

Hanwha Vision is a global leading supplier of solutions for IP and analog video surveillance. Building on the company's history of innovation, Hanwha Vision is dedicated to providing systems solutions with the highest levels of performance, reliability and cost-effectiveness. Hanwha Vision is committed to the continued development of innovative systems products for professional security applications.

For additional information, https://www.hanwhavision.com/en/, https://hanwhavisionamerica.com

1. **PRODUCTS**
   1. **EQUIPMENT**
      1. Manufacturer: Hanwha Vision (https://www.hanwhavision.com/en/, https://hanwhavisionamerica.com)
      2. Model: QNO-7032R
      3. Alternates: None
   2. **GENERAL DESCRIPTION**
      1. Video Compression and Transmission – The camera shall have the following properties relating to the video signals it produces.
         1. H.265, H.264 and MJPEG compression, each derived from a dedicated encoder and capable of being streamed independently and simultaneously.
            1. H.265 and H.264 – maximum of 30fps at all resolution
            2. MJPEG – maximum of 15fps
         2. The camera shall be able to configure up to 10 independent video stream profiles with differing encoding, quality, frame rate, resolution, and bit rate settings.
         3. The camera shall be able to configure various resolution selections.
            1. 16:9 aspect ratio: 2560 x 1440, 1920 x 1080, 1280 x 720, 800 x 448, 640 x 360
            2. 4:3 aspect ratio: 1280 x 960, 800 x 600, 640 x 480, 320 x 240
            3. 5:4 aspect ratio: 720 x 576,
            4. 3:2 aspect ratio: 720 x 480
         4. The camera shall support unicast video streaming up to 6 users.
         5. The camera shall support multicast video streaming
         6. The camera shall be able to configure Dynamic DNS (DDNS). DDNS shall be provided with no additional cost by the manufacturer.
         7. The camera shall provide WiseStream Ⅱ, Dynamic GOV and Dynamic fps to efficiently manage bit rate of the video stream and reduce storage.
      2. Camera – The camera device shall have the following physical and performance properties:
         1. True day/night operation with removable IR cut filter
            1. Low light level operation to 0.15 lux at F2.0 in color mode and 0 lux in black and white mode with IR LED.
         2. The camera shall be able to produce clear images in highly contrast scenes with multi-exposure wide dynamic range up to 120dB.
         3. The camera shall support digital noise reduction technology.
         4. The camera shall be able to configure 6 privacy masking areas with rectangular zone.
      3. Intelligence and Analytics – The camera shall have a suite of intelligent analytic functions.
         1. Motion detection with 4 definable detection areas with polygonal zones, and minimum/maximum object size.
         2. Detection of logical events of specified conditions from the camera’s video
            1. Tampering, Directional Detection, Virtual Line, Enter/Exit
            2. Defocus Detection, Motion Detection
      4. Interoperability – The camera shall be ONVIF Profile S, G and T compliant.
      5. The camera shall possess the following further characteristics:
         1. Built-in web server, accessed via non-plugin browsers including Google Chrome, IE11, MS Edge, Mozilla Firefox and Apple Safari.
         2. Micro SD/SDHC/SDXC memory card with configurable pre-alarm and post-alarm recording intervals
         3. NAS recording option with configurable pre-alarm and post-alarm recording intervals
         4. Alarms and notifications
            1. alarm notification triggers:

Alarm input

Video & Audio analytics

Network disconnect

* + - * 1. available notification means upon trigger:

File Upload via FTP and E-mail

Notification via E-mail

Local storage (SD / SDHC / SDXC) or NAS recording at event triggers

External output

* + - 1. Pixel Counter available in the web viewer.
      2. PoE capable
  1. **DETAILED SPECIFICATIONS**
     1. Video
        1. Imaging device: 1/3" 4MP CMOS
        2. Image Pixels: Effective: 2,560(H) x 1,440(V)
        3. Scanning: Progressive
        4. Minimum Illumination: Color 0.15Lux (F1.6, 1/30sec), B/W 0Lux (IR LED on)
     2. Lens
        1. Focal length: 6mm fixed
        2. Max. Aperture Ratio: F2.0
        3. Field of View: H: 49.0°/ V: 27.6°/ D: 55.6°
        4. Focus Control: Fixed
     3. Pan / Tilt / Rotate
        1. Pan / Tilt / Rotate Range: 0˚~350˚ / 0˚~67˚ / 0˚~355˚
     4. DORI Distance
        1. Detect: 112.3m (368.60ft)
        2. Observe: 44.9m (147.44ft)
        3. Recognize: 22.5m (73.72ft)
        4. Identify: 11.2m (36.86ft)
     5. Operational Functions
        1. IR Viewable Length: 20m (65.62ft)
        2. Camera Title: Off / On (Displayed up to 85 characters)
        3. Day/Night Setting: Auto (ICR)
        4. Backlight Compensation: SSDR / BLC / WDR
        5. WDR: 120dB
        6. Digital Noise Reduction: Off / On (SSNR)
        7. Motion Detection: Off / On (4ea, polygonal)
        8. Privacy Masking: Off / On (6 zones, rectangular zone)
        9. Gain Control: Support
        10. White Balance: ATW / AWC / Manual / Indoor / Outdoor
        11. Electronic Shutter Speed: Minimum / Maximum / Anti flicker (1/5~1/12,000sec)
        12. Image Rotation: Flip, Mirror: Hallway view(0˚ / 90˚ / 270˚)
        13. Alarm I/O: Input 1ea / Output 1ea
        14. Alarm Triggers: Analytics, Network disconnect, Alarm input
        15. Alarm Events: File upload via FTP and e-mail, Notification via e-mail, SD/SDHC/SDXC or NAS recording at event triggers, Alarm output, Handover
        16. Pixel Counter: Support
        17. Storage: Micro SD/SDHC/SDXC 128GB, NAS support
        18. Internal Memory: 512MB RAM, 256MB Flash
        19. Intelligent Analytics: Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering, Virtual line
        20. Video Out (Installation): CVBS 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P)
     6. Video Streams
        1. Video compression: H.265, H.264, MJPEG
        2. Resolution: 2560x1440, 1920x1080, 1280x960, 1280x720, 800x600, 800x448, 720x576, 720x480, 640x480, 640x360, 320x240
        3. Maximum Framerate
           1. H.265 / H.264: Max. 30fps at all resolutions
           2. MJPEG: Max. 15fps
        4. WiseStream Ⅱ: Support
        5. Bitrate Control Method: H.265 / H.264(CBR or VBR), MJPEG(VBR)
        6. Streaming Capability: Multiple streaming (Up to 3 profiles)
        7. Streaming method: Unicast / Multicast
        8. Simultaneous Users: 6 maximum (Unicast)
        9. Profile set: Max. 10 ea
        10. Interoperability: ONVIF Profile S / G / T, SUNAPI, Open Platform
     7. Network
        1. Connectivity – 10/100 Base-T Ethernet via RJ-45 connector
        2. Protocol
           1. IP v4 / v6, TCP, UDP
           2. Configuration: DHCP, LLDP
           3. Web service: HTTP, HTTPS
           4. Network Service: ARP, Bonjour, DNS, ICMP, NTP, PIM-SM, SNMP v1/2c/3 – MIB-2, UPnP
           5. Media: RTP, RTCP, RTSP
           6. Multicast: IGMP
           7. Notifications: FTP, SMTP
           8. Remote Access: PPPoE
        3. DDNS – The camera shall support DDNS services offered by the manufacturer and others publicly available service offerings
        4. QoS – Layer 3 DSCP
        5. Security Feature
           1. User password protection
           2. The device shall not provide a manufacture default password. Default password change shall be required to access the camera.
           3. A minimal level of password complexity shall be required by the camera.
           4. The camera shall not have a manufacture back-door password.
           5. The manufacturer shall provide a tool that provides the ability to make password changes to multiple cameras at the same time.
           6. IP address filtering – List of allowed or blocked IP addresses
           7. HTTPS(SSL) login authentication
           8. HTTPS(SSL) secured communication
           9. Digest login authentication
           10. User access log
           11. 802.1x authentication
        6. Discovery – The manufacturer shall offer a discovery program to identify all devices of them on the network.
        7. Configuration – The manufacturer shall offer a configuration program that remotely allows users to change settings on multiple cameras simultaneously.
        8. Firmware upgrade – The manufacturer shall offer a program capable of upgrading multiple cameras at the same time (not requiring access to individual cameras).
        9. Camera backup setting – The manufacturer shall provide a program that provides the ability to save multiple camera settings to a file and restore these camera settings if needed.
        10. Reporting – The manufacturer shall provide a tool that can generate a report including thumbnail view, MAC address, IP address, serial number and other camera settings.
     8. Electrical
        1. Power Input Voltage / Current: PoE (IEEE 802.3af, Class3), 12VDC
        2. Power Consumption
           1. PoE: Max 10.7W, typical 8W
           2. 12VDC: Max 9.1W, typical 6.8W
     9. Mechanical And Environmental
        1. Color/Material: Dark grey / Aluminum
        2. Dimensions (W x H): Ø70.0 x 246.0mm(Ø2.76 x 9.69")
        3. Weight: 700g (1.543 lb)
        4. Temperature / Humidity
           1. Operating: -30° C to 55° C (-22° F to 131° F) Normal, 30° C to 60° C (-22° F to 140° F) Intermittent / Less than 95% RH(Non-condensing) \*Start up should be done at above -20° C (-35.6° F)
           2. Storage: -30°C ~ +60°C (-22°F ~ +140°F) / Less than 90% RH
        5. Environmental Rating
           1. Ingress Protection: IP66
           2. Mechanical (Vandal) Protection: IK10
     10. Certificate
         1. Video
            1. ISO / IEC 23008-2:2013, MPEG-H Part2 (ITU H.265, HEVC)
            2. ISO / IEC 14496–10, MPEG-4 Part 10 ( ITU H.264)
            3. ISO / IEC 10918 – JPEG
            4. ONVIF – Profile S / G / T
         2. EMC & Safety
            1. FCC 47 CFR Part 15, Subpart B

ANSI C63.4-2017

* + - * 1. IC Regulation ICES-003 Issue 7

CAN/CSA CISPR 32-17

* + - * 1. CE EMC-Directive 2014/30/EU and

EN 55032:2015/A11:2020 Class A

EN 50130-4:2011

EN-61000-3-2:2014

EN-61000-3-3:2013

* + - * 1. VCCI-CISPR 32:2016 Class A
        2. AS/NZS CISPR32:2015 Class A
        3. UL listed
        4. CE EN 50581:2012 (hazardous substances)

END OF SECTION