

# H5A Explosion-Protected Bullet Camera

2 MP

Avigilon H5A Explosion-Protected cameras are certified for explosion-rated environments according to international standards. They are designed to offer an efficient video security solution for hazardous environments that face the risk of explosions due to the presence of flammable gases or dust, including oil and gas, marine, industrial and food production sites.

The cameras feature exceptional imaging that works in conditions with poor lighting, and include next generation video analytics to offer enhanced object detection, tracking and classification.



## Features



### NEXT-GENERATION VIDEO ANALYTICS

Expanded object classifications and more accurate detection in crowded scenes so you can detect and act faster.



### EXPLOSION PROTECTION

Heavy-duty housing custom-built for H5A cameras.



### H.265 WITH HDSM SMARTCODEC™ TECHNOLOGY

Optimizes compression levels for regions in a scene to help maximize bandwidth savings, helping to keep internet connectivity costs down.



### AUTOMATIC IR CUT FILTER

Exceptional imaging performance in low-light situations.



### WIDE DYNAMIC RANGE

Capture details in scenes with both very bright and dark areas.



### LIGHTCATCHER™ TECHNOLOGY

Offers exceptional detail in areas with low lighting.



### ONVIF® COMPLIANT

Built on an open platform to allow integration with other security solutions.



### HIGH TEMPERATURE RANGE

Optimized to operate reliably even at increased temperature variances.

