



HONEYWELL 60 Series Camera

A&E Specifications

GENERAL

SECTION INCLUDES

Provide a high definition camera system for video surveillance, including design, supply, installation, and commissioning.

RELATED SECTIONS

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

- Section 26 05 00: Common Work Results for Electrical, for interface and coordination with building electrical systems and distribution.
- Section 28 05 13: Conductors and Cables for Electronic Safety and Security, for cabling between system servers, panels, and remote devices.
- Section 28 05 28: Pathways for Electronic Safety and Security, for conduit and raceway requirements.
- Section 28 23 00: Video Surveillance Equipment, for interface with, and administration of video recording equipment.
- Section 28 23 23: Video Surveillance Systems Infrastructure.
- Section 28 23 29: Video Surveillance Remote Devices and Sensors.

REFERENCES

Reference Standards: Provide systems that meet or exceed the requirements of the following publications and organizations as applicable to the work of this Section.

- Canadian ICES-003.
- Canadian Standards Association (CSA).

- Conformity for Europe (CE).
- Electronic Industry Association (EIA).
- Federal Communications Commission (FCC).
- Institute of Electronic and Electrical Engineers (IEEE).
- Joint Photographic Experts Group (JPEG).
- National Television Systems Committee (NTSC).
- Phase Alternating Line (PAL).
- Underwriters Laboratories Inc. (UL).
- IP Code (Ingress Protection Rating) per IEC 60529.

SUBMITTALS

General: Submittals shall be made in accordance with the Conditions of the Contract and Submittal Procedure Section.

Manufacturer's Product Data: Submit manufacturer's data sheets indicating systems and components proposed for use, including instruction manuals.

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.

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.

Operation and Maintenance Data: Submit manufacturer's operation and maintenance data customized to the system installed. Include operator manuals.

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.

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.

DELIVERY, STORAGE, AND HANDLING

Packing and Shipping: Deliver products in manufacturer's labeled packages.

Storage and Protection: Store and handle products in accordance with manufacturer's requirements, in a facility where environmental conditions are within recommended limits.

WARRANTY

Manufacturer's Guarantee: Three (3) years from the manufacture date code under normal use and service for the video surveillance system.

QUALITY ASSURANCE

- Manufacturer: Minimum 10 years' experience in manufacturing and maintaining video surveillance systems. Manufacturer shall provide toll-free technical assistance and support available 24/7.
- Installer: Minimum 2 years' experience installing similar systems and shall be acceptable to the manufacturer of the video surveillance system.

MANUFACTURER SUPPORT

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

EXECUTION

EXAMINATION

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.

INSTALLATION

- All components of the camera system shall be thoroughly tested before shipping to the project location.
- Camera system shall be installed, programmed, and tested in accordance with manufacturer's instructions and recommendations.
 - Coordinate interfaces with other products with Owner's representative where appropriate.
 - 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.
 - Install conduit, cable, and wire parallel and square with building lines, including raised floor areas. Do not exceed 40 percent fill in conduits. Gather and tie wires for orderly installation.
 - Coordinate with other trades to provide proper sequencing of installation.

FIELD COMMISSIONING AND CERTIFICATION

Field Commissioning: Test camera system as recommended by manufacturer, including the following:

- Conduct complete inspection and testing of equipment, including verification of operation with connected equipment.
- Test devices and demonstrate operational features for Owner's representative and authorities having jurisdiction, as applicable.
- Correct deficiencies until satisfactory results are obtained.
- Submit written copies of test results.

TRAINING

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.

SYSTEM DESCRIPTION

The 8MP Ultra Low-Light IR PTZ Cameras HC60WZ8R40WI / HC60WZ8R40KI shall provide:

