FEBRUARY 2022

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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**

**2 MP HDCVI FIXED NIGHT COLOR 2.0 EYEBALL 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. UL 62368-1
		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. EN62368-1
		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 2 MP HDCVI Fixed Eyeball Night Color Night Color camera shall be a full-featured 2 MP HDCVI Fixed Eyeball camera unit designed for discrete video security applications in indoor and outdoor environments.
			2. The 2 MP HDCVI Fixed Eyeball Night Color Night Color camera shall offer Night Color Technology with white-light LEDs for color images in total darkness.
			3. The 2 MP HDCVI Fixed Eyeball Night Color camera shall offer a built-in algorithm that automatically adjusts the camera's optical settings as environmental conditions change to produce optimal video quality.
			4. The 2 MP HDCVI Fixed Eyeball Night Color camera shall support HDCVI, AHD, TVI, and CVBS video output formats.
			5. The 2 MP HDCVI Fixed Eyeball Night Color camera shall offer a built-in microphone.
			6. The 2 MP HDCVI Fixed Eyeball Night Color camera shall offer an external dip switch cable to switch between video output formats.
			7. The 2 MP HDCVI Fixed Eyeball Night Color camera shall transmit video, audio, and data signals over a single coaxial cable.
			8. The 2 MP HDCVI Fixed Eyeball Night Color camera shall be a high performance 1/2.8-in. Progressive-scan CMOS sensor with 2 MP resolution.
			9. The 2 MP HDCVI Fixed Eyeball Night Color camera shall transmit video up to 1200 m (3937 ft) via an RG-6/U coaxial cable, and up to 450 m (1476 ft) via a CAT 6 UTP cable (balun required).
			10. The 2 MP HDCVI Fixed Eyeball Night Color camera shall offer True Wide Dynamic Range (120 dB) for clear images in extreme high-contrast environments.
			11. The 2 MP HDCVI Fixed Eyeball Night Color camera shall have a focal length of
			2.8 mm.
			12. The 2 MP HDCVI Fixed Eyeball Night Color camera shall offer Smart Illumination where the camera automatically activates the white-light illuminators when ambient light levels fall and adjusts exposure time and LED intensity to prevent overexposing the image.
			13. The 2 MP HDCVI Fixed Eyeball Night Color camera shall operate in temperatures down to -40° C (-40° F).
			14. The 2 MP HDCVI Fixed Eyeball Night Color 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. 2 MP HDCVI FIXED NIGHT COLOR 2.0 EYEBALL CAMERA – A22CJN2
		1. General Characteristics:
			1. The 2 MP HDCVI Fixed Eyeball Night Color Night Color camera shall be a full-featured 2 MP HDCVI Fixed Eyeball camera unit designed for discrete video security applications in indoor and outdoor environments.
			2. The 2 MP HDCVI Fixed Eyeball Night Color Night Color camera shall offer Night Color Technology with white-light LEDs for color images in total darkness.
			3. The 2 MP HDCVI Fixed Eyeball Night Color camera shall offer a built-in algorithm that automatically adjusts the camera's optical settings as environmental conditions change to produce optimal video quality.
			4. The 2 MP HDCVI Fixed Eyeball Night Color camera shall support HDCVI, AHD, TVI, and CVBS video output formats.
			5. The 2 MP HDCVI Fixed Eyeball Night Color camera shall offer a built-in microphone.
			6. The 2 MP HDCVI Fixed Eyeball Night Color camera shall offer an external dip switch cable to switch between video output formats.
			7. The 2 MP HDCVI Fixed Eyeball Night Color camera shall transmit video, audio, and data signals over a single coaxial cable.
			8. The 2 MP HDCVI Fixed Eyeball Night Color camera shall be a high performance 1/2.8-in. Progressive-scan CMOS sensor with 2 MP resolution.
			9. The 2 MP HDCVI Fixed Eyeball Night Color camera shall transmit video up to 1200 m (3937 ft) via an RG-6/U coaxial cable, and up to 450 m (1476 ft) via a CAT 6 UTP cable (balun required).
			10. The 2 MP HDCVI Fixed Eyeball Night Color camera shall offer True Wide Dynamic Range (120 dB) for clear images in extreme high-contrast environments.
			11. The 2 MP HDCVI Fixed Eyeball Night Color camera shall have a focal length of 2.8 mm.
			12. The 2 MP HDCVI Fixed Eyeball Night Color camera shall offer Smart Illumination where the camera automatically activates the white-light illuminators when ambient light levels fall and adjusts exposure time and LED intensity to prevent overexposing the image.
			13. The 2 MP HDCVI Fixed Eyeball Night Color camera shall operate in temperatures down to -40° C (-40° F).
			14. The 2 MP HDCVI Fixed Eyeball Night Color camera shall conform to the IP67 Ingress Protection rating.
		2. Imaging
			1. The 2 MP HDCVI Fixed Eyeball Night Color camera shall offer a 1/2.8-inch type CMOS imager.
			2. The 2 MP HDCVI Fixed Eyeball Night Color camera shall offer an effective number of pixels of 1920(H) x 1280(V), 2 MP, effective picture elements.
			3. The 2 MP HDCVI Fixed Eyeball Night Color camera shall offer a fixed lens with a focal length of 2.8 mm.
			4. The 2 MP HDCVI Fixed Eyeball Night Color camera shall have a close focus distance of 1000.0 mm (3.30 ft).
			5. The 2 MP HDCVI Fixed Eyeball Night Color camera shall have a 106° horizontal field of view.
			6. The 2 MP HDCVI Fixed Eyeball Night Color camera shall offer a maximum aperture of F1.0.
			7. The 2 MP HDCVI Fixed Eyeball Night Color camera shall produce a color image with a minimum scene illumination of 0.0002 lux at F1.0.
		3. Video Characteristics
			1. The 2 MP HDCVI Fixed Eyeball Night Color camera shall generate 1080p resolution at 30 fps
			2. The 2 MP HDCVI Fixed Eyeball Night Color camera shall offer One (1) BNC video output and transmit the HDCVI High-definition signal or a CVBS, AHD or TVI signal, switchable
			3. The 2 MP HDCVI Fixed Eyeball Night Color camera shall offer BLC, HLC, HLC-Pro and True WDR modes of backlight compensation.
			4. The 2 MP HDCVI Fixed Eyeball Night Color camera shall offer 3D noise reduction.
		4. Installation Requirements
			1. The 2 MP HDCVI Fixed Eyeball Night Color camera shall be capable of operating in an outdoor environment within a temperature range of –40° C to +60° C (–40° F to 140° F).
			2. The 2 MP HDCVI Fixed Eyeball Night Color camera shall transmit video, transmit audio, and accept control via a coaxial cable.
			3. The 2 MP HDCVI Fixed Eyeball Night Color camera shall accept power from a 12 VDC power source within a ±30% voltage fluctuation range.
		5. Housing Options
			1. The 2 MP HDCVI Fixed Eyeball Night Color camera shall be offered in an aluminum housing.
			2. The 2 MP HDCVI Fixed Eyeball Night Color camera housing shall conform to the IP67 Ingress Protection standard.
	2. ACCESSORIES
		1. The 2 MP HDCVI Fixed Eyeball Night Color camera shall offer the following accessories:
			1. Power supply, included
			2. Optional mounting hardware:
				1. [Mount adapter]
				2. [Junction box]
				3. [Wall mount]
				4. [Pole mount]
				5. [Corner mount]
				6. [Ceiling mount]
				7. [12 VDC, 1A power adapter]
				8. [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