

SECTION 28 21 11

1080P TDN IR/PIR HQA BULLET CAMERA

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Provide a 1080P true day/night infrared HQA bullet camera with a 2.8mm fixed lens for video surveillance, including design, supply, installation, and commissioning.

1.2 RELATED SECTIONS

NOTE TO SPECIFIER: Include related sections as appropriate if video surveillance system is integrated with other systems.

- A. Section 26 05 00 – Common Work Results for Electrical.
- B. Section 27 15 00 – Communications Horizontal Cabling.
- C. Section 28 05 00 – Common Work Results for Electronic Safety and Security.
- D. Section 28 20 00 – Video Surveillance.
- E. Section 28 21 00 – Surveillance Cameras.
- F. Section 28 23 00 – Video Management Systems.

1.3 REFERENCES

- A. Reference Standards: Provide systems that meet or exceed the requirements of the following publications and organizations as applicable to the work of this section:
 - 1. Canadian ICES-003.
 - 2. Canadian Standards Association (CSA).
 - 3. Conformity for Europe (CE).
 - 4. Electronic Industries Alliance (EIA).
 - 5. Federal Communications Commission (FCC).
 - 6. Joint Photographic Experts Group (JPEG).

7. National Television Systems Committee (NTSC).
8. Phase Alternating Line (PAL).
9. Underwriters Laboratories Inc. (UL).

1.4 SYSTEM DESCRIPTION

- A. The HQA bullet camera shall be equipped with a 1/2.7" 2 MP progressive scan CMOS imager to capture 1920x1080 (25/30 fps) images, and shall feature a 2.8 mm fixed lens. As a true day/night solution, the camera shall use Smart IR technology and provide up to 82 ft (25 m) of IR illumination. The camera shall be housed in a waterproof enclosure (IP66) and shall accept 12 V DC power input.

1.5 SUBMITTALS

- A. General: Submittals shall be made in accordance with the Conditions of the Contract and Submittal Procedure Section.
- B. Manufacturer's Product Data: Submit manufacturer's data sheets indicating systems and components proposed for use, including instruction manuals.
- C. Shop Drawings: Submit complete shop drawings including connection diagrams for interfacing equipment, list of connected equipment, and locations for major equipment components.
- D. Record Drawings: During construction, maintain record drawings indicating the location of equipment and wiring. Submit an electronic version of record drawings not later than Substantial Completion of the project.
- E. Operation and Maintenance Data: Submit manufacturer's operation and maintenance data, customized to the system installed. Include system and operator manuals.
- F. Field Tests: Submit results of field testing of every device including date, testing personnel, retesting date (if applicable), and confirmation that every device passed field testing.
- G. Maintenance Service Agreement: Submit a sample copy of the manufacturer's maintenance service agreement, including cost and services for a one year period for Owner's review. Maintenance shall include, but not be limited to, labor and materials to repair the system, tests and adjustments, and regular inspections.

1.6 QUALITY ASSURANCE

- A. Manufacturer: Minimum 10 years' experience in manufacturing and maintaining video surveillance systems. Manufacturer shall provide toll-free technical assistance and support available 24/7.
- B. Manufacture Location: Provide equipment assembled in China.
- C. Installer: Minimum 2 years' experience installing similar systems and shall be acceptable to the manufacturer of the video surveillance system.
- D. Regulatory Requirements:
 - 1. Emissions: FCC, Part 15B, EN55032:2012 +AC:2013
 - 2. Immunity: EN50130-4:2011
 - 3. Safety: EU: EN60950-1
 - 4. ROHS: EN50581:2012
- E. Environmental Requirements:
 - 1. Operating Temperature: 14°F to 122°F (-10°C to 50°C).
- F. Power Requirements: Input shall be 12 V DC.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in manufacturer's labeled packages. Store and handle in accordance with manufacturer's requirements, in a facility with environmental conditions within recommended limits.

1.8 WARRANTY

- A. Manufacturer's Warranty: Submit manufacturer's warranty of five (5) years from the manufacture date code under normal use and service for the video surveillance system.

PART 2 PRODUCTS

2.1 MANUFACTURER

- A. Camera Manufacturer: Honeywell Performance Series HQA TDN 1080P IR/PIR Bullet Camera, www.honeywell.com/security.
- B. Accepted Part Numbers:
 - 1. HB30PHD2: TDN 1080P IR/PIR Bullet Camera, 1/2.7" 2 MP CMOS, 2.8 mm fixed lens, 1 IR LEDs, 12 V DC, IP66.

2.2 SYSTEM COMPONENTS

- A. Bullet camera and cabling.