1. Superior Image Quality
HC60WZ8R40WI / HC60WZ8R40KI: 8MP Network TDN WDR Outdoor PTZ, WDR 140dB, 1/1.8" CMOS sensor.
 - a. WDR, BLC, HLC
 - b. True day/night functionality providing vivid color images by day and clear black-and-white images at night with ICR.
 - c. Excellent low-light performance 3D noise reduction, and together with H.265 Profile codec saving storage and bandwidth.
2. Flexible Surveillance Solution
 - a. HC60WZ8R40WI / HC60WZ8R40KI: 6.8~272 mm, F1.63 ~ F4.94, P Iris
 - b. H.265/H.264/MJPEG, Smart Codec.
 - c. Starting Temperature: -40°C ~ 60°C (-40°F ~ 140°F)
 - d. Working Temperature: -40 °C ~ 70 °C (-40 °F ~ 158 °F) (IR Off)
-40 °C ~ 55 °C (-40 °F ~ 131 °F) (IR On)
 - e. ONVIF Profile G/S/T/M.
 - f. Security features include self-signed certificates and data encryption.
 - g. Cameras can be retrofitted on many existing NVR installations without requiring additional storage.
3. Easy to Install and Use
 - a. Built-in PoE++ eliminates separate power supply and associated wiring; 24V AC inputs where PoE power is unavailable.
 - b. Remote configuration, motorized focus and zoom adjustments and auto focus through web client or from the NVR.
4. Onboard Video Storage
Supports up to 1TB (Micro SD) card for local video storage when event triggered.
5. Cyber Security Software:
HC60WZ8R40WI / HC60WZ8R40KI: User account and password protection, HTTPS, IP Filter, Digest authentication, TLS1.2&TLS1.3, Stream encryption, AES128 / 256, SSH / Telnet closed, PCIDSS compliance, Built-In encryption chipset
6. Cyber Security Hardware: Secure boot, Secure authentication chipset built-in (Support for Asymmetric Sign, Verify, Key Agreement:
ECDSA: FIPS186-3 Elliptic Curve Digital Signature
ECDH: FIPS SP800-56A Elliptic Curve Diffie-Hellman)

PRODUCTS

MANUFACTURERS

- Specified Manufacturer: Honeywell 8MP Ultra Low-Light IR PTZ Cameras, <https://buildings.honeywell.com/security>.
- Accepted Part Numbers:
HC60WZ8R40WI: 8MP Ultra Low-Light IR PTZ Cameras, WDR 140dB, 1/1.8" CMOS, 40X Optical Zoom, TDN, H.265 HEVC Smart Codec, PoE++, 24VAC, IP66/IP67/ IK10 (housing only), Wiper, White (RAL9003) + Black.
HC60WZ8R40KI: 8MP Ultra Low-Light IR PTZ Cameras, WDR 140dB, 1/1.8" CMOS, 40X Optical Zoom, TDN, H.265 HEVC Smart Codec, PoE++, 24VAC, IP66/IP67/ IK10, White (RAL9003) + Black.

SYSTEM COMPONENTS

8MP Ultra Low-Light IR PTZ Cameras, camera housing, cabling, and a web-based GUI that provides complete control of camera settings and live video access.

OPERATIONAL REQUIREMENTS

1. 8MP Ultra Low-Light IR PTZ Cameras system shall meet or exceed the following camera specifications:
 - a. Image Sensor: 1/1.8" CMOS
 - b. Total Pixels:
HC60WZ8R40WI / HC60WZ8R40KI: 3840 x 2160
 - c. Minimum Illumination:
HC60WZ8R40WI / HC60WZ8R40KI: Color: 0.01 lux (F1.6,30IRE),BW: 0 lux @F1.6 (IR On)
 - d. WDR range:
HC60WZ8R40WI / HC60WZ8R40KI: up to 140 dB
 - e. Backlight Compensation: WDR, BLC, HLC
 - f. Day/Night: Auto/Day/Night/Timing
 - g. Gain Control: 0~100%.
 - h. Noise Reduction: 3D DNR
 - i. Privacy Masking: Off / On (5 Areas)
 - j. Electronic Shutter Speed:
HC60WZ8R40WI / HC60WZ8R40KI: 1 to 1/30,000s
 - k. Video Standard: NTSC/PAL
 - l. White Balance: Auto/Tungsten/Fluorescent/Daylight/Shadow
 - m. Signal-to-Noise Ratio: ≥ 55 dB
 - n. Lens:
HC60WZ8R40WI / HC60WZ8R40KI: 40X Zoom, 6.8~272 mm, F1.63 ~ F4.94, P Iris
 - o. Angle of View:
HC60WZ8R40WI / HC60WZ8R40KI: H: 60.8° ~ 2.29°,V: 35.9° ~ 1.28°
 - p. Communication: ONVIF Profile S/G/T/M support.

