Honeywell

Honeywell 35 Series IP 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: Five (5) 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 WDR 3/5/8 MP IR MFZ Bullet Camera, HC35WB3R2/ HC35WB5R2/ HC35WB8R2 shall provide:

A. Superior Image Quality
   1 HC35WB3R2: 3 MP (2304x1296) resolution, 1~25/30fps image with a 1/2.7" 5 Megapixel progressive scan CMOS sensor (Limited to 3M for use).

HC35WB5R2: 5 MP (2592x1944) resolution, 1~25/30fps image with a 1/2.8" 5 Megapixel progressive scan CMOS sensor.
HC35WB8R2: 8 MP (3840x2160) resolution, 1~25/30fps image with a 1/2.8" 8 Megapixel progressive scan CMOS sensor.

2 WDR, ensuring glare-free images. WDR range: 120dB
3 True day/night functionality providing vivid color images by day and clear black-and-white images at night with ICR.
4 Excellent low-light performance with 2D/3D noise reduction, and together with H.265 Profile codec saving storage and bandwidth.

B. Flexible Surveillance Solution
1 2.7-13.5mm, DC-Iris, F1.6-F3.3, MFZ Lens.
2 H.265, H.264 and MJPEG codec with triple streams support.
3 Working temperature:
-40°C ~ 60°C (-40°F ~ 140°F) (IR OFF)
4 ONVIF™ Profile S/G/T support.
5 Security features include self-signed signed certificates and data encryption.
6 Cameras can be retrofitted on many existing NVR installations without requiring additional storage.

C. Easy to Install and Use
1 Built-in PoE (Power over Ethernet) eliminates separate power supply and associated wiring; 12V DC inputs where PoE power is unavailable.
2 Remote configuration through web client or from the NVR.

D. Onboard Video Storage
Supports up to 256GB (Micro SD/SDHC/SDXC) card for local video storage when event triggered.

E. Cyber Security
User account and password protection, HTTPS, IP Filter, Digest authentication, TLS1.2 only, Stream encryption, AES-128/256, SSH/ Telnet closed, PCI-DSS compliance.

PRODUCTS

MANUFACTURERS

A. Specified Manufacturer: Honeywell WDR 3/5/8 MP IR MFZ Bullet Camera, https://myhoneywellbuildingsuniversity.com.

B. Accepted Part Numbers:

HC35WB3R2: 3MP Network MFZ Bullet Camera, TDN, WDR, 1/2.7" CMOS, 2.7-13.5mm, 4 IR LEDs, H.265, PoE, IP66/IP67, NDAA Compliant.

HC35WB5R2: 5MP Network MFZ Bullet Camera, TDN, WDR, 1/2.8" CMOS, 2.7-13.5mm, 4 IR LEDs, H.265, PoE, IP66/IP67, NDAA Compliant.

HC35WB8R2: 8MP Network MFZ Bullet Camera, TDN, WDR, 1/2.8" CMOS, 2.7-13.5mm, 4 IR LEDs, H.265, PoE, IP66/IP67, NDAA Compliant.

SYSTEM COMPONENTS

WDR 3/5/8 MP IR MFZ Bullet Camera, camera housing, cabling, and a web based GUI that

provides complete control of camera settings and live video access.