# Specifications

|                           |  |  |   |  |
|---------------------------|--|--|---|--|
| <b>IMAGE PERFORMANCE</b>  | Resolution                                     | 2.0 MP   |   |  |
|                           | Image Sensor                                   | 1/2.8" progressive scan CMOS   |   |  |
|                           | Max Resolution (H × V) and Aspect Ratio        | (16:9) 1920 × 1080   |   |  |
|                           | Dynamic Range                                  | WDR Off  | 83 dB   |  |
|                           |  | WDR On   | 120 dB  |  |
|                           | Max Image Rate                                 | 60 fps   |   |  |
| 3D Noise Reduction Filter | Yes  |  |   |  |
| <b>LENS</b>               | Lens   | 4.3-129 mm (30x zoom)  |   |  |
|                           | Minimum Illumination                           | 0.1 lux (F/1.6) in color mode; 0.03 lux (F/1.6) in monochrome mode   |   |  |
|                           | Horizontal Angle of View Based on Aspect Ratio | (16:9) 3.1°-64°  |   |  |
|                           | Vertical Angle of View Based on Aspect Ratio   | (16:9) 1.7°-38°  |   |  |
|                           | Max Aperture                                   | F1.6   |   |  |
|                           | Control  | P-Iris, remote focus and zoom  |   |  |
| <b>IMAGE CONTROL</b>      | Image Compression Method                       | H.264 HDSM SmartCodec, H.265 HDSM SmartCodec, Motion JPEG  |   |  |
|                           | Streaming                                      | Multi-stream H.264, Multi-stream H.265, Motion JPEG  |   |  |
|                           | Motion Detection                               | Pixel motion: Selectable sensitivity and threshold   | Classified object detection                                       |  |
|                           | Camera Tamper Detection                        | Yes, video analytics based   |   |  |
|                           | Electronic Shutter Control                     | Automatic, Manual (1/1 to 1/30,000 sec)  |   |  |
|                           | Iris Control                                   | Automatic, Open, Closed  |   |  |
|                           | Day/Night Control                              | Automatic, Manual  |   |  |
|                           | Flicker Control                                | 60 Hz, 50 Hz   |   |  |
|                           | White Balance                                  | Automatic, Manual  |   |  |
|                           | Backlight Compensation                         | On/Off   |   |  |
|                           | Privacy Zones                                  | Up to 64 zones   |   |  |
|                           | Digital Zoom                                   | Up to 100x when used with ACC™ Client for Windows  |   |  |
|                           | Electronic Image Stabilization                 | On/Off   |   |  |
|                           | Digital Defog                                  | Adjustable/Off   |   |  |
| <b>NETWORK</b>            | Network  | 100BASE-TX, RJ45 Connector (CAT5E cabling)   |   |  |
|                           | ONVIF  | ONVIF compliance version 1.02, 2.00, Profile S, Profile T ( <a href="http://www.onvif.org">www.onvif.org</a> )   |   |  |
|                           | Security                                       | Password protection, HTTPS encryption, digest authentication, WS authentication, user access log, 802.1x port based authentication   |   |  |
|                           | Protocols                                      | IPv6, IPv4, HTTP, HTTPS, SOAP, DNS, NTP, RTSP, RTCP, RTP, TCP, UDP, IGMP, ICMP, DHCP, Zeroconf, ARP  |   |  |
|                           | Streaming Protocols                            | RTP/UDP, RTP/UDP multicast, RTP/RTSP/TCP, RTP/RTSP/HTTP/TCP, RTP/RTSP/HTTPS/TCP, HTTP  |   |  |
|                           | Device Management Protocols                    | SNMP v2c, SNMP v3  |   |  |
|                           | <b>MECHANICAL</b>                              | Dimensions (LxWxH)   | Ø155.5 mm × 264 mm; Ø6.12" × 10.4" (dimensions without sunshield) |  |
| Weight                    |  | With 4m cable: 8.5 kg; 18.7 lbs<br>With 10m cable: 12.0 kg; 26.5 lbs   |   |  |
| Body                      |  | AISI 316L stainless steel  |   |  |
| Finish                    |  | Electro-polished surface   |   |  |
| Wiper                     |  | Yes  |   |  |
| Cable Entry               |  | 3/4" NPT   |   |  |
| Cable Gland               |  | Ex db and tb 1/2" NPT and preinstalled armored cable or with tail cable  |   |  |
| Armored Cable Option      |  | External diameter: 20.00 mm (0.79") ± 0.50 mm (0.20")<br>Diameter under armature: 15.20 mm (0.60")<br>Color: black RAL 9005<br>Composition: 3 × 2.5 mm <sup>2</sup> (13 AWG), 7 × 0.34 mm <sup>2</sup> (22 AWG), 4 × 2 × 0.22 mm <sup>2</sup> (24 AWG) (cat. 5E) |   |  |
| Cable Tail Option         |  | 3 × 2.5 mm <sup>2</sup> (13 AWG), external diameter 8.7 mm (0.34")<br>7 × 0.34 mm <sup>2</sup> (22 AWG), external diameter 6.4 mm (0.25")<br>4 × 2 × 0.21 mm <sup>2</sup> (24 AWG) (cat. 5E), external diameter 6.7 mm (0.26")                                   |   |  |
| <b>ELECTRICAL</b>         |  | Power Consumption  | 53 W  |  |
|                           | External Power                                 | VDC: 12 V ± 5% (3.5A), VDC: 24 V ± 5% (2.2A), VAC: 24 V ± 10% (2.2A) at 50/60 Hz   |   |  |
| <b>ENVIRONMENTAL</b>      | Operating Temperature                          | -50 °C to +60 °C (-58 °F to 140 °F)  |   |  |
|                           | Storage Temperature                            | -40 °C to +55 °C (-40 °F to 131 °F)  |   |  |
|                           | Humidity                                       | 10% - 95% non-condensing   |   |  |
|                           | Cold Start                                     | Up to 2 hour startup delay at temperature lower than -10 °C (14 °F)  |   |  |
| <b>AUXILIARY I/O</b>      | Alarm Inputs                                   | 1  |   |  |
|                           | Alarm Outputs                                  | 1 (1A, 30 VAC/60 VDC max)  |   |  |

| CERTIFICATIONS            |  |  |
|---------------------------|--|--|
| Certifications/Directives | UL, cUL, CE, RCM   |  |
| Safety                    | UL/CSA 62368-1, EN/IEC 62368-1   |  |
| Environmental             | EN/IEC 60529: IP66, IP67, IP68, IP69<br>EN 60068-2-52: salt spray<br>UL50E: 4X, 6P |  |
| Electromagnetic Emissions | FCC Part 15 Subpart B Class A, IC ICES-003 Class A, EN 55032 Class A, EN 61000-6-4 |  |
| Electromagnetic Immunity  | EN 50130-4   |  |
| Explosion Protected       | ATEX   | EN 60079-0, EN 60079-1, EN 60079-31                                  |
|                           | IECEX  | IEC 60079-0, IEC 60079-1, IEC 60079-31                               |
|                           | EAC Ex   | ГОСТ IEC 60079-0, ГОСТ IEC 60079-1, ГОСТ IEC 60079-31                |
|                           | INMETRO  | ABNT NBR IEC 60079-0, ABNT NBR IEC 60079-1, ABNT NBR IEC 60079-31    |
|                           | KCS  | Employment and Labor Department 2018-53                              |
|                           | Haz Loc for USA  | UL 60079-0, UL 60079-1, UL 60079-31                                  |
|                           | Haz Loc for Canada   | CSA C22.2 No. 60079-0, CSA C22.2 No. 60079-1, CSA C22.2 No. 60079-31 |

