

Select Camera System based on project requirement.

## Part 1 - Product

### 1.1 IPX-DDK 1800BC HD 3MP WDR DAY/NIGHT INFRARED IP BULLET CAMERA

#### A. General Characteristics:

1. The infrared IP bullet camera shall offer HD 3MP resolution.
2. The Infrared IP bullet Camera shall offer Wide Dynamic Range (100dB, 9 Levels).
3. The infrared IP bullet camera shall offer built-in IR LEDs to provide quality night time monitoring with 20 m (66 ft) viewing distance
4. The infrared IP bullet camera shall be equipped with IR-Cut Filter
5. The infrared IP bullet Camera shall offer Advanced Motion Detection (512 Zones)
6. The infrared IP bullet camera shall be rated to IK-10 impact protection.
7. The infrared IP bullet camera shall be rated to IP66 ingress protection.
8. The infrared IP bullet camera shall accept power via Power over Ethernet (IEEE 802.3af compliant).
9. The infrared IP bullet camera shall be easy to install.

#### B. Imaging Requirements

1. The infrared IP bullet camera shall offer a 1/2.8-inch CMOS Sony IMX036 image sensor.
2. The infrared IP bullet camera shall offer HD 3MP.
3. The infrared IP bullet camera shall offer 2048 x 1536 sensor pixels.
4. The infrared IP bullet camera shall be fitted with a board-mounted vari-focal 3 to 9 mm, Auto Iris F1.2 to close, D/N switch lens.
5. The infrared IP bullet camera shall offer the following minimum sensitivity:
  - a. IR off: 1.0 lx
  - b. IR on: 0 lx

#### C. Illumination

1. The infrared IP bullet camera shall offer an integrated 18 LED high efficiency array at 850 nm.
2. The infrared IP bullet camera shall offer a viewing distance of 20 m (66 ft).

#### D. Network Video

1. The infrared IP bullet camera shall provide direct network connection using H.264, MPEG and M-JPEG compression and bandwidth throttling to efficiently manage bandwidth and storage requirements while delivering outstanding image quality.
2. The infrared IP bullet camera shall allow full camera control and configuration capabilities over the network.
3. The infrared IP bullet camera shall be capable of capturing and storing images using the following compression standards:
  - a. H.264 MP (Main Profile)
  - b. MPEG
  - c. M-JPEG
4. The infrared IP bullet camera shall deliver DVD-quality video, at rates up to 30 images per second, via TCP/IP over a 10/100 Base-TX, auto-sensing, half/full duplex, RJ45 Ethernet connection.

5. The infrared IP bullet camera shall conform to the IEEE 802.3af compliant Power over Ethernet network.
6. The infrared IP bullet camera shall conform to the ONVIF standard.

E. Electrical

1. The infrared IP bullet camera shall accept either + 12 VDC, 24 VAC or Power over Ethernet.
2. The infrared IP bullet camera shall consume 6.7 W (max.).  
PoE = approximately 6W  
12vDC = approximately 4.8W  
24vAC = approximately 6W

F. Audio

1. The infrared IP bullet camera shall offer one (1) line in jack connector and one (1) line out jack connector.
2. The infrared IP bullet camera shall offer two-way, full duplex audio communication.
3. The infrared IP bullet camera shall offer G.711u and G.726 audio compression (live and recording).

G. Environmental

1. The infrared IP bullet camera shall operate in -40°C to 50°C (-40°F to +122°F) temperature range.
2. The infrared IP bullet camera shall offer IP66 ingress protection.
3. The infrared IP bullet camera shall offer IK-10 impact protection.

**H. Technical Specifications**

1. Power
  - a. Input voltage: +12 VDC or Power over Ethernet
  - b. Power consumption: 6.72 W (max.)
2. Video
  - a. Sensor type: 1/2.8-inch CMOS Sony IMX036
  - b. Sensor pixels: 2048 x 1536
  - c. Sensitivity:
    - 1) IR off: 1.0 lx
    - 2) IR on: 0 lx
  - d. Video Resolution: 1080P (1920 x 1080), 720P (1280x720), VGA (640x480), QVGA (320x240), QQVGA (160x120)
  - e. Video compression: H.264 MP (Main Profile), MPEG, M-JPEG
  - f. Max. frame rate: 30 fps
3. Night Vision
  - a. Distance: 20 m (66 ft)
  - b. LED: 18 LED, 850 nm
4. Lens
  - a. Lens type: Vari-focal 3 to 9mm, Auto Iris F1.4 to close, D/N switch
  - b. Lens mount: Board mounted
5. Connectors:
  - a. Analog video out: BNC connector
  - b. Alarm input: Short or DC 5V activation
  - c. Relay out: Input rating Maximum 1 A 24 VAC/VDC

6. Audio
  - a. Audio input: Line in jack connector
  - b. Audio output: Line out jack connector
  - c. Audio communication: Two-way, full duplex
  - d. Audio compression: G.711u, G.726 (live and recording)
7. Software Control
  - a. Unit configuration: Via web browser or PC surveillance software
8. Network.
  - a. Protocols: IPv4, HTTPS, HTTP, TCP, UDP, RTP/RTCP/RTSP, DHCP, NTP, FTP, SMTP, UPnP, ICMP, ARP, DDNS, PPPoE, SAMBA
  - b. Ethernet: 10/100 Base-TX, auto-sensing, half/full duplex, RJ45
  - c. PoE: IEEE 802.3af compliant
9. Mechanical
  - a. Dimensions (H x W x D): 3.62 x 3.82 x 8.90 in (92 x 97 x 226mm)
  - b. Weight: 1.9 kg.
10. Environmental
  - a. Operating temperature: -40°C to +50°C (-40°F to +122°F)
  - b. Storage temperature: -40°C to +70°C (-40°F to +158°F)
  - c. Humidity: Less than 90% relative humidity (non-condensing)

## **PART 2 - EXECUTION**

### **2.1 EXAMINATION**

- A. Examine areas to receive devices and notify adverse conditions affecting installation or subsequent operation.
- B. Do not begin installation until unacceptable conditions are corrected.

### **2.2 PREPARATION**

- A. Protect devices from damage during construction.

### **2.3 INSTALLATION**

- A. Install devices in accordance with manufacturer's instruction at locations indicated on the floor drawings plans.
- B. Ensure selected location is secure and offers protection from accidental damage.
- C. Location must provide reasonable temperature and humidity conditions, free from sources of electrical and electromagnetic interference.

### **2.4 FIELD QUALITY CONTROL**

- A. Test snugness of mounting screws of all installed equipment.
- B. Test proper operation of all video system devices.
- C. Determine and report all problems to the manufacturer's customer service department.

### **2.5 ADJUSTING**

- A. Make proper adjustment to video system devices for correct operation in accordance with manufacturer's instructions.
- B. Make any adjustment of camera settings to comply with specific customer's need.

### **2.6 DEMONSTRATION**

- A. Demonstrate at final inspection that video management system and devices function properly.

END OF SECTION