JULY 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 Surveillance**

**Section 28 21 13: IP Cameras**

**4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network Camera**

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 21 21: Video Surveillance – Surveillance Cameras – Illuminators
			4. 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. CFR 47 FCC Part 15 Subpart B
		2. European Standards
			1. EN 62368-1
			2. Electromagnetic Compatibility Directive 2014/30/EU
		3. 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 Surveillance – Surveillance Cameras – IP Cameras
		2. Performance Requirements
			1. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall be a full-featured network bullet camera designed for discrete video surveillance applications in indoor and outdoor environments.
			2. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall use a high performance 1/3-in. 4MP Progressive-scan CMOS Sensor.
			3. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall offer one (1) IR LED and one (1) warm light to produce color images in total darkness.
			4. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall offer advanced analytics that detect and categorize between human and vehicular objects and technology that reduces the number of false alarms.
			5. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall include a built-in microphone.
			6. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall provide direct network connection using Smart H.265+, Smart H.264+, H.264H, H.265, H.264, H.264B, and MJPEG compression and bandwidth throttling to efficiently manage bandwidth and storage requirements while delivering outstanding image quality.
			7. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall support the following dual, redundant power options:
				1. 12 VDC
				2. PoE (IEEE 802.3af)
			8. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall offer True Wide Dynamic Range for clear images in extreme high-contrast environments.
			9. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall offer two (2) separate and configurable streams with individually configurable 2688 × 1520 at 20 fps or 704 × 480 at 20 fps streams.
			10. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall have a 2.8 mm fixed lens.
			11. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall combine temperature-tolerant components with a waterproof enclosure to ensure flawless operation in temperatures as low as –40° C (–40° F).
			12. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera housing shall conform to the IP67 Ingress Protection standard.
	3. SUBMITTALS

 Submit under provisions of Section [01 33 00.]

* + 1. 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.
		2. Dimensional Drawings; include
			1. Overall device dimensions.
			2. Dimensions specific for installation.
		3. 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, CSA, 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 [5] 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. 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera – N42DDS2

