December, 2017

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**Product Guide Specification**

Specifier Notes: This product guide specification is written according to the Construction Specifications Institute (CSI) 3-Part Format, based on *MasterFormat 2016* and *The Project Resource Manual—CSI Manual of Practice. The Manufacturer is responsible for technical accuracy.*

The section must be carefully reviewed and edited by the Architect or Engineer to meet the requirements of the project and local building code. Words and sentences within brackets [ ] are choices to include or exclude a particular item or statement. Coordinate this section with other specification sections and the Drawings. Delete all “Specifier Notes” after editing this section.

**Section 28 21 00: Video Surveillance**

**Section 28 21 13: IP Cameras**

**MEGAPIXEL PINHOLE – 2MP INDOOR NETWORK CAMERA LENS UNIT**

1. **– GENERAL**
   1. SUMMARY
      1. Section Includes
         1. Section 28 21 17: Video Surveillance – Surveillance Cameras – Camera Housings
         2. Section 28 21 19: Video Surveillance – Surveillance Cameras – Camera Mounts
         3. Section 28 27 00: Video Surveillance – Video Surveillance Sensors
      2. Related Sections
         1. [Section 28 33 15: Security Detection, Alarm and Monitoring – Security Monitoring and Control – Security Monitoring and Control Software].

\*\*\*\*\*\*\*\*\*\*Specifier’s note: Include those standards referenced elsewhere in this SECTION.

* 1. REFERENCES
     1. Federal Communications Commission (FCC) ([www.fcc.gov](http://www.fcc.gov))
        1. (SEFD1509190-B
     2. Underwriters Laboratories, Inc. (UL) ([www.ul.com](http://www.ul.com))
        1. E234884-A60-UL
     3. CONFORMITE EUROPEENNE
        1. EN60950:2000
     4. Bureauveritas(<www.bureauveritas.com>)
        1. EN50155:2007
     5. E-mark(<www.tuv.com>)
        1. ECE-Regulation NO.10

* + 1. HD standards
       1. Complies with the SMPTE 274M-2008 Standard in:
          1. Resolution: 1920x1080
          2. Scan: Progressive
          3. Color representation: complies with ITU-R BT.709
          4. Aspect ratio: 16:9
          5. Frame rate: 25 and 30 frames/s
       2. Complies with the 296M-2001 Standard in:
          1. Resolution: 1280x720
          2. Scan: Progressive
          3. Color representation: complies with ITU-R BT.709
          4. Aspect ratio: 16:9
          5. Frame rate: 25, 30, 50 and 60 frames/s
          6. Interference-Causing Equipment Standards
  1. SYSTEM DESCRIPTION
     1. Section Includes
        1. Video Surveillance – Surveillance Cameras – IP Cameras
     2. Performance Requirements
        1. The Pinhole camera lens unit shall be a modular unit of a full-featured 2MP camera designed for discrete video surveillance applications in indoor and indoor environments.
        2. The Pinhole camera lens unit shall offer a high performance 1/2.8-inch progressive-scan CMOS sensor with 2MP resolution.
        3. The Pinhole camera lens unit shall conform to the ONVIF profile S&G and CGI standards to provide interoperability with other conformant systems.
  2. SUBMITTALS

* + 1. Submit under provisions of Section [01 33 00.]
    2. Product Data:
       1. Manufacturer’s data, user and installation manuals for all equipment and software programs including computer equipment and other equipment required for complete video management system.
    3. Dimensional Drawings; include
       1. Overall device dimensions.
       2. Dimensions specific for installation.
    4. Closeout Submittals
       1. User manual.
       2. Parts list.
       3. Maintenance requirements.
  1. QUALITY ASSURANCE
     1. Manufacturer:
        1. Minimum of [10] years of experience in manufacture and design Video Surveillance Devices.
     2. Video Surveillance System:
        1. List certifying bodies (UL, etc.)
        2. Provide evidence of compliance upon request.
     3. Installer:
        1. Minimum of [5] years of experience installing Video Surveillance System.
  2. DELIVERY, STORAGE AND HANDLING
     1. Comply with requirements of Section 01 60 00.
     2. Deliver materials in manufacture’s original, unopened, undamaged containers; and unharmed original identification labels.
     3. Protect store materials from environmental and temperature conditions following manufacturer’s instructions.
     4. Handle and operate products and systems according to manufacturer’s instructions.
  3. WARRANTY
     1. Provide manufacturer’s warranty covering [3] years for replacement and repair of defective equipment. Warranty varies country to country.
  4. MAINTENANCE
     1. Make ordering of new equipment for expansions, replacements, and spare parts available to dealers and end users.
     2. Provide factory direct technical support via phone and e-mail.

