**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**

**PART 1 – GENERAL**

1.1     SUMMARY
   A.   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
   B.   Related Sections
      1.   [Section 28 33 15: Security Detection, Alarm and Monitoring – Security Monitoring and Control – Security Monitoring and Control Software].
      2.
********** Specifier's note: Include those standards referenced elsewhere in this SECTION.

1.2     REFERENCES

| STANDARD | NA |
|----------|-----|

1.3     SYSTEM DESCRIPTION

   A.   Section Includes
        1.   Video Surveillance – Surveillance Cameras –

1.4     SUBMITTALS

   A.      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.
   B.   Dimensional Drawings; include
        1.   Overall device dimensions.
        2.   Dimensions specific for installation.
   C.   Closeout Submittals
        1.   User manual.
        2.   Parts list.
        3.   Maintenance requirements.

1.5     QUALITY ASSURANCE

   A.   Manufacturer:
        1.   Minimum of [10] years of experience in manufacture and design Video
             Surveillance Devices.
   B.   Video Surveillance System:
        1.   List certifying bodies (UL, etc.)
        2.   Provide evidence of compliance upon request.
   C.   Installer:
        1.   Minimum of [5] years of experience installing Video Surveillance System.

1.6     DELIVERY, STORAGE AND HANDLING

   A.   Comply with requirements of Section 01 60 00.
   B.   Deliver materials in manufacture's original, unopened, undamaged containers; and
        unharmed original identification labels.
   C.   Protect store materials from environmental and temperature conditions following
        manufacturer's instructions.
   D.   Handle and operate products and systems according to manufacturer's instructions.

1.7     WARRANTY

   A.   Provide manufacturer's warranty covering [3] years for replacement and repair of
        defective equipment. Warranty varies country to country.

1.8     MAINTENANCE

   A.   Make ordering of new equipment for expansions, replacements, and spare parts
        available to dealers and end users.
   B.   Provide factory direct technical support via phone and e-mail.

## PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer:
ZHEJIANG DAHUA VISION TECHNOLOGY CO., LTD.
Address: No.1399, Binxing Road, Binjiang District, Hangzhou, P.R. China
Postcode: 310053
Tel: +86-571-87688888 28933188
Email: dhoverseas@dhvisiontech.com
Website: www.dahuasecurity.com

B. Substitutions:
1. [All proposed substitutions must be approved by the Architect or Engineer professional.]
2. [Proposed substitutions must provide a line-by-line compliance documentation.]

2.2 Thermal Camera | DHI-TPC-BF1241-TB3F4-DW-S2

| Thermal | Detector Type | Vanadium oxide uncooled focal plane detector |
|---|---|---|
| Thermal | Effective Pixels | 192 (H) × 144 (V) |
| Thermal | Pixel Pitch | 12 μm |
| Thermal | Spectral Range | 8 μm–14 μm |
| Thermal | Sensitivity (NETD) | ≤40mK@f/1.0 |
| Thermal | Focal Length | 3.5 mm |
| Thermal | Field of View | H: 50.6°;V: 37.8° |
| Thermal | Thermal Focus Control | Fixed-focal |
| Thermal | Digital Zoom | 16 levels |
| Thermal | Thermal AGC | Auto/Manual |
| Thermal | Thermal Noise Reduction | 2D NR/3D NR |
| Thermal | Image Flip | 0°; 90°; 180°; 270°/Mirror |
| Thermal | Color Palettes | 18 (white hot/black hot/fusion/rainbow/golden autumn/midday/iron red/amber/jade/sunset/icefire/painting/pomegranate/emerald /spring/summer/autumn/winter) |
| Visible | Image Sensor | 1/2.7" CMOS |

