SECTION 28 23 29

HDZ SERIES 1080p TRUE DAY/NIGHT OUTDOOR IR WDR HIGH SPEED IP PTZ CAMERA

1. GENERAL
	1. SECTION INCLUDES
		1. Provide a 1080p true day/night outdoor IR WDR high speed IP PTZ dome camera with 30x zoom lens 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 00 – Video Surveillance Equipment, for interface with, and administration of video recording devices and equipment.
		5. Section 28 23 23 – Video Surveillance Systems Infrastructure.
		6. 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. Conformity for Europe (CE)
			4. Federal Communications Commission (FCC)
			5. Institute of Electronic and Electrical Engineers (IEEE)
			6. Joint Photographic Experts Group (JPEG)
			7. National Television Systems Committee (NTSC)
			8. Phase Alternating Line (PAL)
			9. Underwriters Laboratories Inc. (UL)
			10. IP Code (Ingress Protection Rating) per IEC 60529
	2. SYSTEM DESCRIPTION
		1. The HDZ Series 1080p TDN outdoor IR WDR IP PTZ dome camera shall use either:
			1. HDZ302LIK: A rugged, discreet, outdoor IP67- and IK10-rated vandal-resistant enclosure that can be easily installed directly to a ceiling, wall or roof with either the wall or ceiling mounting accessories.
			2. HDZ302LIW: A rugged, discreet, outdoor IP67- rated waterproof enclosure with lens wiper that can be easily installed directly to a ceiling, wall or roof with either the wall or ceiling mounting accessories.
		2. The HDZ Series 1080p outdoor True Day/Night IR WDR IP PTZ dome camera shall include as standard an impact resistant IK10-rated clear acrylic dome (only HDZ302LIK meets the IK10 impact resistance rating).
		3. The HDZ Series 1080p outdoor True Day/Night IR WDR IP PTZ dome camera shall capture video in 1080p high definition resolution for clean, sharp images at 30 frames per second (NTSC) and 25 frames per second (PAL). Lower resolutions (720p and lower) can capture images at 60 fps (NTSC) and 50 fps (PAL). As a True Day/Night solution, the 1080p IR IP PTZ dome camera has IR LED illumination that can be effectively used in starlight conditions. With True WDR capability at 120 dB, the camera ensures glare-free images in environments with high contrast or/and changing light conditions. The camera is designed for a broad range of surveillance applications and features user-adjustable resolution and frame rate to accommodate a wide variety of surveillance environments.
	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 complete shop drawings including connection diagrams for interfacing equipment, list of connected equipment, and locations for major equipment components.
		4. Record Drawings: During construction maintain record drawings indicating location of equipment and wiring. Submit an electronic version of 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 system and 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. Manufacturer: Minimum ten years experience in manufacturing and maintaining video surveillance systems. Manufacturer shall provide toll-free technical assistance and support available 24/7.
		2. Manufacture Location: Provide equipment assembled in China.
		3. Installer: Minimum two years experience installing similar systems, and acceptable to the manufacturer of the video surveillance system.
		4. Regulatory Requirements:
			1. Emissions: EN55022; FCC Part 15 subpart B, RCM: AS/NZS CISPR 22:2009+A1 (2010).
			2. Immunity: EN50130-4.
			3. Safety: EU – EN60950-1, EN60950-22. North America – UL listed to UL/CSA 60950-1.
			4. RoHS: EN50581.
		5. Environmental Requirements:
			1. Outdoor pendant and vandal-resistant rugged dome operating temperatures shall be between −40°C (−40°F) and 70°C (158°F).
		6. Power Requirements:
			1. Input Voltage: 24 V AC ±25%, 50/60 Hz, or High PoE (Class 5).

NOTE TO SPECIFIER: The High PoE power of this product requires a class current detected within the
52~64 mA range. All other detection procedures should follow the PoE+ standard (802.3at).

NOTE TO SPECIFIER: High PoE power will be the priority when connecting both 24 V AC and High PoE power.