1. **– PRODUCTS**
   1. MANUFACTURERS
      1. [Acceptable Manufacturer:

Zhejiang Dahua Technology Co.,Ltd

No.1199,Bin’an Road,Binjiang District,Hangzhou

Tel: +86 571 8768-8883

Fax: +86 571 8768-8815

Email: overseas@dahuatech.com

* + 1. Substitutions: [Not permitted.] [Under provisions of Division 1.]
       1. [All proposed substitutions must be approved by the Architect or Engineer professional.]
       2. [Proposed substitutions must provide a line-by-line compliance documentation.]
  1. MEGAPIXEL PINHOLE - 2MP INDOOR NETWORK CAMERA LENS UNIT – [IPC-HUM8231-L4]
     1. General Characteristics:
        1. The Pinhole camera lens unit shall be a modular unit of a full-featured 2MP camera designed for discrete video surveillance applications in indoor environments.
        2. The Pinhole camera lens unit shall offer a high performance 1/2.8-inch progressive-scan CMOS sensor with 2MP resolution.
        3. The Pinhole camera lens unit shall conform to the ONVIF Profile S&G and CGI standards to provide interoperability with other conformant systems.
     2. Imaging
        1. The Pinhole camera lens unit shall offer a 1/2.8-inch type CMOS progressive-scan imager.
        2. The Pinhole camera lens unit shall offer an effective number of pixels of   
           1920 x 1080 effective picture elements.
        3. The Pinhole camera lens unit shall offer 16:9 aspect ratio.
        4. The Pinhole camera lens unit shall offer a fixed focal length of 2.8mm.
        5. The Pinhole camera lens unit shall have a [103°] horizon field of view.
        6. The Pinhole camera lens unit shall offer a fixed aperture of F2.4.
        7. The Pinhole camera lens unit shall produce a color image with a minimum scene illumination of 0.02 lux at F2.4 (Color, 1/3s, 30IRE), 0.08 lux at F2.4 (Color, 1/30s, 30IRE), and a monochrome image, when in the night mode, with a minimum illumination of 0.01 lux at F2.4 (B/W, 1/3s, 30IRE), 0.04 lux at F2.4 (B/W, 1/30s, 30IRE) under black & white mode.
  2. ACCESSORIES
     1. The Pinhole camera lens unit shall require the following accessories:
        1. Included mounting hardware:
           1. [Ceiling/Wall mount bracket]
        2. Required main box:
           1. [Pinhole camera main box]

1. **– EXECUTION**
   1. EXAMINATION
      1. Examine areas to receive devices and notify adverse conditions affecting installation or subsequent operation.
      2. Do not begin installation until unacceptable conditions are corrected.
   2. PREPARATION
      1. Protect devices from damage during construction.
   3. INSTALLATION
      1. Install devices in accordance with manufacturer’s instruction at locations indicated on the floor drawings plans.
      2. Perform installation with qualified service personnel.
      3. Install devices in accordance with the National Electrical Code or applicable local codes.
      4. Ensure selected location is secure and offers protection from accidental damage.
      5. Location must provide reasonable temperature and humidity conditions, free from sources of electrical and electromagnetic interference.
   4. FIELD QUALITY CONTROL
      1. Test snugness of mounting screws of all installed equipment.
      2. Test proper operation of all video system devices.
      3. Determine and report all problems to the manufacturer’s customer service department.
   5. ADJUSTING
      1. Make proper adjustment to video system devices for correct operation in accordance with manufacturer’s instructions.
      2. Make any adjustment of camera settings to comply with specific customer’s need.
   6. DEMOSTRATION
      1. Demonstrate at final inspection that video management system and devices functions properly.

END OF SECTION