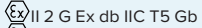
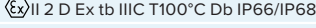
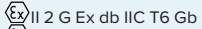
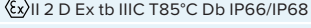
Camera certified by Videotec S.P.A., model MVX.

## Analytics Specifications

|  |                               |  |
|--|-------------------------------|--|
| <b>SUPPORTED ANALYTICS EVENTS</b>                                | Objects in Area               | The event is triggered when the selected object type moves into the region of interest.  |
|  | Object Loitering              | The event is triggered when the selected object type moves into the region of interest and then stays for an extended amount of time.  |
|  | Objects Crossing Beam         | The event is triggered when the specified number of objects have crossed the directional beam that is configured over the camera's field of view. The beam can be unidirectional or bidirectional. |
|  | Object Appears or Enters Area | The event is triggered by each object that enters the region of interest. This event can be used to count objects.   |
|  | Object Not Present in Area    | The event is triggered when no objects are present in the region of interest.  |
|  | Objects Enter Area            | The event is triggered when the specified number of objects have entered the region of interest.   |
|  | Objects Leave Area            | The event is triggered when the specified number of objects have left the region of interest.  |
|  | Object Stops in Area          | The event is triggered when an object moves into a region of interest and then stops moving for the specified threshold time.  |
|  | Direction Violated            | The event is triggered when an object moves in the prohibited direction of travel.   |
|  | Tamper Detection              | The event is triggered when the scene unexpectedly changes.  |
| <b>SUPPORTED CLASSIFIED OBJECT TYPES</b>                         | Object Types in Outdoor Mode  | Vehicle, sub-types: Car, Truck, Bicycle, Motorcycle, Bus<br>Person   |
|  | Object Types in Indoor Mode   | Person   |
| <b>TEACH BY EXAMPLE</b>  | Teach By Example              | Yes, when used with Avigilon Control Center™ software  |
| <b>AVIGILON CONTROL CENTER (ACC) VERSIONS SUPPORTED FEATURES</b> | ACC Version 6.14.10 or higher | All supported analytic events with two types of classified objects: person or vehicle. Appearance search when paired with appropriate server hardware. H.265 supported.                            |
|  | ACC Version 7.2 or higher     | All supported analytic events with people and vehicles and all vehicle sub-types as classified objects. Appearance search when paired with appropriate server hardware. H.265 supported.           |

