**SECTION 28 23 29**

**VIDEO SURVEILLANCE REMOTE DEVICES AND SENSORS**

**Advanced Technology Video IPHS243 Covert Height-Strip IP Camera**

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*This guide specification is intended for use by the design/construction professional and any user of Advanced Technology Video (ATV) products to assist in developing project specifications for security and video surveillance systems.*

*Notes in Italics, such as this one, are explanatory and intended to guide the design professional/specifier and user in the proper selection and use of materials. This specification should be modified where necessary to accommodate individual project conditions.*

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1. **GENERAL**
	1. SUMMARY
		1. Section includes Video Surveillance Remote Devices and Sensors.
		2. 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
	2. SYSTEM DESCRIPTION
		1. Description: Video surveillance and monitoring at points as indicated on Drawings.
			1. IPHS243, 2MP Resolution, WDR, Covert Height-Strip IP Camera
		2. Performance Requirements
			1. 1/2.8” format progressive scan Exmor CMOS sensor
			2. Full HD, 1920 x 1080 resolution
			3. Triple Video Streams Simultaneously, up to 30-ips, at 1080p Resolution using H.264 and MJPEG Compression
			4. Wide Dynamic Range (WDR) functionality
			5. ONVIF Profile S compliant
			6. Supports a Micro-SD Memory Card Slot for Local, Event Detection Recording
			7. The camera shall be of manufacturer’s official product line, designed for commercial/industrial continuous 24/7 use.
			8. The camera shall be based upon standard components and proven technology.
	3. DEFINITIONS
		1. Privacy Masking: The ability to mask out a specific area to prevent it from being viewed in order to comply with privacy laws and particular site requirements.
	4. SUBMITTALS
		1. Submit under provisions of Section 01 33 00 - Submittal procedures.
		2. Shop Drawings: Indicate electrical characteristics and connection requirements, including system wiring diagram.
		3. Product Data: Submit catalog data showing electrical characteristics and connection requirements for each component.
	5. CLOSEOUT SUBMITTALS
		1. Section 01 70 00 - Execution and Closeout Requirements: Closeout procedures.
		2. Project Record Documents: Record actual locations of cameras and routing of cabling.
		3. Operation and Maintenance Data: Submit instructions for operating system and performing routine trouble shooting procedures.
	6. QUALIFICATIONS
		1. Manufacturer: Company specializing in manufacturing products specified in this section with minimum ten years documented experience.
		2. Supplier: Authorized distributor of specified manufacturer with minimum 5 years documented experience.
		3. Installer: Authorized installer of specified manufacturer with 5 years documented experience and service
	7. ENVIRONMENTAL REQUIREMENTS
		1. Section 01 60 00 - Product Requirements.
		2. Conform to manufacturer’s standard service conditions during and after installation of components.
	8. FIELD MEASUREMENTS
		1. Verify field measurements prior to fabrication.
	9. 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.
	10. MAINTENANCE SERVICE
		1. Section 01 70 00 - Execution and Closeout Requirements: Maintenance service.
		2. Make ordering of new equipment for expansions, replacements, and spare parts available to dealers and end users.
		3. Provide factory direct technical support via phone and e-mail.
		4. Furnish service and maintenance of video surveillance system for one year from Date of Substantial Completion.
2. PRODUCTS
	1. CAMERAS
		1. Manufacturers:
			1. Advanced Technology Video
			2. Substitutions: Section 01 60 00 - Product Requirements: Not Permitted.
		2. Model: IPHS243
		3. Product Description: 2MP Resolution, WDR, Covert Height-Strip IP Camera
		4. Camera Image Sensor: 1/2.8” format progressive scan Exmor CMOS.
		5. Lens: Pinhole 4.3mm, F2.0, Auto-Iris
		6. General Characteristics:
			1. The covert height-strip IP camera shall be a extruded aluminum housing formed in the shape of a “height-strip” typically found in many retail stores.
			2. The covert height-strip IP camera shall utilize 1/2.8-inch Progressive Scan Exmor CMOS image sensor capable of producing up to FULL HD, 1920 x 1080 resolution.
			3. The covert height-strip IP camera shall provide direct network connection using H.264 and MJPEG compression and bandwidth throttling to efficiently manage bandwidth and storage requirements while delivering outstanding image quality.
			4. The covert height-strip IP camera shall offer Power over Ethernet (IEEE 802.3af Class 0).
			5. The covert height-strip IP camera shall have a composite video output for testing and installation.
			6. The covert height-strip IP camera shall be ONVIF Profile S compliant.
			7. The covert height-strip IP camera shall offer wide dynamic range technology that allows for the capture of clear images from both light and dark areas in the same scene.
			8. The user shall be able to view video on a PC using a Web browser, with the ATVision IP Remote Management Software, or on an analog monitor with an ATV video encoder.
			9. The covert height-strip IP camera shall provide eight independent, fully programmable privacy mask areas.
			10. The covert height-strip IP camera shall have a pinhole 4.3mm, auto-iris lens.
			11. The covert height-strip IP camera shall provide an on-screen display to simplify the camera/lens back focus and network configuration settings.
			12. The covert height-strip IP camera shall provide a color image with a minimum scene illumination of 0.5Lux.
			13. The covert height-strip IP camera shall utilize pixel-by-pixel analysis to automatically compensate for bright areas of a high contrast scene (Back light) without having to define a window or area.
			14. The covert height-strip IP camera shall have a graduated and color coded height measurements printed on the front of enclosure in both U.S. and metric dimensions
			15. The covert height-strip IP camera shall have a swivel bracket to allow the camera to be adjusted horizontally and a tilt lever for vertical adjustments of 5°.
			16. The covert height-strip IP camera shall provide micro-SD memory card slot for local, event recording.
			17. The covert height-strip IP camera shall provide Advanced Intelligent Health Monitoring (AIHM) Alerts User to Abnormal Conditions
			18. The covert height-strip IP camera shall provide Video Content Analysis (Analytics) Features such as Face, Tampering, Line and Field Detector
		7. Installation Requirements
			1. Shall contain a full-featured camera and integral, fixed focal length lens.
			2. Shall be capable of being mounted to a wall surface.
			3. Shall provide power, video, and control via an Ethernet connection.
			4. Shall provide secondary power connection on barrel connector.
			5. Shall provide a multi-language on-screen display.
		8. IP Connectivity
			1. The covert height-strip IP camera shall allow full camera control and configuration capabilities over the network.
			2. The covert height-strip IP camera shall offer Power over Ethernet (IEEE 802.3af Class 0).
			3. The covert height-strip IP camera shall be capable of capturing and storing images using H.264 and MJPEG encoding and compression at following resolution levels: 1920 x 1080, 1280 x 1024, 1280 x 720, 704 x 480, 640 x 480, 352 x 240 and 320 x 240.
			4. The covert height-strip IP camera shall deliver DVD-quality, 1920 x 1080 full high definition, video at rates up to 60 images per second, via TCP/IP over Cat5/Cat6 UTP cable; and leverage bandwidth throttling and multicasting capabilities to manage bandwidth and storage requirements efficiently while delivering the best possible image quality and resolution.
			5. The covert height-strip IP camera shall generate independent H.264 and MJPEG streams simultaneously.
			6. The covert height-strip IP camera shall be ONVIF Profile S compliant.