2.3 OPERATIONAL REQUIREMENTS

- A. The HQA bullet camera system shall meet or exceed the following camera specifications:
 - 1. Image Sensor: 1/2.7-inch 2 MP CMOS.
 - 2. Total Effective Pixels: 1920 (H) × 1080 (V).
 - 3. Lens Type: 2.8 mm, fixed, F2.0.
 - 4. Horizontal Angle of View: 112°.
 - 5. IR LEDs: 1 LED.
 - 6. IR Illumination Distance: Up to 82 ft (25 m), depending on scene reflectance.
 - 7. Minimum Illumination: 0.02 lux @ F2.0 (color), 0.0 lux (b/w, with IR LEDs on).
 - 8. Shutter Speed: 1/3(4)–1/100000 s.
 - 9. Signal-to-Noise Ratio: 65 dB or more.
 - 10. Video Output: 1-channel BNC video output.
 - 11. Resolution: 1080p (1920×1080).
 - 12. Frame Rate: 25/30 fps at 1080p, 25/30/50/60 fps at 720p.
- B. The HQA bullet camera shall provide true day/night functionality with "Smart IR" illumination. When ambient light drops below the factory-defined threshold, the IR LEDs activate, and the camera changes automatically from color to black and white. Smart IR technology ensures even distribution of the IR.

- C. The HQA bullet camera shall provide 2D Noise Reduction (2DNR) to save storage and bandwidth.
- D. The HQA bullet camera shall plug-and-play with 4/8/16-channel Honeywell Performance Series HRRHQ DVRs.
- E. The HQA bullet camera shall provide configurable motion detection and camera tamper detection settings.
- F. The HQA bullet camera shall provide up to eight configurable privacy zones.
- G. The HQA bullet camera shall have a multi-directional bracket (360° pan, 90° tilt, and 360° horizontal rotation) for precise camera positioning.
- H. The HQA bullet camera housing shall be constructed of die-cast aluminum with a white powder finish and shall be waterproof, rated to IP66.

2.4 SYSTEM HARDWARE

- A. The HQA bullet camera shall have the following mechanical specifications:
 - 1. Unit Dimensions (W x H): 8.07 x 4.13 in. (205 x 105 mm).
 - 2. Unit Weight: 0.66 lb (0.30 kg).
- B. The HQA bullet camera shall have the following electrical specifications:
 - 1. Power Supply: 12 V DC.
 - 2. Power Consumption: 4.1 W maximum (IR LEDs on).
- C. The HQA bullet camera shall be designed to meet the following environmental conditions:
 - 1. Operating Temperature: 14°F to 122°F (−10°C to 50°C).
 - 2. Relative Humidity: Less than 90 percent, non-condensing.

2.5 MANUFACTURER SUPPORT

- A. Manufacturer shall provide customer service, pre-sales applications assistance, after-sales technical assistance, access to online technical support, and online training using Web conferencing.
- B. Manufacturer shall provide 24/7 technical assistance and support by means of a toll-free telephone number at no extra charge.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine site conditions prior to installation. Notify Architect and Owner in writing if unsuitable conditions are encountered. Do not start installation until site conditions are acceptable.

3.2 INSTALLATION

- A. All components of the camera system shall be thoroughly tested before shipping to the project location.
- B. Camera system shall be installed, programmed, and tested in accordance with manufacturer's installation instructions.
 - 1. Coordinate interfaces with Owner's representative where appropriate.
 - 2. Provide conduit, cable, and wire for a complete and reliable installation. Obtain Owner's approval for exact location of the camera and all boxes, conduit, cable, and wiring runs prior to installation.
 - 3. Install conduit, cable, and wire parallel and square with building lines, including raised floors areas. Do not exceed 40 percent fill in conduits. Gather wires and tie to create an orderly installation.
 - 4. Coordinate with other trades to provide proper sequencing of installation.

3.3 FIELD COMMISSIONING AND CERTIFICATION

- A. Field Commissioning: Test bullet camera system as recommended by manufacturer, including the following:
 - 1. Conduct complete inspection and testing of equipment, including verification of operation with connected equipment.
 - 2. Test devices and demonstrate operational features for Owner's representative and authorities having jurisdiction, as applicable.
 - 3. Correct deficiencies until satisfactory results are obtained.
 - 4. Submit written copies of test results.

3.4 TRAINING

- A. Conduct on-site system administrator and security/surveillance operator training, with the number of sessions and length of sessions as recommended by the video surveillance system manufacturer. Training shall include, but not limited to, camera administration, provisioning, configuration, operation, and diagnostics.

END OF SECTION