2. 8MP Ultra Low-Light IR PTZ Cameras system shall provide true day/night functionality with an infrared (IR) cut filter for day mode.
3. 8MP Ultra Low-Light IR PTZ Cameras system shall provide, in high contrast lighting conditions, higher quality images and significantly better dynamic range.
4. 8MP Ultra Low-Light IR PTZ Cameras system shall provide up to 5 fully configurable privacy zones to mask sensitive areas of a video image.
5. 8MP Ultra Low-Light IR PTZ Cameras system shall support the ONVIF Profile S/G/T/M specification for interoperability between network video products.
6. 8MP Ultra Low-Light IR PTZ Cameras system shall include, as standard, a web-based GUI that provides complete control of the camera settings. The web-based GUI shall:
 - a. Provide role-based access control with password protection.
 - b. Be easily discovered through Honeywell Unified tool or other appropriate device search tools.
 - c. Be available to record snapshot images to a PC hard disk. The administrators have the ability turning the recording function on or off through the web-based GUI.
 - d. Require the following hardware as a minimum for the web browser:
 Operating system: Microsoft Windows 10
 Processor: Intel Core i5 2.9 GHz or above, such as Intel Core i5-4590 Quad Core 3.3Ghz.
 System memory (RAM): 8GB, DDR3-1600
 Graphics card: 1 GB dedicated video memory, such as NVIDIA GeForce GTX 750 1 GB.
 Network card: 10 Base-T/100 Base-TX Ethernet (RJ-45)
 Web browser: Microsoft Edge, Chrome.
7. 8MP Ultra Low-Light IR PTZ Cameras system shall support: IPv4, IPv6, TCP/IP, HTTP, HTTPS, UPnP, RTSP/RTP/RTCP, IGMP, SMTP, DHCP, NTP, DNS, DDNS, QoS, SNMP, 802.1X, UDP, ICMP, ARP, TLS, FTP/SFTP

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

1. 8MP Ultra Low-Light IR PTZ Cameras system shall provide H.265, H.264, or MJPEG triple video streams simultaneously. The streams shall have the following functions:
 Main Stream:
 8MP mode:
 PAL: 3840x2160, 2592x1944, 2592x1520, 2560x1440, 2304x1296, 1920x1080, 1280x720 @25fps
 NTSC: 3840x2160, 2592x1944, 2592x1520, 2560x1440, 2304x1296,

1920x1080, 1280x720 @30fps

2MP mode:

PAL: 1920x1080, 1280x720 @50fps

NTSC: 1920x1080, 1280x720 @60fps

Second Stream:

2MP and 8MP mode:

PAL: 704x576, 640x480, 352x288 @25fps

NTSC: 704x480, 640x480, 352x240 @30fps

Third Stream:

8MP mode:

PAL: 1920x1080, 1280x720, 640x480, 352x288, 320x240 @25fps

NTSC: 1920x1080, 1280x720, 640x480, 352x240, 320x240 @30fps

2MP mode:

PAL: 640x480, 352x288, 320x240 @25fps

NTSC: 640x480, 352x240, 320x240 @30fps

2. 8MP Ultra Low-Light IR PTZ Cameras shall transmit additional H.265, H.264 or MJPEG video streams simultaneously with the primary H.265, H.264 or MJPEG stream (up to triple streams).

The bit rate for the H.265, H.264 and MJPEG streams can be set to Constrained bit rate or Fixed quality. The resolutions and frame rates for all streams are adjustable by the administrator.

3. 8MP Ultra Low-Light IR PTZ Cameras system shall feature web GUI menus for programming camera parameters. A minimum of the following menus must be available:

- 1 Live View
- 2 Camera Setup
 - a. General settings
 - b. Video
 - c. Audio
 - d. Image Settings
 - e. OSD
 - f. Privacy Mask
- 3 Network Setup
 - a. General Settings
 - b. Streaming Protocols
 - c. SMTP
 - d. SNMP
 - e. QoS
 - f. HTTPS
 - g. 802.1x
 - h. FTP
 - i. DDNS
 - j. Port Mapping
 - k. System Log
 - l. Network Discovery Protocols
- 4 Video Analytics
 - a. Motion detection
 - b. Smart motion
 - c. Scene change
 - d. Intrusion
 - e. Multi Loitering
 - f. People counter
 - g. Face detection

- h. Line crossing detection
- i. Unattended object detection
- j. Missing object detection
- k. Event & Metadata Scheme
- 5 Alarm & Event
 - a. Alarm in and alarm out
 - b. SD card alarm
 - c. Audio detection
- 6 Storage Setup
 - a. SD Card Management
 - b. Content Management
 - c. Recording Settings
- 7 System Setup
 - a. General Settings
 - b. Maintenance
 - c. User Accounts
 - d. Access List
- 8 PTZ Setup
 - a. Preset
 - b. Auto Scan
 - c. Tour
 - d. Pattern
 - e. Idle action
 - f. Power up action
 - g. Intelligent Tracking
- 9 Information
 - a. Log
 - b. Version
 - c. Privacy Policy
- 4. 8MP Ultra Low-Light IR PTZ Cameras system 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 simple "reboot" with a Web GUI comm
- 5. 8MP Ultra Low-Light IR PTZ Cameras system should provide a warning message through Email/HTTP, upload an image through Email or record video to a micro SD card/network recorder upon VA event. The administrators have the ability turning the Event function on or off through the web GUI.

