NOVEMBER 2021

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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 Security**

**Section 28 21 11: Analog Cameras**

**5MP NIGHT COLOR 2.0 HDCVI VARI-FOCAL 16:9 BULLET CAMERA**

1. **– GENERAL**
	1. SUMMARY
		1. Section Includes
			1. Section 28 21 17: Video Security – Security Cameras – Camera Housings
			2. Section 28 21 19: Video Security – Security Cameras – Camera Mounts
			3. Section 28 21 21: Video Security – Security Cameras – Illuminators
			4. Section 28 27 00: Video Security – Video Security 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. CFR 47 FCC Part 15 Subpart B
		2. Underwriters Laboratories, Inc. (UL) (www.ul.com)
			1. UL60950-1
		3. CSA Group ([www.csagroup.org](http://www.csagroup.org))
			1. CAN/CSA C22.2 No.60950-1
		4. ANSI Standard
			1. ANSI C63.4-2014
		5. CE Standards
			1. EN55032
			2. EN55024
			3. EN50130-4
			4. EN60950-1
		6. 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
	2. SYSTEM DESCRIPTION
		1. Section Includes
			1. Video Security – Security Cameras – Analog Cameras
		2. Performance Requirements
			1. The 5MP HDCVI Vari-focal Bullet camera shall be a full-featured 5MP HDCVI Vari-focal bullet camera unit designed for discrete video security applications in indoor and outdoor environments.
			2. The 5MP HDCVI Vari-focal Bullet camera shall offer a high-performance sensor and a large aperture lens to produce crisp, clear color images in low light environments.
			3. The 5MP HDCVI Vari-focal Bullet camera shall incorporates white-light LEDs to offer full-color images in total darkness, as well as an effective visual deterrent.
			4. The 5MP HDCVI Vari-focal Bullet camera shall transmit 5MP high-definition or standard-definition video over a coaxial cable.
			5. The 5MP HDCVI Vari-focal Bullet camera shall offer 16:9 aspect ratio.
			6. The 5MP HDCVI Vari-focal Bullet camera shall support HDCVI, AHD, TVI, and CVBS video output formats.
			7. The 5MP HDCVI Vari-focal Bullet camera shall offer a built-in microphone.
			8. The 5MP HDCVI Vari-focal Bullet camera shall offer an external dipswitch cable to switch between video output formats.
			9. The 5MP HDCVI Vari-focal Bullet camera shall be a high performance 1/2.7-in. CMOS sensor with 5MP resolution.
			10. The 5MP HDCVI Vari-focal Bullet camera shall transmit video up to 700 m (0.43 miles) via an RG-6/U coaxial cable, and up to 300 m (0.19 miles) via a CAT 6 UTP cable (balun required).
			11. The 5MP HDCVI Vari-focal Bullet camera shall offer True Wide Dynamic Range for clear images in extreme high-contrast environments.
			12. The 5MP HDCVI Vari-focal Bullet camera shall have a Vari-focal focal length of
			2.7 mm to 13.5 mm.
			13. The 5MP HDCVI Vari-focal Bullet camera shall come with a built-in heater to allow the camera to operate in temperatures down to –30 °C (–22 °F).
			14. The 5MP HDCVI Vari-focal Bullet camera shall conform to the IP67 Ingress Protection rating.
	3. 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 Security Devices.
		2. Video Security System:
			1. List certifying bodies (UL, CSA, etc.)
			2. Provide evidence of compliance upon request.
		3. Installer:
			1. Minimum of [5] years of experience installing Video Security 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 [2] 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:

Dahua Technology USA Inc.