		1. General Characteristics:
			1. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall be a full-featured network eyeball camera designed for discrete video surveillance applications in indoor and outdoor environments.
			2. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall use two high performance 1/3-in. 4MP Progressive-scan CMOS sensor.
			3. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall offer one (1) IR LED and one (1) warm light to produce color images in total darkness.
			4. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall offer advanced analytics that detect and categorize between human and vehicular objects and technology that reduces the number of false alarms.
			5. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall include a built-in microphone.
			6. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall provide direct network connection using Smart H.265+, Smart H.264+, H.264H, H.265, H.264, H.264B, and MJPEG compression and bandwidth throttling to efficiently manage bandwidth and storage requirements while delivering outstanding image quality.
			7. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall support the following dual, redundant power options:
				1. 12 VDC
				2. PoE (802.3af)
			8. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall offer True Wide Dynamic Range for clear images in extreme high-contrast environments.
			9. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall offer two (2) separate and configurable streams with individually configurable 2688 × 1520 at 20 fps or 704 × 480 at 20 fps streams.
			10. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall have a 2.8 mm fixed lens.
			11. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall combine temperature-tolerant components with a waterproof enclosure to ensure flawless operation in temperatures as low as –40° C (–40° F).
			12. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera housing shall conform to the IP67 Ingress Protection standard.
		2. Imaging
			1. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall offer 1/3-in. 4MP Progressive-scan CMOS imager.
			2. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall offer an effective number of pixels of 2688(H) x 1520(V) effective picture elements.
			3. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall offer a 2.8 mm fixed lens.
			4. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall offer a maximum aperture of F1.6.
			5. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall produce a color image with a minimum scene illumination of 0.008 lux at F1.6, a black and white image with a minimum scene illumination of 0.0008 lux at F1.6, and a color image with a minimum scene illumination at 0 lux with the illuminators on.
		3. Illumination
			1. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall one (1) IR LED and one (1) warm light.
			2. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall offer an IR LED distance of up to 30 m (98.43 ft) and a warm light distance of up to 15 m (49.21 ft).
		4. Video Characteristics
			1. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall offer CBR/VBR bit rate control.
			2. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall offer the following video compression protocols
				1. H.264: 32 kbps to 6144 kbps
				2. H.265: 12 kbps to 6144 kbps
			3. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall offer Smart H.265+, Smart H.264+, H.264H, H.265, H.264, H.264B, and MJPEG video compression protocols.
			4. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall offer BLC, HLC, and WDR (120 dB) modes of backlight compensation.
			5. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall offer Auto, Natural, Street Lamp, Outdoor, Manual, and Regional Custom White Balance modes.
			6. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall offer 3D noise reduction.
			7. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall offer motion detection (four zones) and region of interest (four zones) controls.
			8. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall offer four (4) privacy masking areas.
			9. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall offer a Flip mode at 0°, 90°, 180°, and 270°.
		5. Streaming Capability
			1. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall generate full 4 MP (2688 x 1520 pixels) at 20 fps resolution using Smart H.265+ compression.
			2. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall offer the following resolutions:
				1. 4MP (2688 × 1520)
				2. 3.6MP (2560 × 1440)
				3. 3MP (2304 × 1296)
				4. 1080p (1920 × 1080)
				5. 1.3MP (1280 × 960)
				6. 720p (1280 × 720)
				7. D1 (704 × 576, 704 × 480)
				8. VGA (640 × 480)
				9. CIF (352 × 288/352 × 240)
			3. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall generate two streams at the following maximum resolutions:
				1. Main Stream: 2688 × 1520 at 20 fps
				2. Sub stream: 704 × 480 at 20 fps
		6. IP Connectivity
			1. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall allow full camera control and configuration capabilities via a TCP/IP network.
			2. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall deliver 4MP video at rates up to 20 frames per second via TCP/IP over an RJ-45 (10/100 Base-T) connection.
			3. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall conform to the ONVIF Profile S and T.
			4. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall support the IPv6 internet-layer protocol for packet switched internetworking across multiple IP networks.
			5. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall offer local and network storage options that include: MicroSD card, FTIP, SFTP, and recording to a local PC for instant recording.
			6. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall support the following protocols: IPv4, IPv6, HTTP, TCP, UDP, ARP, RTP, RTSP, RTCP, RTMP, SMTP, FTP, SFTP, DHCP, DNS, DDNS, NTP, Multcast, ICMP, and IGMP.
			7. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall support the DSS management software and the DMSS mobile application.
			8. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall support the Android and the iOS mobile operating systems.
		7. Analytics+
			1. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera offer the following built-in Analytics+ functions to provide advanced analytics for any scene:
				1. Detect human or vehicle violations using the following methods:

Tripwire: a target crosses a defined line.

Intrusion: a target enters or exits a defined perimeter.

* + - * 1. Monitor a combination of ten (10) detection methods.
				2. Search and retrieve video based on target type.
			1. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera offer the following built-in Smart Motion Detection+ functions to provide advanced motion analytics for any scene:
				1. Differentiate between and classify human and vehicle objects.
				2. Filter false alarms due to leaves, lights, animals, and other inconsequential objects.
				3. Extract human or vehicle objects from recorded video for quick target search and retrieval.
		1. Intelligent Video System
			1. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera offer a built-in Intelligent Video System to provide advanced analytics for any scene.
			2. The Intelligent Video System shall offer intelligent video analytics built-in to the camera.
			3. The Intelligent Video System shall be capable of processing and analyzing video within the camera itself, with no extra hardware required.
			4. The Intelligent Video System shall trigger an alarm and take a defined action for the following events:
				1. Standard Features

Tampering with the camera.

Error writing to an onboard Micro SD Card.

Error sending or receiving data over the network.

Unauthorized access to the camera.

IP Address Conflict

* + 1. Installation Requirements
			1. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network 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 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall accept power, transmit video, and accept control via an Ethernet connection.
			3. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall support the following dual, redundant power options:
				1. 12 VDC
				2. PoE (802.3af)
		2. Housing Options
			1. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall be offered in a metal housing.
			2. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera housing shall conform to the IP67 Ingress Protection standard.
	1. ACCESSORIES
		1. The 4MP VU-MORE Color Smart Dual Illumination Fixed-focal Bullet WizSense Network camera shall offer the following optional accessories:
			1. [Junction box]
			2. [Corner mount]
			3. [Pole mount]
			4. [12 VDC, 1 A power adapter]
			5. [Micro SDXC cards]
			6. [305 m (1000 ft) CAT5e UTP Cable]
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