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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 2004* 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 23 29
VIDEO SURVEILLANCE REMOTE DEVICES AND SENSORS
BOSCH AUTODOME 5000 PTZ CAMERA**

PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes

1. Security Lighting

B. Related Sections

1. Section [28 23 13 – Video Surveillance Control and Management Systems].
2. Section [28 23 16 – Video Surveillance Monitoring and Supervisory Interfaces].
3. Section [28 23 19 – Digital Video Recorders and Analog Recording Devices].
4. Section [28 23 23 – Video Surveillance Systems Infrastructure].

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

1.2 REFERENCES

- A. Electromagnetic Compatibility
 - 1. ICES-003
 - 2. EN 55022:1998
 - 3. EN 50130-4:1995
 - 4. EN61000-3-2:2000
 - 5. EN61000-3-3:1995
- B. European Norm
 - 1. Complies with CE Electromagnetic Compatibility regulations
 - 2. Complies with CE Product Safety regulations
- C. Federal Communications Commission (FCC) (www.fcc.gov)
 - 1. Complies with FCC Part 15.
- D. Safety
 - 1. EN60950-1:2006, +A11:2009, A1:2010, +A12:2011
 - 2. UL 60950-1
- E. Underwriters Laboratories, Inc. (UL) (www.ul.com)
 - 1. Complies with UL standards.

1.3 SYSTEM DESCRIPTION

- A. Section Includes
 - 1. Video Surveillance Remote Devices
- B. Performance Requirements
 - 1. The PTZ camera shall be a true day/night camera with 432x zoom (36x extended zoom, 12x digital zoom).
 - 2. The PTZ camera shall offer ultra high resolution up to 720TVL (960H with WDR).
 - 3. The PTZ camera shall offer Wide Dynamic Range (WDR).
 - 4. The PTZ camera shall be enclosed in a compact and vandal-resistant enclosure.
 - 5. The PTZ camera shall be IP66 rated making it suitable for indoor and outdoor use.
 - 6. The PTZ camera shall be equipped with an internal heater making the dome suitable for use in ambient temperature of -40° to $+50^{\circ}\text{C}$ (-40°F to $+122^{\circ}\text{F}$).

1.4 SUBMITTALS

- A. Submit under provisions of Section [01 33 00.]
- B. 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.
- C. Shop Drawings; include
 - 1. System device locations on architectural floor plans.
 - 2. Full Schematic of system, including wiring information for all devices.
- D. Closeout Submittals
 - 1. User manual.
 - 2. Parts list.
 - 3. System device locations on architectural floor plans.
 - 4. Wiring and connection diagram.
 - 5. Maintenance requirements.

1.5 QUALITY ASSURANCE

- A. Manufacturer:
 - 1. Minimum of [10] years experience in manufacture and design Video Surveillance Devices.
- B. Video Surveillance System:
 - 1. Listed by CSA.
 - 2. Certified compliant to FCC and CE for the required loads. Test methods are in accordance with Industry Canada and the IEC. Provide evidence of compliance upon request.
- C. Installer:
 - 1. Minimum of [5] years experience installing Video Surveillance System.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Comply with requirements of Section 01 60 00.
- B. Deliver materials in manufacturer'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.
- E. Bosch provides off-the-shelf availability for our top selling products and same-day or 24-hour shipping.

1.7 WARRANTY

- A. Provide manufacturer's warranty covering 3 years for replacement and repair of defective equipment.

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 from 8:00 a.m. to 8:00 p.m. via phone and e-mail.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer:
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- B. 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.]

2.2 BOSCH AUTODOME 5000 PTZ CAMERA [VEZ-513-EWCR] [VEZ-523-EWCR]
[VEZ-513-IWCR] [VEZ-523-IWCR] [VEZ-513-EWTR] [VEZ-523-EWTR]
[VEZ-513-IWTR] [VEZ-523-IWTR]

A. Imaging:

1. The PTZ camera shall come with a 960H, ¼-in. Double Scan CCD imager, with 720 TVL sensor resolution
2. The PTZ camera shall offer the following pixel elements:
 - a. PAL: Approximately 570,000, 976 (H) x 582 (V)
 - b. NTSC: Approximately 480,000, 976 (H) x 494 (V)
3. The PTZ camera shall offer a horizontal resolution of 720 TVL (960H with WDR capability).
4. The PTZ camera shall offer 36x effective optical zoom (3.43 mm – 120 mm).
5. The PTZ camera shall offer 12x digital zoom.
6. The PTZ camera shall offer the following minimum illumination at 30 IRE:
 - a. Day mode: 0.1 lux
 - b. Night mode (black and white) 0.01 lux
7. The PTZ camera shall be a true day/night camera.
8. The PTZ camera shall offer Wide Dynamic Range (WDR).

B. Communications:

1. The PTZ camera shall utilize RS-485 for camera setup and control.
2. The PTZ camera shall support the Bosch (OSRD) and the Pelco D/P communication protocols.

C. Operation

1. The PTZ camera shall have a pan range of 360°, continuous.
2. The PTZ camera shall have a tilt range of between 0° to 180°.
3. The PTZ camera shall have a preposition speed of 5° to 360° per second.
4. The PTZ camera shall have a manual speed of 0.5° to 90° per second.
5. The PTZ camera shall have a preposition accuracy of 0.225°.
6. The PTZ camera shall offer 99 prepositions.
7. The PTZ camera shall offer eight (8) tours and four (8) AutoPan modes.
8. The PTZ camera shall offer four (4) alarm inputs (5V 10 kΩ Pull Up) and two (2) relay outputs (max. 2 A, 30 VDC / 0.5 A, 125 VAC).
9. The PTZ cameras shall offer the following language support for the on-display menus: English, Dutch, French, German, Italian, Polish, Portuguese, Russian Spanish, and Simplified Chinese.