* + - 1. Power Consumption:
				1. HDZ302LIW: 24 W; 32 W maximum (IR on).
				2. HDZ302LIK: 24 W; 38 W maximum (IR on).
	1. DELIVERY, STORAGE, AND HANDLING
		1. 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.
	2. WARRANTY
		1. Manufacturer’s Warranty: Submit manufacturer’s warranty of three (3) years from the manufacture date code under normal use and service for the video surveillance system.
1. PRODUCTS
	1. MANUFACTURER
		1. HDZ Series Camera Manufacturer: Honeywell HDZ Series 1080p true day/night outdoor IR WDR IP PTZ dome camera, [www.honeywell.com/security](file:///%5C%5CBC07w1000%5CSHARED%5CGENERAL%5CTech%20Comm%5CProjects%5CHDZ%20Series%20H.264%20IP%20PTZ%5CMarketing%5CNorth%20America%5CA%26E%20Spec%5CHD%20version%5CRev%20B%5Cwww.honeywell.com%5Csecurity).
		2. Accepted Part Numbers:
			1. HDZ302LIW – Network TDN IR PTZ Dome, 1080p Resolution, 30x Zoom, WDR, H.264, NTSC/PAL, Wiper, micro SD card compatible (supports up to 128 GB cards, card not included)
			2. HDZ302LIK – Network TDN IR PTZ Dome, 1080p Resolution, 30x Zoom, WDR, H.264, NTSC/PAL, IK10, micro SD card compatible (supports up to 128 GB cards, card not included)
	2. SYSTEM COMPONENTS
		1. Indoor/Outdoor dome housing, camera scan unit, cabling, and a web based GUI that provides complete control of the IP PTZ dome settings and live video access.
	3. OPERATIONAL REQUIREMENTS
		1. The HDZ Series true day/night outdoor IR WDR IP PTZ dome camera system shall meet or exceed the following camera specifications:
			1. Image Sensor: 1/1.9-inch Sony Progressive CMOS
			2. Total Pixels: 1920 (H) × 1080 (V); 1080p
			3. Optical Zoom: 30x
			4. Focal Length: 6 mm – 180 mm
			5. Focus Mode: Auto/Semi-Auto (PTZ trigger)/Manual
			6. Iris Control: Auto/Manual
			7. Minimum Illumination: 0.005 lux (color) / 0.0005 lux (B/W) @ F1.6; 0 lux IR on
			8. Shutter Speed: 1/1–1/30,000 seconds
			9. Dual Audio Communication: G.711/G.711Mu
			10. Communication: ONVIF Profile S support
			11. White Balance: Auto Tracking White Balance (ATW), Auto White Control (AWC), Indoor, Outdoor, Manual
			12. Signal-to-Noise Ratio: greater than 50 dB (AGC off)
			13. Backlight Compensation: BLC/HLC/WDR
			14. AGC (Gain Control): Auto (Max gain limit settings for Auto) / Manual
			15. IR Light Control: On (Zoom priority/Manual)/Off
		2. The HDZ Series 1080p IR WDR IP PTZ camera must be available with a 1080p super high-resolution color/monochrome (true day/night) advanced digital signal processing (DSP) camera and 30X optical zoom (6 mm to 180 mm). The HDZ Series 1080p IR IP PTZ cameras also support wide dynamic range (WDR).
		3. The HDZ Series 1080p IR WDR IP PTZ color/monochrome (true day/night) camera shall utilize 1/1.9" Sony Progressive CMOS technology with a minimum horizontal resolution of 1080p. The camera must provide sharp, detailed images down to 0.005 lux color, 0.0005 lux monochrome, and 0 lux monochrome with IR LEDs turned on. When switching to monochrome mode, the camera must automatically remove the IR cut filter when necessary, which will increase the infrared sensitivity. When enough ambient light is available to produce an acceptable color image, the camera must automatically enable the IR cut filter. The HDZ Series 1080p IR IP PTZ camera must also utilize WDR technology, allowing for detail to be captured accurately even in high contrast scenes.
		4. The fully featured HDZ Series 1080p IR WDR IP PTZ camera supports the following Protocols: IPv4/v6, TCP/IP, UDP, RTP, RTSP, RTCP, HTTP, HTTPS, SSL, ICMP, FTP, SMTP, DHCP, PPPoE, UPnP, IGMP, SNMP, Bonjour, DNS, DDNS, IEEE 802.1x, QoS, NTP, ONVIF.

NOTE TO SPECIFIER: Some development may be required in specific user cases to support some of these protocols in the field as they mature over time.