OPERATIONAL REQUIREMENTS

A. WDR 3/5/8 MP IR MFZ Bullet Camera system shall meet or exceed the following camera specifications:
   1 Image Sensor:
   HC35WB3R2: 1/2.7" 5 Megapixel progressive scan CMOS (Limited to 3M for use)
   HC35WB5R2: 1/2.8" 5 Megapixel progressive scan CMOS
   HC35WB8R2: 1/2.8" 8 Megapixel progressive scan CMOS
   1 Total Pixels:
   HC35WB3R2: 2304x1296 (3 MP)
   HC35WB5R2: 2592x1944 (5 MP)
   HC35WB8R2: 3840x2160 (8 MP)
   2 Minimum Illumination:
   HC35WB3R2/ HC35WB5R2: 0.005 Lux/F1.6 (Color,30IRE), 0 Lux/F1.6 (IR ON)
   HC35WB8R2: 0.007 Lux/F1.6 (Color,30IRE), 0 Lux/F1.6 (IR ON)
   3 WDR, ensuring glare-free images. WDR range: 120dB
   4 IR Distance: up to 60 m
   5 Backlight Compensation: WDR, BLC, HLC, Defog
   Note: HC35WB3R2 doesn't support Defog.
   6 Day/Night: Auto (ICR) / Color / BW.
   7 Gain Control: 0-100%.
   8 Noise Reduction: 2D/3D DNR.
   9 Privacy Masking: Off / On (4 Areas).
   10 Electronic Shutter Speed: 1/8 ~ 1/32,000.
   11 Video Standard: NTSC/PAL.
   12 Audio Interface:
   HC35WB3R2: not supported
   HC35WB5R2/ HC35WB8R2: 1 audio line in, 1 audio line out
   13 Audio Compression: G711A/G711U (HC35WB3R2 not supported)
   14 White Balance: Auto/Tungsten/ Fluorescent/ Daylight/Shadow/Manual.
   15 Signal-to-Noise Ratio: More than 50dB.
   16 Lens: 2.7-13.5mm, DC-Iris, F1.6-F3.3, MFZ Lens.
   17 Angle of View:
   HC35WB3R2: H:81°-24° V:44°-14°
   HC35WB5R2: H:88°-26° V:65°-20°
   HC35WB8R2: H:98°-31° V:51°-17°
   18 Communication: ONVIF Profile S/G/T support.

B. WDR 3/5/8 MP IR MFZ Bullet Camera system shall provide true day/night functionality with an infrared (IR) cut filter for day mode.

C. WDR 3/5/8 MP IR MFZ Bullet Camera system shall provide, in high contrast lighting conditions, higher quality images and significantly better dynamic range.

D. WDR 3/5/8 MP IR MFZ Bullet Camera system shall provide up to 4 fully configurable privacy zones to mask sensitive areas of a video image.

E. WDR 3/5/8 MP IR MFZ Bullet Camera system shall support the ONVIF Profile S/G/T specification for interoperability between network video products.

F. WDR 3/5/8 MP IR MFZ Bullet Camera system shall include, as standard, a web based GUI that provides complete control of the camera settings. The web based GUI shall:
   1 Provide role-based access control with password protection.
   2 Be easily discovered through Honeywell Unified Tool or other appropriate device search tools.

3 Be available to record streaming video or snapshot images to a PC hard disk. The administrators have the ability turning the recording function on or off through the web based GUI.

4 Require the following hardware as a minimum for the web browser:

a. Operating system: Windows 7, Windows 10

b. Processor: Intel Core i5 2.9 GHz or above, such as Intel Core i5-4590 Quad Core 3.3Ghz.

c. System memory (RAM): 8GB, DDR3-1600

d. Graphics card: 1 GB dedicated video memory, such as NVIDIA GeForce GTX 750 1 GB.

e. Network card: 10 Base-T/100 Base-TX Ethernet (RJ-45)

f. Web browser: Chrome 91+; Edge 92+

G. Viewer: No ActiveX control plug-in for Chrome / Edge

H. WDR 3/5/8 MP IR MFZ Bullet Camera system shall support IPv4, IPv6, TCP / IP, HTTP, HTTPS, RTSP / RTP / RTCP, IGMP / Multicast, SMTP, DHCP, NTP, DNS, QoS, SNMP, 802.1X, UDP, ICMP, ARP, TLS protocols.

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.