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. 8MP Ultra Low-Light IR PTZ Cameras system shall provide event analytics capability. It shall detect the event of video motion detection, alarm input, system boot, recording notify, camera tampering detection. Once an event is detected, it shall trigger one of following linkages in camera.
 - a. Event notification on camera web GUI
 - b. Snapshot to SD/Email
 - c. Recording to SD/Email
- 2. 8MP Ultra Low-Light IR PTZ Cameras housing shall consist of Aluminum and Plastic housing with coating Honeywell White, Pantone Black and shall be waterproof.
- 3. 8MP Ultra Low-Light IR PTZ Cameras shall include 7 on-board alarm inputs for

- normally open or normally closed dry contacts.
- 4. 8MP Ultra Low-Light IR PTZ Cameras shall include two (2) on-board alarm inputs for normally open or normally closed dry contacts.
- 5. 8MP Ultra Low-Light IR PTZ Cameras shall have Audio Interface with Line In/Out.

SERIES INTEGRATIONS

1. The following accessories are compatible with 8MP Ultra Low-Light IR PTZ Cameras:
 - a. HC60WZ8R40WI / HC60WZ8R40KI:
HA60WLMZI: 60S wall mount bracket, 1.5NPT female, arm length 209.3mm (8.24")
HA60PLMZI: 60S pole mount bracket
HA60WLMZL: 60S Longer Wall Mount, 1.5NPT female, arm length 279.3mm (11.0")
HA60CNMZI: 60S corner mount bracket
HA60CLM01: 60S pendent mount base, 1.5NPT female
HA60CLM02: 60S pendent extension pipe, 1.5NPT male
2. The following NVRs are compatible with 8MP Ultra Low-Light IR PTZ Cameras:
 - a. MAXPRO NVR HE: Up to 256 IP channels RAID5/6 enterprise NVR
 - b. MAXPRO NVR PE: Up to 192 IP channels RAID5/6 enterprise NVR
 - c. MAXPRO NVR SE: Up to 96 IP channels system NVR
 - d. MAXPRO NVR XE: Up to 24 IP channels system NVR
 - e. MAXPRO NVR Software: Up to 256 IP channels recording software
 - f. ADPRO NVR IFT-E: Up to 32 IP channels with up to 32 VA channels NVRs
 - g. ADPRO NVR IFT: Up to 32 IP channels or 16 IP channels with up to 16 VA channels NVRs
 - h. ADPRO NVR EFT-S: Up to 16 IP channels or 8 IP channels with up to 8 VA channels NVRs
 - i. ADPRO NVR iFT Gateway: 4 IP channels + 4 VA channels
 - j. Honeywell DVM: Supported with Honeywell DVM 800
 - k. 35 Series NVR: 4/8/16/32/64-channel 35 series NVRs

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.

SYSTEM HARDWARE

1. 8MP Ultra Low-Light IR PTZ Cameras system shall have the following mechanical specifications:
 - a. Unit Dimensions: Ø226.10 x 362.80 mm (8.90" x 14.28")
 - b. Product Weight:
HC60WZ8R40WI: 5.505kg (12.136lb)
HC60WZ8R40KI: 5.425kg (11.960lb)
 - c. Package Weight:
HC60WZ8R40WI: 7.055kg (15.554lb)
HC60WZ8R40KI: 6.980kg (15.388lb)
 - d. Body Material: Aluminum and Plastic
 - e. Color: White (RAL9003) and Black
2. 8MP Ultra Low-Light IR PTZ Cameras system shall have the following electrical specifications:

- a. Input Voltage: AC24V, PoE++ (802.3BT)
- b. Power Consumption (MAX):
HC60WZ8R40WI / HC60WZ8R40KI: 47.5 W
- 3. 8MP Ultra Low-Light IR PTZ Cameras system shall have the following Audio Line in/out interface specifications:
 - a. Line in, Max 1.8 Vpp
 - b. Line out, Max 1.3 Vpp
- 4. 8MP Ultra Low-Light IR PTZ Cameras system shall have the following Alarm in/out interface specifications:
 - a. Alarm In: seven (7) on-board alarm inputs for normally open or normally closed dry contacts.
 - b. Alarm Out: two (2) on-board alarm dry contact output.
- 5. 8MP Ultra Low-Light IR PTZ Cameras system shall be designed to meet the following environmental conditions and regulatory:
 - a. Operating temperature:
Starting Temperature: -40 °C (-40 °F)
Working Temperature: -40 °C ~ 70 °C (-40 °F ~ 158 °F)
 - b. Relative Humidity: Less than 95%, non-condensing.
 - c. Regulatory:
HC60WZ8R40WI / HC60WZ8R40KI:
Certification: CE/RCM/UKCA/FCC/IP66/IP67/IK10/UL/60950-22
 - d. Country or Region of Origin: Vietnam.

END OF SECTION