* + 1. The HDZ Series 1080p IR WDR IP PTZ camera shall be comprised of a high-speed pan/tilt assembly using precision stepper motors with a high-strength belt drive, resulting in quiet and accurate operation.
		2. The HDZ Series 1080p IR WDR IP PTZ camera shall transmit images in simultaneous dual streams: H.264 and motion JPEG (MJPEG). The streams shall have the following features/functions:
			1. Support for 1080p resolution (1920x1080) at 30 frames per second (NTSC) and 25 frames per second (PAL). The camera can also support lower resolutions: 720p, D1: 720x480(NTSC)/720x576(PAL), CIF: 352x240(NTSC)/352x288(PAL) resolutions. Lower resolution frame rates (720p and lower) available at 60 frames per second (NTSC) and 50 frames per second (PAL).
			2. The HDZ Series 1080p IR WDR IP PTZ camera shall transmit additional H.264 or MJPEG video streams simultaneously with the primary H.264 or MJPEG stream (up to 3 streams).
			3. The bit rate for the H.264 and MJPEG streams can be set to constant or variable bit rate. The resolutions and frame rates for all streams are adjustable by the administrator.
			4. The fully featured HDZ Series 1080p IR WDR IP PTZ camera shall support three (3) H.264 profiles: High profile, Main profile, and Baseline profile.
		3. The HDZ Series 1080p IR WDR IP PTZ camera shall include, as standard, a web based GUI that provides complete control of the IP PTZ dome settings. The web based GUI shall:
			1. Permit three (3) users @ 1080p resolution or five (5) users @ D1 resolution in simultaneous unicast.
			2. Provide multiple user access levels with password protection.
			3. Offer video access from a web browser. The web browser shall offer live viewing for up to three (3) users @ 1080p resolution or five (5) users @ D1 resolution with full-control of all camera settings available to the administrator.
			4. Be easily discovered through Honeywell IPC Config Tool or other appropriate device search tools.
			5. Be available to record streaming video or snapshot images to a PC hard disk. The administrator must have the ability to turn the recording function on or off through the web based GUI.
			6. Require the following hardware as a minimum for the web browser:
				1. Operating system: Windows 7 (32-bit/64-bit)
				2. Processor: Intel® Pentium® 4 processor, 3 GHz or faster
				 Intel® Core™2 Duo processor, 2 GHz or faster
				3. System memory (RAM): 1 GB (32-bit)
				4. Graphics card: AGP graphics card 64 MB RAM, DirectDraw
				5. Network card: 10Base-T (10 Mbps) or 100Base-TX (100 Mbps) operation
				6. Web browser: Microsoft Internet Explorer 8.0 or later
				7. Viewer: ActiveX control plug-in for Internet Explorer
		4. The HDZ Series 1080p IR WDR IP PTZ camera shall feature web GUI menus for programming dome parameters. A minimum of the following menus must be available:
			1. Language
				1. English
				2. Czech
				3. German
				4. Spanish
				5. French
				6. Italian
				7. Portuguese
				8. Russian
				9. Simple Chinese
				10. Arabic
				11. Dutch
				12. Polish
				13. Japanese
				14. Korean
			2. Display Options
				1. Camera Message
				2. Pan azimuth and the tilt elevation direction
				3. Zoom Msg.
				4. Change Camera Name
				5. Time and Date
			3. Control Options
				1. Program Alarms
				2. Program Motion Detection
				3. Program Network failure detection
				4. Program Periodical event
				5. Program Network parameter/security
				6. Schedule Recording to micro SD card/Network share recording
				7. Event Recording to micro SD card/Network share recording
				8. Recording file download from micro SD card/Network share recording
				9. Set Default Function
				10. Auto Focus by three (3) modes
				11. Program Auto tracking and Face detection
				12. Wiper and IR on/off control
			4. Diagnostic Options
				1. View Parameter List
				2. System log
				3. Restore Default Settings
				4. Camera Parameter Reset
				5. Export and Import system configuration parameter
			5. Camera Options
				1. Zoom and Focus
				2. Exposure Control
				3. White Balance
				4. BLC
				5. Flip – On/Off
				6. ICR function
				7. Zoom Speed Adjustable
				8. WDR
				9. 2D NR
				10. 3D NR
				11. Defog
				12. EIS
				13. Motion Detection
			6. Function Programming
				1. Program a Pattern (Mimic Tour)
				2. Program a Preset tour
				3. Program a Auto pan/scan
				4. Program Privacy zone
		5. The HDZ Series 1080p IR WDR IP PTZ camera shall include, as standard, the following PTZ features and functions:
			1. Incorporates a sealed, precision gold slip ring to provide three hundred sixty degrees (360º) of continuous rotation. The dome must automatically adjust pan and tilt speed in proportion to the zoom position for greater control. The same amount of picture shall appear to move across the monitor regardless of the zoom factor. Manual pan speed must achieve up to 200º per second, and manual tilt speeds must achieve up to 120º per second.
			2. Provides for two (2) auto focus modes: PTZ trigger (Semi-auto) focus, and Continuous auto focus. When the scene requires extra-fine control, the dome must allow the operator to override the auto focus settings. Auto iris with manual override must also be standard.
			3. Five (5) mimic or learned tours. The administrator or user with privilege shall perform a series of pan, tilt, zoom movements that the dome must “learn”, when the pattern is recalled, the dome automatically repeats the movements. The duration of each pattern can be up to two (2) minutes or more.
