**AV2216PM-S**  **1080p Full HD WDR H.264 IP MegaVideo® G5 Day/Night Camera with Remote Zoom, Remote Focus, P-Iris and SDHC Card**

This A&E specification is written according to Construction Specifications Institute (CSI) 3-Part Format, based on MasterFormat™ (2009 Edition) and The Project Resource Manual – CSI Manual of Practice. [www.csinet.org/masterformat](http://www.csinet.org/masterformat).

Manufacturer is responsible for the accuracy of the technical data included in this specification.

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**Division 28 – Electric Safety and Security**

**Section 28.23.29 – Video Surveillance – Remote Devices and Sensors**

**Part 1 General**

## 1.1 General Requirements

The camera shall be of manufacturer’s official product line, designed for continuous commercial or industrial use.

The camera shall be based on standard parts and components and utilize proven technology using open and published protocols.

All camera installation, configuration, setup, programming and all related work shall be performed by electronic technicians thoroughly trained in the installation and service of the equipment provided and in complete compliance with all local codes and regulations.

All equipment provided shall be backed by a three-year manufacturer warranty.

##  Certifications and Standards

1. European Community Directives:

2004/108/EC (EMC Directive);

2006/95/EC (Low Voltage Directive);

2011/65/EU (RoHS Directive)

 1907/2006/EC (REACH Directive)

 2002/96/EC (WEEE Directive)

1. European EMC Standards to which conformity is declared:

 EN 55022:2010 Class A

 EN 55024:2010

 EN 61000-3-2:2006+A1:2009+A2:2009

 EN61000-3-3: 2008

 EN60950-1:2006+A11:2009+A1:2010+A12:2011

 

1. FCC Standard Compliance:

 Title 47, Part 15 (47 CFR 15) Subpart B Class A

1. Mechanical Standards:
2. Video Compression Technology

H.264 MPEG-4, Part 10 ISO/IEC 14496-10 AVC

1. Networking Standard:

 • IEEE 802.3af-2003 PoE Standard, Class 2

 • IPv4

 • IPv6

1. Interoperability Standard

ONVIF Profile S and PSIA compliant

1. Country of Origin

FTC “Made in USA” standard compliant

1. UL Listing
2. CB Test Report (IEC 60950-1 (ed. 2) and IEC 60950-22 (ed.2))



## Part 2 Products

**2.1 Manufacturer**

**Arecont Vision, LLC**

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**2.2 General**

The AV2216 MegaVideo® G5 1080p full HD wide dynamic range (WDR) series network camera is part of Arecont Vision’s full line of H.264 MegaVideo® cameras. This fully compliant implementation of H.264 (MPEG 4, Part 10) provides 1920x1080 megapixel resolution at full video frame rates of 30 frames per second (fps). The AV2216PM-S camera provides a full HD WDR camera solution with remote focus, remote zoom, P-Iris lens and SDHC card capabilities.

With the features of CorridorView™ for 90°, 180° and 270° image rotation, scaling (-S model), ONVIF Profile S and PSIA compliance, auto adjustment between WDR and LDR modes, unlimited privacy mask, extended motion detection and flexible cropping, the AV2216 is a high sensitivity, PoE (IEEE 802.3af) compliant true Day/Night camera. Built with Arecont Vision’s massively-parallel MegaVideo® processing technology, this camera offers more than 6-times the resolution of standard resolution IP cameras with the ability to output full real-time frame rates and deliver high-quality megapixel imaging for indoor and outdoor applications (for outdoor applications, a qualified Arecont Vision housing is necessary).

