1/3/2, EN 61000-3-2/3 and FCC Part 15 Subpart B Class B,  IEC62262, IEC61000-4-5, IEC60068-2-11. |  |
| 3.4 | Image Sensor | |  | | 1/2.7” 2.0-megapixel progressive scan CMOS sensor |  |
| 3.5 | Resolution and Day/Night Mode | |  | | 1920\*1080 resolution  Auto/Multicolor/Monochrome (removable infrared-cut filter) |  |
| 3.6 | Shutter Speed and Iris Diaphragm | |  | | 1/100000s to 1s  Automatic iris diaphragm  Gain Control: Automatic/Manual |  |
| 3.7 | Dynamic Range | |  | | 120dB wide dynamic mode |  |
| 3.8 | Digital Noise Reduction | |  | | Self-adaptive to 2D or 3D |  |
| 3.9 | Backlight Compensation and highlight suppression | |  | | Supported |  |
| 3.10 | IR coverage | |  | | 30m minimum |  |
| 3.11 | Image Stabilisation | |  | | G-Sensor Unit Electronic Image stabilization |  |
| 3.12 | Lens | |  | | Focal Length: 2.8-12mm F1.4max,  Zoom: 30X Optical zoom and 16X Digital zoom |  |
| 3.13 | Angular Field of view and Camera Angle Adjustment | |  | | Angular field of view: Horizontal: [106° Wide 36°(Tele)] and Vertical: [57° (Wide) 20° (Tele)],  Camera angle adjustment: (Pan:0° to 356°, Tilt: 0° to 75°, Rotation: 0° to 356°), |  |
| 3.14 | Video and Audio Compression | |  | | Video: H.265/H.264/MJPEG  Audio: G.711a/G.711u/G.726/OPUS |  |
| 3.15 | Multiple streaming | |  | | Double Full HD streams and Treble streams (30fps or 25fps) |  |
| 3.16 | Media Encryption | |  | | AES128/192/256 encryption algorithm, |  |
| 3.17 | Network Protocols | |  | | TCP, UDP, IPv4, IPv6, DHCP, DHCPv6, DNS, ICMP, SIP, RSP, SSL, NTP, SNMP, 802.1x, QoS, DDNS |  |
| 3.18 | Streaming Transmission and Encryption | |  | | Unicast/multicast steaming transmission and stream encryption capable |  |
| 3.19 | Intelligent Analytics | |  | | Intelligent detections: (motion detection, covering detection),  Event actions: [Alarm output, SD card recording and snapshot], |  |
| 3.20 | Electrical and Serial Interfaces | |  | | 1xRJ-45 10/100Base-T self-adaptive Ethernet port, 1\*RS485 serial port |  |
| 3.21 | Alarm Interfaces | |  | | 1-channel alarm input and 1-channel alarm output |  |
| 3.22 | Memory card Slot | |  | | 64GB |  |
| 3.23 | Power Supply | |  | | DC12V±25%, DC24V±25%, AC24V±25%, POE(IEEE802.3at) |  |
| 3.24 | Maximum Power consumption | | W | | 9W |  |
| 3.25 | Physical Characteristics | |  | | 4kV surge voltage protection, IK10 vandal proof metal casing, IP66 IP protection, 10-day salt spray test rating |  |
| 4.0 | **VIDEO SURVEILLANCE SERVER** | | | | | |
| 4.1 | Manufacturer and Country of Origin | |  | | To be Specified |  |
| 4.2 | Type | |  | | Video Surveillance Server |  |
| 4.3 | Access Channels | |  | | 8 maximum video access channels, 8 video playback and download channels |  |
| 4.4 | Bandwidth | | Mbit/s | | input bandwidth: 128Mbit/s,  Video forwarding channels: 32  output bandwidth: 256Mbit/s, |  |
| 4.5 | Video Formats | |  | | H.264/H.265 |  |
| 4.6 | Decoding Performance | |  | | 1-channel 4K or 8-channel 1080p or 16-channel 720p |  |
| 4.7 | Preview Modes | |  | | 1/4/8/9/16 panes |  |
| 4.8 | Stacking function | |  | | 2 to 16 such modules, 2 number if storage disks with Hot-swappable SATA3.0 |  |
| 4.9 | Disk type | |  | | 50TB enterprise-level hard disk |  |
| 4.10 | RAID Level | |  | | non-RAID mode/RAID1 |  |
| 4.11 | Recording modes | |  | | (supported manual recording, scheduled recording, and alarm-triggered recoding), Query by time or events option, Batch download or download by time segment options |  |
| 4.12 | Media Encryption | |  | | supports multiple encryption algorithms such as AES256 |  |
| 4.13 | Compatibility | |  | | Supports access of devices that comply with the GB/T 28181, ONVIF 2.4, or ONVIF Profile S protocol, DHSDK, also supports connection to other platforms that comply with various protocols such as GB/T 28181 to implement diverse functions such as live video viewing and PTZ control and alarm reporting |  |
| 4.14 | Protocols | |  | | TCP, UDP, IPv4, HTTPS, RTP, RSTP, RTCP, AIP, SSL, NTP, HTTP |  |
| 4.15 | External Interfaces | |  | | at least 1\*HDMI 2.0, 1\*VGA, 2\*10/100/1000Mbit/s Ethernet ports, 1\* USB3.0, 1\*USB2.0, 1\*BNC Audio input, 1\*BNC Audio output, 2\*input Alarm channels, 1\*output Alarm channels |  |
