SECTION 28 23 29

420 TVL INDOOR/OUTDOOR IR BALL CAMERA, HD30

1. GENERAL
	1. SECTION INCLUDES
		1. Provide an indoor/outdoor, standard resolution 420 TVL, IR ball camera system for video surveillance, including design, supply, installation, and commissioning.
	2. RELATED SECTIONS

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

* + 1. Section 26 05 00: Common Work Results for Electrical, for interface and coordination with building electrical systems and distribution.
		2. Section 28 05 13: Conductors and Cables for Electronic Safety and Security, for cabling between system servers, panels, and remote devices.
		3. Section 28 05 28: Pathways for Electronic Safety and Security, for conduit and raceway requirements.
		4. Section 28 23 23: Video Surveillance Systems Infrastructure.
		5. Section 28 23 29: Video Surveillance Remote Devices and Sensors.
	1. REFERENCES
		1. 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. Federal Communications Commission (FCC).
			4. Joint Photographic Experts Group (JPEG).
			5. National Television Systems Committee (NTSC).
			6. Underwriters Laboratories Inc. (UL).
	2. SYSTEM DESCRIPTION
		1. The indoor/outdoor IR ball camera shall use a weatherproof, tamper-resistant indoor/outdoor enclosure that can be mounted quickly to a ceiling or wall.
		2. The indoor/outdoor IR ball camera shall offer 420 TV lines of resolution, a high-sensitivity color interline transfer CCD, and infrared LEDs.
	3. SUBMITTALS
		1. General: Submittals shall be made in accordance with the Conditions of the Contract and Submittal Procedure Section.
		2. Manufacturer’s Product Data: Submit manufacturer’s data sheets indicating systems and components proposed for use, including instruction manuals.
		3. Shop Drawings: Submit installation drawings, including connection diagrams for interfacing equipment, list of connected equipment, and locations for major equipment components. Shop drawings shall indicate surrounding construction as provided for the Project.
		4. Project Record Drawings: Indicate location of equipment and wiring on project record drawings. Submit an electronic version of the project record drawings not later than Substantial Completion of the Project.
		5. Operation and Maintenance Data: Submit manufacturer’s operation and maintenance data customized to the system installed. Include operator manuals.
		6. 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.
		7. 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.
	4. QUALITY ASSURANCE
		1. Qualifications: Manufacturers shall have a minimum of 10 years full time experience in manufacturing and maintaining video surveillance systems. Manufacturer shall provide toll-free technical assistance and support available 24/7. Installers shall have a minimum of 2 years experience installing similar systems and shall be acceptable to the manufacturer of the video surveillance system.
		2. Regulatory Requirements:
			1. Emissions: FCC, Part 15B, Class A.
	5. DELIVERY, STORAGE, AND HANDLING
		1. Packing and Shipping: Deliver products in manufacturer’s labeled packages.
		2. Storage and Protection: Store and handle products in accordance with manufacturer’s requirements in facility where environmental conditions are within recommended limits.
	6. PROJECT CONDITIONS
		1. Environmental Requirements: Comply with environmental requirements and recommendations of manufacturer for proper installation of products.
		2. Temperature Criteria:
			1. Operating temperatures shall be between 14° F (−10° C) and 122° F (50° C).
			2. Storage temperatures shall be between −4° F (−20° C) and 140° F (60° C).
		3. Power Requirements: Input voltage shall be 12 V DC.
	7. WARRANTY
		1. Manufacturer’s Guarantee: Three (3) years from the manufacture date code under normal use and service for the video surveillance system.
1. PRODUCTS
	1. MANUFACTURERS
		1. Specified Manufacturer: Honeywell, [www.honeywellvideo.com](http://www.honeywellvideo.com) or [www.honeywellintegrated.com](http://www.honeywellintegrated.com).
	2. SYSTEM COMPONENTS
		1. Specified Product: Honeywell HD30 ball camera.
		2. Cabling.
	3. OPERATIONAL REQUIREMENTS
		1. The indoor/outdoor IR ball camera system shall meet or exceed the following camera specifications:
			1. Image Sensor: 1/3-inch interline transfer CCD.
			2. Total Pixels: 510 (H) × 492 (V).
			3. Horizontal Resolution: 420 TVL.
			4. Lens Type: 3.6 mm fixed, F1.6.
			5. IR LEDs: 21 LEDs.
			6. IR Illumination Distance (Depending on Scene Reflectance): Up to 20 ft (6 m).
			7. Minimum Illumination: 0 lux (IR LED on).
			8. Video Output: Composite, 1.0 *V*P-P, 75 ohms.
			9. Signal-to-Noise Ratio: 48 dB or more.
			10. Synchronization: 12 V DC: Internal.
		2. The indoor/outdoor IR ball camera shall provide IR illumination.
		3. The indoor/outdoor IR ball camera shall provide backlight compensation.
		4. The indoor/outdoor IR ball camera shall provide automatic white balance.
		5. The indoor/outdoor IR ball camera system shall provide 12 V DC operation.
		6. The indoor/outdoor IR ball camera housing shall consist of die cast aluminum with gray finish.
		7. The indoor/outdoor IR ball camera housing shall be weatherproof (IP66) and tamper resistant.
	4. SYSTEM HARDWARE
		1. The indoor/outdoor IR ball camera shall have the following mechanical specifications:
			1. Unit Dimensions (L x W x H): 3.7 × 3.7 × 2.95 inches (93.7 × 93.7 × 74.9 mm).
			2. Unit Weight: 1.1 lb (500 g).
			3. Video Output: BNC connector (75 ohms).
			4. Power Input: 2.1 mm plug.
		2. The indoor/outdoor IR ball camera shall have the following electrical specifications:
			1. Voltage: 12 V DC.
			2. Power Consumption: 4 watts max.
		3. The indoor/outdoor IR ball camera shall be designed to meet the following environmental conditions:
			1. Operating temperature: 14° F (−10° C) to 122° F (50° C).
			2. Storage temperature: −4° F (−20° C) to 140° F (60° C).
			3. Relative Humidity: 0–95%, non-condensing.
			4. Emissions: FCC, Part 15B, Class A.
	5. MANUFACTURER SUPPORT
		1. Manufacturer shall provide customer service, pre-sales applications assistance, after-sales technical assistance, access to online technical support, and online training using Web conferencing.
		2. Manufacturer shall provide 24/7 technical assistance and support by means of a toll-free telephone number at no extra charge.
2. EXECUTION
	1. EXAMINATION
		1. 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.
	2. INSTALLATION
		1. All components of the camera system shall be thoroughly tested before shipping to the project location.
		2. Camera system shall be installed, programmed, and tested in accordance with manufacturer’s instructions and recommendations.
			1. Coordinate interfaces with other products with Owner’s representative where appropriate.
			2. Provide conduit, cable, and wire for complete and reliable installation. Obtain Owner’s approval for exact location of cameras, 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 and tie wires for orderly installation.
			4. Coordinate with other trades to provide proper sequencing of installation.
	3. FIELD COMMISSIONING AND CERTIFICATION
		1. Field Commissioning: Test ball 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.
	4. TRAINING
		1. Conduct on-site system administrator and security/surveillance operator training in accordance with the manufacturer’s instructions and recommendations. Training shall include, but not be limited to: camera administration, provisioning, configuration, operation, and diagnostics.

 END OF SECTION