			4. One auto pan and one auto scan. The administrator or user with privilege shall perform an auto pan by 360° endless, or perform an auto scan by a limited pan angle setting by the administrator/user.
			5. Support for up to eight (8) programmable preset tours, each with up to two hundred and fifty (250) preprogrammed positions. Each position can include a preset position, the speed, and the dwell time (dwell time defines the time the dome rests before going to the next preset position). The tour can be programmed to run continuously until halted by the operator. All programming of preset tours shall be done utilizing web GUI controls. A list of each dome’s programmed preset tours, displaying the tour numbers and titles, must be available for viewing on the web OSD.
			6. In order to quickly identify the specific PTZ an operator is viewing, the HDZ Series 1080p IR WDR IP PTZ camera shall contain a text overlay with an up to 15-character on-screen display for Channel Title, and 15x5-character on-screen display for other text. This text overlay and its position should be editable by the administrator.
			7. Twenty-four (24) programmable Dynamic Privacy Zones, which are protected by the Admin password, or a user who has the privilege.
			8. Incorporates flash memory to protect the programming for the privacy zones if power is lost. The flash memory shall retain the programming for a minimum of twenty (20) years. If the privacy zones have been programmed and the unit loses power, the video will remain blank until the PTZ dome finds its index position to prevent any area behind programmed privacy zones from being visible when power is restored.
			9. Include auto-pivot tracking (flip) circuitry to allow the dome to automatically turn 180-degrees when reaching its lower limit. This allows the administrator or user with privilege to automatically track an individual moving directly below the camera. The HDZ Series 1080p IR WDR IP PTZ camera shall be able to flip the image when tilting crosses the 90° direction.
			10. Able to set position zoom (smart zoom) mode and joystick mode. For the position zoom (smart zoom) mode, the camera zooms in automatically when drawing a rectangle on the picture. For joystick mode, the PTZ will go pan/tilt by the mouse left button click on the control area of the joystick part. The administrator shall also have the ability to enable the dome for a -10° tilt limit, allowing the unit to view slightly above the horizon without permitting the operator to view the inside of the housing.
			11. Displays the pan azimuth and the tilt elevation/declination, in degrees, on the video. The administrator must have the ability to turn the coordinates on or off.
			12. Displays date and time in the video for viewing/recording. The administrator must have the ability to turn it on/off. The HDZ Series 1080p IR WDR IP PTZ shall allow the administrator to enter an alphanumeric camera ID/name and insert the ID/name in to the video for viewing on a monitor (add text overlay on video). In addition, a digital zoom label shall be available on the video to display the current digital zoom magnification when zoom in/out. The administrator must have the ability to turn both IDs/names on or off.
		6. The HDZ Series 1080p IR WDR IP PTZ camera must provide the option of restoring all displays, alarms, camera settings, and diagnostic settings to factory default with a Web GUI command. In addition, the unit shall offer a “reboot” or “auto-reboot” by time with a Web GUI command.
		7. The HDZ Series 1080p IR WDR IP PTZ camera should provide a warning message through relay output/FTP/Email, upload an image through FTP/Email or record video to a micro SD card/network headend recorder upon motion/video tampering detection. The administrator must have the ability to turn the motion/video tampering detection function on or off through the web GUI.
		8. The HDZ Series 1080p IR WDR IP PTZ camera should provide a warning message through relay output/FTP/Email, or record video to a micro SD card upon network failure detection, the minimum detecting period is 10 seconds. The administrator must have the ability to adjust the detecting period and turn the network failure detection function on or off through the web GUI.
		9. The HDZ Series 1080p IR WDR IP PTZ camera should provide a warning message through relay output, upload an image through FTP/SD card, move to a function line (move to Preset, Preset Tour, Auto pan, Pattern) or record video to a micro SD card/FTP when an alarm in signal occurs. The administrator must have the ability to turn the alarm function on or off through the web GUI.
		10. The HDZ Series 1080p IR WDR IP PTZ camera should provide micro SD card recording for backup when there is an event (Alarm, Motion detection, Network failure detection) or scheduling. The administrator must have the ability to turn the recording function on or off through the web GUI. The micro SD card storage size can be varied from 8 GB to 128 GB. The micro SD card can be inserted, replaced or removed by the installer or the user. The HDZ Series 1080p IR WDR IP PTZ camera does not come with a micro SD card installed. It is recommended to use a high quality micro SD card for recording, such as a Class 10 micro SD card.