		9. Sensor
			1. Type: 1/2.8-inch Progressive Scan Exmor CMOS
			2. Active Pixels:
				1. NTSC: 1920(H) x 1080(V)
		10. IP Video
			1. Video Compression: H.264, MJPEG
			2. H.264 Profile: MPEG-4 Part 10; Main Profile and Baseline Profile
			3. Streaming:
				1. 50/60fps (Dual Stream : H.264x1, MJPEGx1)
				2. 25/30fps (Triple Stream : H.264x2, MJPEGx1)
			4. Frame rate:
				1. 60-ips at all resolutions
			5. Resolution:
				1. 320 x 240 up to 1920 x 1080
		11. Video
			1. Shutter: 1/10,000 to 1sec
			2. Min. Illumination: Color, 0.5Lux (F2.0, 50IRE)
			3. 120cB Wide Dynamic Range
			4. Backlight Compensation
			5. Privacy Masking: 8 windows
			6. Motion Detection: 16 windows
			7. Auto White Balance
			8. Digital Noise Reduction: 2DNR, 3DNR
			9. Exposure Mode: Auto
		12. Software Control
			1. Unit Configuration: SmartManager Utility tool or ATVision IP Remote Management Software
			2. Software Update: Web browser, SmartManager Utility tool or ATVision IP Remote Management Software
		13. Network
			1. Protocols: TCP/IP, UDP, IPv4/v6, HTTP, HTTPS, QoS, FTP, uPnP, RTP, RTSP, RTCP, DHCP, ARP. Zeroconf, Bonjour
			2. Security: Multi-user authority, HTTPS, IP Filtering, Privacy Zone
			3. Ethernet: 10Base-T/100 Base-TX, RJ45
			4. Power over Ethernet: IEEE 802.3af Class 0
		14. Optical
			1. Fixed focal length, 4.3mm pinhole lens
			2. Iris Control: Automatic Iris control
			3. Angle of View: 70° (H)
		15. Electrical:
			1. Input Power: 12V DC (+/- 10%), 60Hz or Power over Ethernet (PoE), IEEE 802.3af Class 0
			2. Power Consumption: maximum 4W, 250mA 12VDC or 4W, 80mA PoE
		16. Mechanical:
			1. Pre-packaged, extruded aluminum enclosure
			2. Graduated and color coded height measurements printed on the front of enclosure in both U.S. and metric dimensions
			3. Horizontal and vertical camera adjustment
			4. Composite Video Output: BNC
			5. Secondary Power Input: barrel connector
			6. Dimensions (W x H x D): 2.1 x 34.3 x 1.6in (55 x 872 x 42.2mm)
			7. Weight: 3.3lbs (1.44kg)
			8. Operating Temperature: 14ºF ~ 122ºF (-10ºC ~ +50ºC)
			9. Operating Humidity: 0 to 90% RH (non-condensing)
		17. Conformity Certifications:
			1. Federal Communications Commission (FCC)
			2. European Conformity (CE)
		18. Remote Management Software
			1. ATVision IP Remote Management Client Software shall be provided with camera
3. EXECUTION
	1. EXISTING WORK
		1. Disconnect and remove abandoned video surveillance equipment.
		2. Extend existing video surveillance installations using materials and methods compatible with existing installations as specified.
		3. Clean and repair existing video surveillance equipment remaining or to be reinstalled.
	2. 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.
	3. PREPARATION
		1. Protect devices from damage during construction.
	4. 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.
			1. Ground and bond video surveillance equipment in accordance with Section 26 05 26.
		5. Location must provide reasonable temperature and humidity conditions, free from sources of electrical and electromagnetic interference.
	5. 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.
	6. MANUFACTURER'S FIELD SERVICES
		1. Section 01 40 00 - Quality Requirements: Manufacturer's field services.
		2. Furnish manufacturer’s field representative to supervise final wiring connections and system adjustments.
	7. ADJUSTING
		1. Section 01 70 00 - Execution and Closeout Requirements: Requirements for starting and adjusting.
		2. Make proper adjustment to video system devices for correct operation in accordance with manufacturer’s instructions.
		3. Make any adjustment of camera settings to comply with specific customer’s need.
		4. Adjust manual lens irises to meet lighting conditions.
	8. DEMONSTRATION AND TRAINING
		1. Demonstrate at final inspection that video management system and devices function properly.
		2. Demonstrate at final inspection camera’s functionality and video recording capabilities.

END OF SECTION