**2.3 Hardware**

* The camera shall utilize a high sensitivity 3 Megapixel CMOS sensor with 1/3.2” optical format, 2.2um x 2.2um pixel size, progressive scan and Active Pixel Count: 1920(H) x 1080(V) pixel array.
* The camera is compatible with Arecont Vision RZ/RF/P-iris CS Lens, MPL2.8-8.5MPI, 2.8-8.5mm, CS Mount, megapixel IR corrected vari-focal lens with 1/3" optical format, F1.2 and Horizontal Field of View of 86°-30°. (PM-S model only and Lens sell separately)
* The camera’s power source shall be Power over Ethernet (PoE) complying with the IEEE 802.3af standard.
* The camera shall have an auxiliary power input, AC24V and DC12-48V
* The camera shall be utilized for indoor applications.
* The camera shall have SDHC card slot for onboard storage up to 32GB, class 10 and UHS-1. (-S models).
* Alarm Input/Output : General purpose opto-coupled, 1 Input/1 Output

**2.4 Imaging**

* The camera shall have dual standard compression support with simultaneous streaming of both H.264 and MJPEG formats.
* The camera shall feature automatic exposure, automatic multi-matrix white balance, shutter speed control to minimize motion blur, programmable resolution, brightness, saturation, gamma, sharpness and tint.
* The camera’s shutter speed shall be 1ms - 500ms.
* The camera shall feature selectable 50/60 Hz flicker control, windowing, simultaneous delivery of full-field view and zoomed images at video frame rate, instantaneous electronic zoom, pan and tilt, and electronic image rotation by 180 degrees
* The camera shall have multi-streaming support of up to 8 non-identical concurrent streams (different frame rate, bit rate, resolution, quality, and compression format).
* The camera shall have wide dynamic range up to 100dB and a maximum SNR of 49dB.
* The camera shall have unlimited privacy masking, the ability to select multiple regions of an arbitrary shape to block the video.
* The camera shall have Real Time Streaming Protocol (RTSP) support allowing for compatibility with media players such as Apple QuickTime, VLC Player and others.
* The camera shall have extended motion detection grid, a higher granularity grid of 1024 distinct motion detection zones. User can select between 64 zone based motion detection and 1024 extended motion detection to provide backward compatibility with the existing Video Management System (VMS) integration.
* The camera shall feature streaming of the full field of view (FOV) and simultaneous multiple regions of interest (ROI) for forensic zooming.
* The camera shall provide 21 levels of compression quality for optimal viewing and archiving.
* The cameras H.264 implementation shall maintain full real time video frame rates.
* The camera shall output at a maximum resolution of 1920(H) x 1080(V) pixels up to frame rate of 30 frames per second (FPS).
* It shall be possible to program the camera to output a variety of lower resolution image and increase frame rate, i.e. 1280(H) x 1024(V) pixels at 41 FPS.
* The camera shall provide flexible cropping (Resolution windowing down to 1x1 pixels for JPEG and 2x2 pixels for H.264)
* The camera shall be able to save bandwidth & storage by running at 1/4 full resolution
* The camera shall be able to have below scaled resolutions: 720p, XVGA, DVGA (16:9), DVGA (3:2), SVGA, D1 (PAL), 4CIF (NTSC), VGA, 2CIF (PAL), HVGA (4:3), 2CIF (NTSC), HVGA (8:3), HVGA (3:2), HVGA (16:9), CIF (PAL), CIF (NTSC), QVGA (SIF), QCIF (PAL), QCIF (NTSC) and SQCIF. (-S models)The camera shall have an Auto Exposure (AE), Gain Control (AGC), Bit Rate and Bandwidth Limit Control
* The camera shall feature MoonLight™ mode - extended exposure and noise cancellation
* The camera shall be able to support Picture-in-Picture: simultaneous delivery of full field of view and zoomed images
* The camera shall have CorridorView™ with 90°, 180° and 270° image rotation options.