| 4.16 | Power Consumption | | W | | <60W |  |
| 4.17 | Power Supply | | VAC | | 100VAC to 240VAC(50Hz/60Hz) |  |
| 4.18 | Cabinet | |  | | Standard 19-inch 9U cabinet |  |
| 5.0 | **3KVA BATTERY BACKUP SUPPLY (N/A)** | | | | | |
| 5.1 | Manufacturer and Country of Origin | |  | | To be Specified |  |
| 5.2 | Type | |  | | 3kVA Battery Backup Supply |  |
| 5.3 | Output Power Capacity | |  | | 2.7kW/3.0kVA |  |
| 5.4 | Output Voltage and distortion | | V | | 230V nominal, configurable for 220V, 230V, or 240V nominal output voltage, distortion less than 5% at full load |  |
| 5.5 | Output Frequency | | Hz | | 47 - 53 Hz for 50 Hz nominal, 57 - 63 Hz for 60 Hz nominal |  |
| 5.6 | Output Connections | |  | | (8) IEC 320 C13 (Battery Backup), (2) IEC Jumpers (Battery Backup), (1) IEC 320 C19 (Battery Backup) |  |
| 5.7 | Input Voltage | | V | | 230V, 220V or 240V |  |
| 5.8 | Input Frequency | | Hz | | 50/60 Hz +/- 3 Hz (auto sensing) |  |
| 5.9 | Input Connections | |  | | IEC-320 C20, Schuko CEE 7 / EU1-16P, British BS1363A |  |
| 5.10 | Input Voltage Range | | V | | 160-286V |  |
| 5.11 | Battery Type | |  | | Maintenance-free sealed Lead-Acid battery with suspended electrolyte: leak proof |  |
| 5.12 | Recharge Time | | Hours | | 3hrs |  |
| 5.13 | Interface Ports | |  | | USB |  |
| 5.14 | Control Panel | |  | | Multi-function LCD status and control console |  |
| 5.15 | Audible Alarm | |  | | Alarm when on battery, distinctive low battery alarm, configurable delays |  |
| 5.16 | Surge Energy Rating | | Joules | | 365 Joules |  |
| 5.17 | Filtering | |  | | Full time multi-pole noise filtering, 0.3% IEEE surge let-through, zero clamping response time, meets UL 1449 |  |
| 5.18 | Operating Temperature | | °C | | 0 - 40 °C |  |
| 5.19 | Audible Noise | | dBA | | 53.0dBA at 1 meter from surface of unit |  |
| 5.20 | Online Thermal Dissipation | | TU/hr | | 375.0BTU/hr |  |
| 5.21 | Protection Class | |  | | Minimum IP20 |  |
| 5.22 | Certification | |  | | CE, CSA, EAC, EN/IEC 62040-1, EN/IEC 62040-2, RCM, VDE |  |
|  |  | |  | |  |  |
| 6.0 | **5KVA BATTERY BACKUP SUPPLY** | | | | | |
| 6.1 | Manufacturer and Country of Origin | |  | | To be Specified |  |
| 6.2 | Type | |  | | 5kVA Battery Backup Supply |  |
| 6.3 | Output Power Capacity | |  | | 3.5kW/5.0kVA |  |
| 6.4 | Output Voltage and distortion | | V | | 230V, configurable for 220V, 230V, or 240V nominal output voltage, distortion less than 5% at full load |  |
| 6.5 | Efficiency at Full load | | % | | 92% |  |
| 6.6 | Output Frequency | | Hz | | 47 - 53 Hz for 50 Hz nominal, 57 - 63 Hz for 60 Hz nominal |  |
| 6.7 | Output Connections | |  | | 8) IEC 320 C13 (Battery Backup), (2) IEC Jumpers (Battery Backup), (1) IEC 320 C19 (Battery Backup) |  |
| 6.8 | Input Voltage | | V | | 230V, 220V or 240V |  |
| 6.9 | Input Frequency | | Hz | | 50/60 Hz +/- 5 Hz (auto sensing) |  |
| 6.10 | Input Connections | |  | | IEC-320 C20, Schuko CEE 7 / EU1-16P, British BS1363A |  |
| 6.11 | Input Voltage Range | | V | | 140-280V |  |
| 6.12 | Battery Type | |  | | Maintenance-free sealed Lead-Acid battery with suspended electrolyte: leak proof |  |
| 6.13 | Recharge Time | | Hours | | 3hrs maximum |  |
| 6.14 | Interface Ports | |  | | USB |  |
| 6.15 | Control Panel | |  | | ED status display with load and battery bar-graphs and On Line: On Battery: Replace Battery: Overload and Bypass Indicators |  |
| 6.16 | Audible Alarm | |  | | Alarm when on battery, distinctive low battery alarm, configurable delays |  |
| 6.17 | Surge Energy Rating | | Joules | | 555 Joules |  |
| 6.18 | Filtering | |  | | Full time multi-pole noise filtering, 0.3% IEEE surge let-through, zero clamping response time, meets UL 1449 |  |
| 6.19 | Operating Temperature | | °C | | 0 - 40 °C |  |
| 6.20 | Audible Noise | | dBA | | 55.0dBA at 1 meter from surface of unit |  |
| 6.21 | Online Thermal Dissipation | | TU/hr | | 1057.0BTU/hr |  |
| 6.22 | Protection Class | |  | | Minimum IP20 |  |
| 6.23 | Certification | |  | | CE, EN 50091-1, EN 50091-2, EN 55022 Class A, EN 60950, EN 61000-3-2, GOST, UL 1778, VDE |  |