I. WDR 3/5/8 MP IR MFZ Bullet Camera system shall provide H.265, H.264 or MJPEG triple video streams simultaneously. The streams shall have the following functions:

1 Main Stream:
HC35WB3R2: Support for 3 MP resolution (2304x1296) at 30/25 frames per second (NTSC/PAL). The camera can also support lower resolutions (1920x1080/1280x720) at 1-30/25 frames per second.
HC35WB5R2: Support for 5 MP resolution (2592x1944) at 30/25 frames per second (NTSC/PAL). The camera can also support lower resolutions (2592x1520/1920x1080/1280x720) at 1-30/25 frames per second.
HC35WB8R2: Support for 8 MP resolution (3840x2160) at 30/25 frames per second (NTSC/PAL). The camera can also support lower resolutions (2592x1944/2592x1520/2560x1440/2304x1296/1920x1080/1280x720) at 1-30/25 frames per second.
Note: It is only support MAX 15fps for encryption under HTTPS.

2 Sub Stream:
Support 704x576(PAL)/704x480(NTSC)/640x480/352x288(PAL)/352x240(NTSC) at 1 ~ 25/30 fps;
Note: It is only support MAX 15fps for encryption under HTTPS

3 Third Stream:
HC35WB3R2/HC35WB8R2: Support 640x480/352x288(PAL)/352x240(NTSC)/ 320x240 at 1 ~ 25/30fps
HC35WB5R2: Support 1920x1080 at 1 ~ 12fps, and 640x480/352x288(PAL)/ 352x240(NTSC)/320x240 at 1 ~ 25/30fps
Note: It is not available for encryption.

J. WDR 3/5/8 MP IR MFZ Bullet Camera 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.

K. WDR 3/5/8 MP IR MFZ Bullet Camera system shall feature web GUI menus for programming camera parameters. A minimum of the following menus must be available:

1 Live View
2 Setup
   a. Camera Setup
      1) General setting
      2) Video
      3) Audio
      4) Image setting
      5) OSD
      6) Privacy mask
   b. Network Setup
      1) General settings
      2) Streaming protocols
      3) SMTP
      4) SNMP
      5) QoS
      6) HTTPS
      7) 802.1x
   c. Built-in Video Analytics
      1) Motion detection
      2) Smart Motion detection
      3) Tampering detection
      4) Intrusion
      5) Multi Loiter
      6) People Counter
   d. Alarm & Event
      1) Alarm In And Alarm Out (HC35WB3R2 not support)
      2) SD Card Alarm
   e. Storage Setup
      1) SD card management
      2) Content management
      3) Recording settings
   f. System Setup
      1) General settings
      2) Maintenance
      3) User accounts
      4) Access list
3 Information
   a. Log
   b. Version

L. WDR 3/5/8 MP IR MFZ Bullet Camera 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 command.

M. WDR 3/5/8 MP IR MFZ Bullet Camera system should provide a warning message through Email, upload an image through Email or record video to a micro SD card upon Motion detection / Smart Motion Detection / Tampering detection / Intrusion Detection / Multi-Loiter Detection / People Counter. The administrators have the ability turning the Motion detection / Smart Motion Detection / Tampering detection / Intrusion Detection / Multi-Loiter Detection / People Counter function on or off through the web GUI.
Note: HC35WB3R2 doesn’t support Smart Motion Detection / Intrusion Detection / Multi-Loiter Detection / People Counter)

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.

N. WDR 3/5/8 MP IR MFZ Bullet Camera system shall provide event analytics capability. It shall detect the event of video motion detection, audio detection, periodically, system boot, recording notify, and camera tampering detection. Once an event is detected, it shall trigger one of following linkages in camera.
   1 Snapshot to Email
   2 Recording to SD card
   3 System log store in camera (can search from web)

O. WDR 5/8 MP IR MFZ Bullet Camera housing shall include one (1) on-board alarm inputs for normally open or normally closed dry contacts. (HC35WB3R2 not support)

P. WDR 5/8 MP IR MFZ Bullet Camera housing shall include one (1) on-board alarm dry contact output. (HC35WB3R2 not support)

Q. WDR 5/8 MP IR MFZ Bullet Camera housing shall have Audio Interface with Line In/Out. (HC35WB3R2 not support)

R. WDR 3/5/8 MP IR MFZ Bullet Camera housing shall consist of die-casting aluminum housing with coating RAL9003, Pantone Black and shall be waterproof, rated to IP66/IP67.