15245 Alton Pkwy, #100, Irvine, CA, 92618

Tel: (949) 679-7777

Fax: (949) 679-5760

Email: sales.usa@global.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. 5MP HDCVI NIGHT COLOR 2.0 VARI-FOCAL 16:9 BULLET CAMERA – A52CF6Z
		1. General Characteristics:
			1. The 5MP HDCVI Vari-focal Bullet camera shall be a full-featured 5MP HDCVI Vari-focal bullet camera unit designed for discrete video security applications in indoor and outdoor environments.
			2. The 5MP HDCVI Vari-focal Bullet camera shall offer a high-performance sensor and a large aperture lens to produce crisp, clear color images in low light environments.
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			5. The 5MP HDCVI Vari-focal Bullet camera shall offer 16:9 aspect ratio.
			6. The 5MP HDCVI Vari-focal Bullet camera shall support HDCVI, AHD, TVI, and CVBS video output formats.
			7. The 5MP HDCVI Vari-focal Bullet camera shall offer a built-in microphone.
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			10. The 5MP HDCVI Vari-focal Bullet camera shall transmit video up to 700 m (0.43 miles) via an RG-6/U coaxial cable, and up to 300 m (0.19 miles) via a CAT 6 UTP cable (balun required).
			11. The 5MP HDCVI Vari-focal Bullet camera shall offer True Wide Dynamic Range for clear images in extreme high-contrast environments.
			12. The 5MP HDCVI Vari-focal Bullet camera shall have a Vari-focal focal length of
			2.7 mm to 13.5 mm.
			13. The 5MP HDCVI Vari-focal Bullet camera shall come with a built-in heater to allow the camera to operate in temperatures down to –30 °C (–22 °F).
			14. The 5MP HDCVI Vari-focal Bullet camera shall conform to the IP67 Ingress Protection rating.
		2. Imaging
			1. The 5MP HDCVI Vari-focal Bullet camera shall offer a 1/2.7-inch type CMOS imager.
			2. The 5MP HDCVI Vari-focal Bullet camera shall offer an effective number of pixels of 2880 (H) x 1620 (V), 5 MP, effective picture elements.
			3. The 5MP HDCVI Vari-focal Bullet camera shall offer a 16:9 aspect ratio.
			4. The 5MP HDCVI Vari-focal Bullet camera shall offer a Vari-focal lens with a focal length of 2.8 mm.
			5. The 5MP HDCVI Vari-focal Bullet camera shall have a close focus distance of 1600.0 mm (63.0 in.).
			6. The 5MP HDCVI Vari-focal Bullet camera shall have a 35° to 112° horizontal field of view.
			7. The 5MP HDCVI Vari-focal Bullet camera shall offer a maximum aperture of F1.2.
			8. The 5MP HDCVI Vari-focal Bullet camera shall produce a color image with a minimum scene illumination of 0.001 lux at F1.2.
		3. Video Characteristics
			1. The 5MP HDCVI Vari-focal Bullet camera shall generate (all video output formats): 2880 (H) x 1620 (V), 5 MP, resolution at 25 fps.
			2. The 5MP HDCVI Vari-focal Bullet camera shall offer one (1) BNC Ultra High-definition HDCVI output, switchable.
			3. The 5MP HDCVI Vari-focal Bullet camera shall offer BLC, HLC, and True WDR modes of backlight compensation.
			4. The 5MP HDCVI Vari-focal Bullet camera shall offer 3D DNR noise reduction.
		4. Installation Requirements
			1. The 5MP HDCVI Vari-focal Bullet camera shall be capable of operating in an outdoor environment within a temperature range of –30 °C to +60 °C
			(–22 °F to 140 °F).
			2. The 5MP HDCVI Vari-focal Bullet camera shall transmit video and accept control via a coaxial cable.
			3. The 5MP HDCVI Vari-focal Bullet camera shall accept power from a 12 VDC power source within a ±10% voltage fluctuation range or a 24 VAC power source within a ±25% voltage fluctuation.
		5. Housing Options
			1. The 5MP HDCVI Vari-focal Bullet camera shall be offered in an aluminum housing.
			2. The 5MP HDCVI Vari-focal Bullet camera housing shall conform to the IP67 Ingress Protection standard.
	2. ACCESSORIES
		1. The 5MP HDCVI Vari-focal Bullet camera shall offer the following accessories:
			1. Power supply, included
			2. Optional mounting hardware:
				1. [Junction box]
				2. [Corner mount]
				3. [Pole mount bracket]
				4. [12 VDC, 1A power adapter]
				5. [4K passive HDCVI balun]
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