NOTE TO SPECIFIER: IMPORTANT! Any damaged files on an installed micro SD card incurred by malfunction or error in files saved on the micro SD card, regardless of the cause, are not guaranteed by Honeywell.

* + 1. The HDZ Series 1080p IR WDR IP PTZ camera shall include seven (7) on-board alarm inputs for normally open or normally closed dry contacts. The dome shall have the ability to go to a preset position, start a preset tour, or start a pattern when an alarm occurs. The HDZ Series 1080p IR WDR IP PTZ camera shall include two (2) on-board alarm outputs for normally open or normally closed dry contacts. The dome shall have the ability to perform the relay out signal to the alarm equipment.
		2. The HDZ Series 1080p IR WDR IP PTZ camera shall be available in a pendant housing specifically designed for installation in an outdoor environment. The pendant housing shall be IP67 rated. The bottom domes shall be designed to blend in with building aesthetics. HDZ302LIK models are IK10-rated. The housing shall consist of die-cast aluminum with a matte texture and white finish (closest matching RAL colors, White: RAL CODE 9003; Red accent: RAL CODE 3020). Available mounting options shall include pendant, wall, and roof, as well as pole and corner adapters.
		3. The HDZ302LIW model shall have a wiper in front of the lens to wipe away water and other things in bad weather conditions. The wiper shall be available to control through the web GUI or integration headend system by the administrator.
		4. The HDZ Series 1080p IR WDR IP PTZ camera shall have auto tracking function. The PTZ will trace the moving object when it is moving in the defined area/scene.
		5. The HDZ Series 1080p IR WDR IP PTZ camera shall have special presets to do some particular actions from the integration end. The special presets will also function on the web client. See the following table for defined special preset details.

NOTE TO SPECIFIER: When the OSD menu is displayed, use the tilt (up/down) buttons to move the cursor up/down in the menu, use the pan (left/right) buttons to change menu options, and use Iris+ to confirm a selection from the integration end.

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| **Preshot**  | **Preshot Call Function** |  |
| 1 to 79 | Normal Preset operation |  |
| 80 | Run Auto Pattern 1 |   |
| 81 | Run Auto Pattern 2 |   |
| 82 | Run Auto Pattern 3 |   |
| 87 | Run Auto Tour 1 |   |
| 88 | Run Auto Tour 2 |   |
| 89 | Run Auto Tour 3 |   |
| 90 | Open OSD menu | Toggle between ON and OFF for overlay OSD display. |
| 92 | Toggle Auto IRIS | Toggle between AUTO and IRIS Priority. |
| 93 | Toggle BLC | Toggle between OFF and ON. |
| 94 | Toggle Day/Night mode | Toggle between DAY and NIGHT. |
| 97 | Toggle IR ON/OFF | Toggle between OFF and ON. |
| 98 | PTZ Reset | Restart PTZ |
| 99 | Toggle EIS | Toggle between OFF and ON. |
| 100 | Toggle Defog | Toggle between OFF and AUTO. |
| 101 | Toggle Auto focus | Toggle between semi-auto and manual auto focus. |
| 102 | Toggle OSD | Toggle between ON and OFF for overlay OSD display. |
| 103 | Run Wiper Once | Run Wiper Once |
| 104 | Toggle Relay 1 | Toggle between ON and OFF. |
| 105 | Toggle Relay 2 | Toggle between ON and OFF. |
| 106 | Toggle WDR | Toggle between OFF and WDR value8. |
| 112 | Future reserved |   |
| 113 | Future reserved |   |
| 114 | Future reserved |   |
| 115 | Future reserved |   |
| 116 to 250 | Normal preset operation |   |