SERIES INTEGRATIONS

A. The following accessories are compatible with WDR 3/5/8 MP IR MFZ Bullet Camera:
   1 HA60JCBH1 60S junction box
   2 HA60PLMZ 60S pole mount adapter
   3 HA60CNMZ 60S corner mount adapter

B. The following NVRs are compatible with WDR 3/5/8 MP IR MFZ Bullet Camera:
   1 Pro-Watch NVR: Up to 256 IP channels RAID5/6 Enterprise NVR
   2 MAXPRO NVR PE: Up to 128 IP channels RAID5/6 Enterprise NVR
   3 MAXPRO NVR SE: Up to 64 IP channels System NVR
   4 MAXPRO NVR XE: Up to 16 IP channels System NVR
   5 MAXPRO NVR SOFTWARE: Up to 128 IP channels Recording Software
   6 ADPRO NVR FASTTRACE 2E / ADPRO NVR iFT-E: Up to 32 IP channels with up to 32 VA channels NVRs
   7 ADPRO NVR iFT: Up to 32 IP channels or 16 IP channels with up to 16 VA channels NVRs
   8 ADPRO NVR iFT GATEWAY: 4 IP channels + 4 VA channels
   9 Honeywell DVM: Supported with Honeywell DVM R710.1 (and later maintenance releases)
   10 30 Series NVR: Integration with 30 Series NVR

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

A. WDR 3/5/8 MP IR MFZ Bullet Camera system shall have the following mechanical specifications:
   1. Unit Dimensions: Ø87.0 mm × 232.0 mm (Ø3.43” × 9.13”)

2. Product Weight: Approx. 0.92 kg (2.03 lb)
3. Material: Die-cast aluminium housing

B. WDR 3/5/8 MP IR MFZ Bullet Camera system shall have the following electrical specifications:
1. Input Voltage: DC12V 1A, PoE (IEEE 802.3af) (Class 0).
2. Power Consumption:
HC35WB3R2: MAX 5.5W
HC35WB5R2: MAX 6W
HC35WB8R2: MAX 7.3W

C. WDR 5/8 MP IR MFZ Bullet Camera system shall have the following Audio Line in/out interface specifications:
1. Line in, 2.8 Vpp full scale
2. Line out, max. 2.8 Vpp
Note: HC35WB3R2 doesn't support Audio Line in/out

D. WDR 5/8 MP IR MFZ Bullet Camera system shall have the following Alarm in/out interface specifications:
1. Alarm In: one (1) on-board alarm inputs for normally open or normally closed dry contacts
2. Alarm Out: one (1) on-board alarm dry contact output with the contact rating 0.5A@24VDC
Note: HC35WB3R2 doesn't support Alarm in/out

E. WDR 3/5/8 MP IR MFZ Bullet Camera system shall be designed to meet the following environmental conditions and regulatory:
1. Operating temperature:
Starting Temperature: -40°C ~ 60°C (-40°F ~ 140°F)
Working Temperature: -40°C ~ 60°C (-40°F ~ 140°F) (IR OFF)
2. Relative Humidity: Less than 90%, non-condensing.
3. Emissions: FCC PART 15, CE (EN 55032)
4. Immunity: CE (EN 50130-4), Complies with RCM and UKCA
5. Safety: UL LISTED TO UL/CSA 62368-1, CE (EN 62368-1), CE (EN 60950-22), Complies with RCM and UKCA
6. RoHS: CE (EN 63000), UAE (Cabinet Decree No.10 of 2017).
7. Country or Region of Origin: Vietnam.

END OF SECTION