D. Electrical

1. The PTZ camera shall require 24 VAC, 50/60 Hz.
2. The PTZ camera shall consume the following power:
 - a. Indoor models: 20 W (without heater)
 - b. Outdoor models: 50 W (with heater)

E. Environmental

1. The PTZ camera shall have an ingress rating of IP66.
2. The PTZ camera shall operate in the following temperature ranges:
 - a. Indoor Models: 0°C to +50°C (32°F to +122°F)
 - b. Outdoor Models: -40°C to +50°C (-40°F to +122°F)
3. The PTZ camera outdoor models shall use a heater that:

- a. Turns on at -7°C (19.4°F).
- b. Turns off at $+3^{\circ}\text{C}$ (37.4°F).

F. Construction

1. The PTZ camera housing shall be constructed of die-cast aluminum.
2. The PTZ camera sunshield shall be constructed of outdoor grade plastic.
3. The PTZ camera housing shall be offered in white (RAL 9003).

G. Camera:

1. System: PAL or NTSC
2. Imager: 960H, 1/4-in. Double Scan CCD, 720TVL sensor resolution
3. Effective Pixels:
 - a. PAL: Approximately 570,000, 976 (H) x 582 (V)
 - b. NTSC: Approximately 480,000, 976 (H) x 494 (V)
4. Horizontal Resolution: 720 TVL (960H with WDR capability)
5. Lens: 3.43 mm to 120 mm
6. Focus: Constant, manual, spot
7. Iris: Auto, manual
8. Optical Zoom Field of View (DxHxV):
 - a. Wide: $72.3^{\circ} \times 57.8^{\circ} \times 43.4^{\circ}$
 - b. Tele: $2.13^{\circ} \times 1.70^{\circ} \times 1.28^{\circ}$
9. Gain Control: Auto, manual
10. Digital Zoom: 12x
11. Sensitivity (typical): 30 IRE:
 - a. Day mode: 0.1 lux
 - b. Night mode: 0.01 lux
12. Electronic Shutter Speed:
 - a. PAL: 1/50 to 1/10,000 second
 - b. NTSC: 1/60 to 1/10,000 second
13. Wide Dynamic Range: On/Off
14. Signal-to-Noise Ratio (SNR): >50 dB (with AGC off)
15. White Balance: Auto, Manual, Indoor, Outdoor, ATW
16. Video Output: 1.0 Vp-p / 75Ω , BNC

H. Mechanical

1. Pan Range: 360° continuous
2. Tilt Range: 0° to 180°
3. Manual Speed: 0.5° to 90° /second
4. Pre-position Speed: 5° to 360° /second
5. Preset Accuracy: 0.225°
6. Flip:
 - a. Image: 180°
 - b. Mechanical: 90°

I. Electrical

1. Input Voltage: 24 VAC, 50/60 Hz
2. Power Consumption, typical:
 - a. Indoor Models: 20 W (without heater)
 - b. Outdoor Models: 50 W (with heater)

- J. Miscellaneous
 - 1. Privacy Masking: 20 individually-configurable masks
 - 2. DNR: 2 DNR / 3 DNR
 - 3. AGC Control: Auto, Manual
 - 4. Backlight Compensation: On/Off
 - 5. Proportional Pan/Tilt: On/Off
 - 6. Image Enhancement: Zoom, Stabilize, Off
 - 7. Night Mode: On, Off, Auto
 - 8. Auto SensUp Max: 2x to 60x or Off
 - 9. Prepositions: 99
 - 10. Tours: 8
 - 11. AutoPan: 4
 - 12. Preset Tours: 8
 - 13. Camera Setup/Control: RS-485
 - 14. Communications Protocols: Bosch OSRD, Pelco D/P
 - 15. Supported Languages: English, Dutch, French, German, Italian, Polish, Portuguese, Russian, Spanish, Simplified Chinese

- K. Alarm Connections:
 - 1. Inputs: Four (4): 5V 10 k Ω Pull Up
 - 2. Outputs: Two (2): Relay output, max. 2 A, 30 VDC / 0.5 A, 125 VAC

- L. Environmental:
 - 1. Ingress Rating: IP66
 - 2. Operating Temperature:
 - a. Indoor Models: 0°C to 50°C (32°F to 122°F)
 - b. Outdoor Models: -40°C to 50°C (-40°F to 122°F)
 - 3. Storage Temperature: -20°C to 70°C (-4°F to 158°F)
 - 4. Humidity: 10% to 90% relative, non-condensing
 - 5. Heater:
 - a. Turns On at -7°C (19.4°F)
 - b. Turns off at +3°C (37.4°F)

- M. Construction:
 - 1. Dimensions (D x H)
 - a. With Sunshield: Φ 208 mm x 295.5 mm (8.19 in. x 11.63 in.)
 - b. Without Sunshield: Φ 187 mm x 295.5 mm (7.36 in. x 11.63 in.)
 - 2. Weight: 3.3 kg (8 lb) with sunshield
 - 3. Construction Material:
 - a. Housing: Die-cast aluminum
 - b. Sunshield: Outdoor Grade Plastic
 - 4. Standard Color: White (RAL 9003)

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 DEMONSTRATION

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

END OF SECTION