| | | |
|---|---|---|
| Visible | Max. Resolution | 2336 (H) × 1752 (V) |
| Visible | Pixel | 4 MP |
| Visible | Min. Illumination | Color: 0.05 lux Black & white: 0.005 lux 0 lux (IR on) |
| Visible | Visible AGC | Auto/Manual |
| Visible | Visible Noise Reduction | 2D NR/3D NR |
| Visible | White Balance | Auto; manual; indoor; outdoor; tracking; street lamp; natural |
| Visible | Defog | Electronic defog |
| Visible | BLC | Yes |
| Visible | WDR | DWDR |
| Visible | HLC | Yes |
| Visible | Day/Night | Auto (ICR)/Color/B/W |
| Visible | Iris Control | Fixed |
| Visible | Image Flip | 0°; 90°; 180°; 270°/Mirror |
| Visible | Focal Length | 4 mm |
| Visible | Field of View | H: 71.2° V: 32° D: 92.6° |
| Visible | Aperture | F1.6 |
| Audio and Video | Video Compression | H.265; H.264; H.264H; MJPEG |
| Audio and Video | Resolution | Thermal: Main stream: 1.3M (1280 × 960) (default); XVGA (1024 × 768); VGA (640 × 480/256 × 192); Sub stream: VGA (640 × 480/256 × 192); 256 × 192 by default; Visible: Main stream: 2336 × 1752 (default); 1080p (1920 × 1080); 720p (1280 × 720); D1 (704 × 576); Sub stream: 720p (1280 × 720); D1 (704 × 576); CIF (352 × 288) (default) |
| Audio and Video | Video Frame Rate | Thermal: Main stream: 1 fps–25 fps, 25 fps by default; Sub stream: 1 fps–25 fps, 15 fps by default; Visible: Main stream: 1 fps–25 fps, 25 fps by default; Sub stream: 1 fps–25 fps, 15 fps by default; |
| Function | Network Protocol | HTTPS; HTTP; TCP; ARP; RTSP; RTP; UDP; RTCP; SMTP; FTP; DHCP; DNS; DDNS; PPPOE; IPv4/v6; SNMP; QoS; UPnP; NTP |
| Function | Interoperability | ONVIF; CGI; Dahua SDK |
| Port | Network Port | 1 × RJ-45 (10/100 Base-T) |
| Port | Alarm Input | 1 |
| Port | Alarm Output | 1 |
| Port | Audio Input | 1 |
| Port | Audio Output | 1 |
| Port | RS-485 | 1 |
| Power | Power Supply | 12 VDC ± 20%, PoE |
| Power | Power | Basic: 6.5 W (12 VDC, LED off) Max.: 13 W (12 VDC, |

| | Consumption | LED and heater on) |
|---|---|---|
| Environment | Operating Temperature | –30 °C to +60 °C (–22 °F to +140 °F) |
| Environment | Operating Humidity | ≤ 95% |
| Environment | Storage Temperature | –30 °C to +70 °C (–22 °F to +158 °F) |
| Physical Characteristics | Protection | IP67 Surge protection: 6 kV Air discharge of 8 kV Contact discharge of 6 kV |
| Structure | Bracket | Pole mount: PFA152-E (bracket) Ceiling mount: PFA130-E (junction box) |

**PART 3 – EXECUTION**

3.1   EXAMINATION

   A.   Examine areas to receive devices and notify adverse conditions affecting installation or subsequent operation.
   B.   Do not begin installation until unacceptable conditions are corrected.

3.2   PREPARATION

   A.   Protect devices from damage during construction.

3.3   INSTALLATION

   A.   Install devices in accordance with manufacturer's instruction at locations indicated on the floor drawings plans.
   B.   Perform installation with qualified service personnel.
   C.   Install devices in accordance with the National Electrical Code or applicable local codes.
   D.   Ensure selected location is secure and offers protection from accidental damage.
   E.   Location must provide reasonable temperature and humidity conditions, free from sources of electrical and electromagnetic interference.

3.4   FIELD QUALITY CONTROL

   A.   Test snugness of mounting screws of all installed equipment.
   B.   Test proper operation of all video system devices.
   C.   Determine and report all problems to the manufacturer's customer service department.

3.5   ADJUSTING

   A.   Make proper adjustment to video system devices for correct operation in accordance with manufacturer's instructions.
   B.   Make any adjustment of camera settings to comply with specific customer's need.

3.6   DEMOSTRATION

   A.   Demonstrate at final inspection that video management system and devices functions properly.

END OF SECTION