* 1. HDZ SERIES INTEGRATIONS
		1. The following mounting options are compatible with the HDZ Series 1080p IR WDR IP PTZ camera:
			1. HDZWM1 – Wall Mount
			2. HDZWM2 – Wall Mount with Access Hole
			3. HDZCMA – Corner Mount Adapter for Wall Mount
			4. HDZJB – Junction Box
			5. HDZPMA – Pole Mount Adapter for Wall Mount
			6. HDZCM1 – Ceiling Mount
			7. HDZCM2 – Ceiling Mount Extension Pole for HDZCM1, 220 mm
			8. HDZCM3 – Ceiling Mount Extension Pole for HDZCM1, 420 mm
			9. HDZNPTA\* – 1.5" NPT Adapter
			\***Note**: For PTZ installations where you are replacing an old PTZ that is using a 1.5" NPT bracket, you can order the 1.5" NPT adapter, HDZNPTA, to install the new HDZ PTZ with the old 1.5" NPT bracket.
		2. The following NVRs and Hybrid DVRs are compatible with the HDZ Series 1080p IR WDR IP PTZ camera:
			1. MAXPRO® NVR Family – Entry to Enterprise Level Network Video Recorders
			2. DVM – Digital Video Manager
			3. HUS
			4. ONVIF support for interoperability between Honeywell and other manufacturer’s IP-enabled security devices.

NOTE TO SPECIFIER: Some development may be required in specific user cases to support some of these protocols in the field as they mature over time.

* 1. SYSTEM HARDWARE
		1. The HDZ Series 1080p IR WDR IP PTZ camera shall have the following mechanical specifications:
			1. HDZ302LIK/HDZ302LIW:
				1. Unit Dimensions (H x Dia.): 15" x 9.4" (382.0 mm x 240.0 mm)
				2. Unit Weight: 13.9 lb (6.3 kg)
				3. Package Weight: 18.5 lb (8.4 kg)
		2. The HDZ Series 1080p IR WDR IP PTZ camera shall have the following electrical specifications:
			1. HDZ302LIW – Outdoor pendant dome:
				1. Input Voltage: 24 V AC ±10%, 50/60 Hz or High PoE (Class 5).

NOTE TO SPECIFIER: The High PoE power of this product requires a class current detected within the
52~64 mA range. All other detection procedures should follow the PoE+ standard (802.3at).

NOTE TO SPECIFIER: High PoE power will be the priority when connecting both 24 V AC and High PoE power.

* + - * 1. Power Consumption: 24 W; 32 W maximum (with IR on).
			1. HDZ302LIK – Outdoor pendant and vandal-resistant rugged dome:
				1. Input Voltage: 24 V AC ±10%, 50/60 Hz or High PoE (Class 5).

NOTE TO SPECIFIER: The High PoE power of this product requires a class current detected within the
52~64 mA range. All other detection procedures should follow the PoE+ standard (802.3at).

NOTE TO SPECIFIER: High PoE power will be the priority when connecting both 24 V AC and High PoE power.

* + - * 1. Power Consumption: 24 W; 38 W maximum (with IR on).
		1. The HDZ Series 1080p IR WDR IP PTZ camera shall be designed to meet the following environmental conditions:
			1. Operating Temperature: -40°F to 158°F (-40°C to 70°C)
			2. Relative Humidity: Less than 90%, non-condensing
			3. Emissions: EN55022; FCC Part 15 subpart B, RCM: AS/NZS CISPR 22:2009+A1 (2010).
			4. Immunity: EN50130-4
			5. Safety: EU – EN60950-1, EN60950-22. North America – UL listed to UL/CSA 60950-1.
			6. RoHS: EN50581
	1. 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.
1. 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 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 forty percent (40%) fill in conduits. Gather wires and tie to create an orderly installation.
			4. Coordinate with other trades to provide proper sequencing of installation.
	3. FIELD COMMISSIONING AND CERTIFICATION
		1. Field Commissioning: Test dome 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, 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