**2.5 Video**

Video frame rate (up to):

30fps @ 1920x1080

41fps @ 1280x1024

**Scaled Resolution:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Scaled Resolution | H | V | Pixel Count | Notes |
| 720p | 1280 | 720 | 921600 |   |
| XVGA | 1024 | 768 | 786432 | ipad 2/ipad mini |
| DVGA (16:9) | 1136 | 640 | 727040 | iphone 5 |
| DVGA (3:2) | 960 | 640 | 614400 | iphone 4S |
| SVGA | 800 | 600 | 480000 |   |
| D1 (PAL) | 720 | 576 | 414720 |   |
| 4CIF (PAL) | 704 | 576 | 405504 |   |
| D1 (NTSC) | 720 | 480 | 345600 |   |
| 4CIF (NTSC) | 704 | 480 | 337920 |   |
| VGA | 640 | 480 | 307200 |   |
| 2CIF (PAL) | 704 | 288 | 202752 |   |
| HVGA (4:3) | 480 | 360 | 172800 |   |
| 2CIF (NTSC) | 704 | 240 | 168960 |   |
| HVGA (8:3) | 640 | 240 | 153600 |   |
| HVGA (3:2) | 480 | 320 | 153600 |   |
| HVGA (16:9) | 480 | 272 | 130560 |   |
| CIF (PAL) | 352 | 288 | 101376 |   |
| CIF (NTSC) | 352 | 240 | 84480 |   |
| QVGA (SIF) | 320 | 240 | 76800 |   |
| QCIF (PAL) | 176 | 144 | 25344 |   |
| QCIF (NTSC) | 176 | 120 | 21120 |   |
| SQCIF | 128 | 96 | 12288 |   |

**2.6 Protocols**

* The camera shall have Real Time Streaming Protocol (RTSP) support allowing for compatibility with media players such as Apple QuickTime, VLC Player and others.
* The camera shall support both unicast and multicast communication protocol.
* The camera shall support RTSP, RTP over TCP, RTP over UDP (Unicast/Multicast), HTTP1.0, HTTP1.1, TFTP, DHCP, IPv4, IPv6 and QoS.
* 100 Base-T Ethernet Network Interface
* Multi-streaming: 8 non-identical streams

**2.7 Electrical**

General purpose opto-coupled 1 input and 1 output

Power over Ethernet (PoE): PoE 802.3af

Auxiliary Power 12-48V DC, 24VAC

Power consumption: PoE – Class 2AV2216PM-S 7.8 Watt Max (Auxiliary DC Power) PoE Class 2

**2.8 Networking**

The camera shall be equipped with a 100 Mbps LAN connector.

**2.9 Environmental**

Operating temperature -5˚C (23 °F) to +50˚C (122 °F)

Operating Temperature -5˚C (23°F) to + 40°C (104°F) in Dome4/D4SO housings

Storage temperature -20˚C (-4 °F) to +60˚C (140 °F)

Humidity 0% to 90% (non-condensing)

**2.10 Minimum Illumination**

Color (Day Mode): 0.3 Lux @ F1.2

B/W (Night Mode): 0.02 Lux, IR sensitive



[www.megapixelvideo.com](http://www.megapixelvideo.com) info@arecontvision.com © 2005 Arecont Vision

**2.11 Packaging**

Unit Dimensions:

 3”W (76 mm) x 2.5”H (63.5 mm) x 1.25”D (31.7mm) (w/o lens) / Weight 0.6 lb (w/o lens)

Packaged Dimensions:

4”W (102 mm) x 3.7”H (94 mm) x 4”D (102 mm) / Weight 0.7 lb

**2.12 Compatible Lenses**

MPL2.8-8.5MPI (Remote focus, Remote zoom, P-iris lens)

MPL3.5 (Manual Lens)

MPL6.2 (Manual Lens)MPL33-12A (Manual lens)

**2.13 Compatible Accessories**

HSG2 Outdoor IP67 Housing with heater and Dual Fans

Dome4 Indoor/Outdoor 4” vandal resistant dome, dome for single/dual sensor cameras, IP66 (Arecont Vision fixed focal lenses only)

D4SO DOME, 4", Surface Mount, Outdoor

**2.14 Related Documents**

AV MegaVideo® G5 Datasheet

AV MegaVideo® G5 Installation Manual