## Explosion-Protected Certifications

With armored cable option

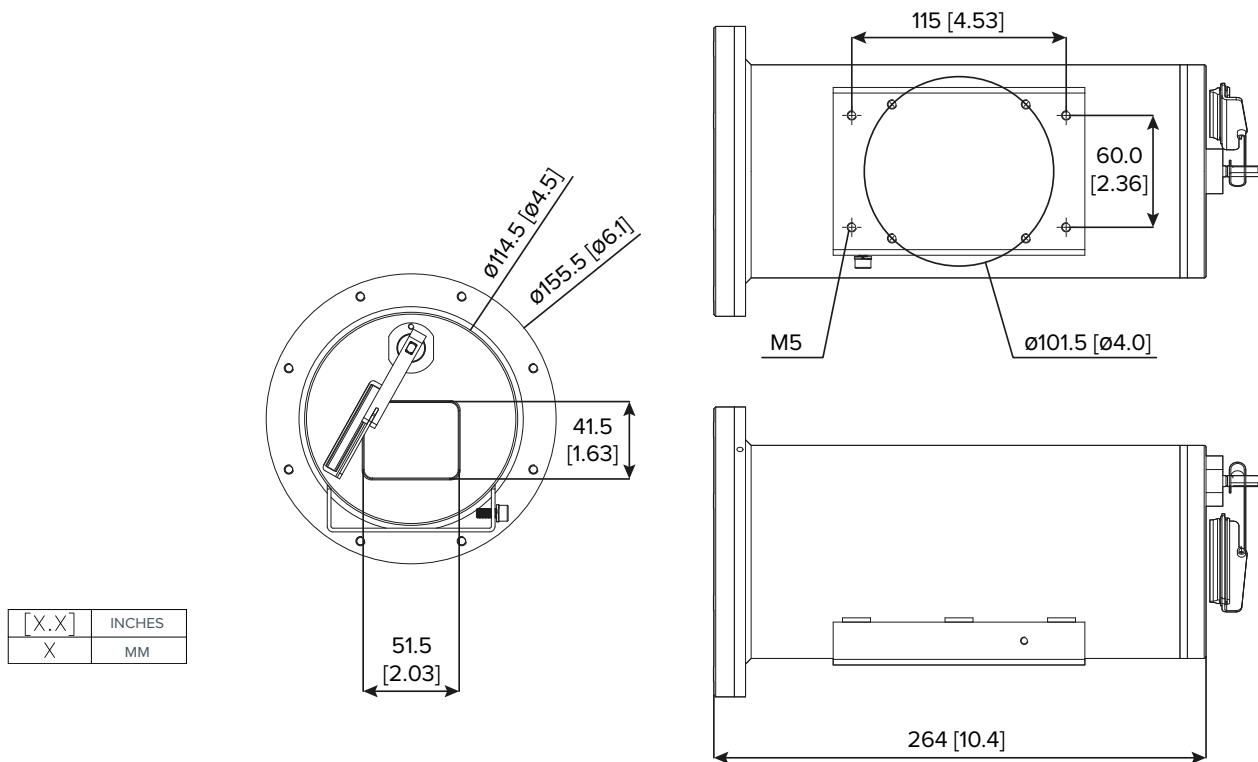
| Certification | Marking  | Ambient Temperature |
|---------------|--|---------------------|
| ATEX          | <br> | -60°C ≤ Ta ≤ +65°C  |
|               | <br> | -60°C ≤ Ta ≤ +55°C  |
| IECEX         | Ex db IIC T5 Gb  | -60°C ≤ Ta ≤ +65°C  |
|               | Ex tb IIIC T100°C Db IP66/IP68   | -60°C ≤ Ta ≤ +65°C  |
|               | Ex db IIC T6 Gb<br>Ex tb IIIC T85°C Db IP66/IP68   | -60°C ≤ Ta ≤ +55°C  |
| INMETRO       | Ex db IIC T5 Gb  | -60°C ≤ Ta ≤ +65°C  |
|               | Ex tb IIIC T100°C Db IP66/IP68   | -60°C ≤ Ta ≤ +65°C  |
|               | Ex db IIC T6 Gb<br>Ex tb IIIC T85°C Db IP66/IP68   | -60°C ≤ Ta ≤ +55°C  |
| EAC Ex        | 1 Ex d IIC T5 Gb X   | -60°C ≤ Ta ≤ +65°C  |
|               | Ex tb IIIC T100°C Db X   | -60°C ≤ Ta ≤ +65°C  |
|               | 1 Ex d IIC T6 Gb X<br>Ex tb IIIC T85°C Db X  | -60°C ≤ Ta ≤ +55°C  |

# Explosion-Protected Certifications

With cable tail option, for installation with conduit

| Certification                             | Marking  | Ambient Temperature                                       |
|---|--|---|
| ATEX                                      | $\text{Ex} \text{II} 2 \text{ G Ex db IIC T5 Gb}$<br>$\text{Ex} \text{II} 2 \text{ D Ex tb IIIC T100}^\circ\text{C Db IP66/IP68}$  | $-50^\circ\text{C} \leq \text{Ta} \leq +65^\circ\text{C}$ |
|   | $\text{Ex} \text{II} 2 \text{ G Ex db IIC T6 Gb}$<br>$\text{Ex} \text{II} 2 \text{ D Ex tb IIIC T85}^\circ\text{C Db IP66/IP68}$   | $-50^\circ\text{C} \leq \text{Ta} \leq +55^\circ\text{C}$ |
| IECEX                                     | $\text{Ex db IIC T5 Gb}$<br>$\text{Ex tb IIIC T100}^\circ\text{C Db IP66/IP68}$  | $-50^\circ\text{C} \leq \text{Ta} \leq +65^\circ\text{C}$ |
|   | $\text{Ex db IIC T6 Gb}$<br>$\text{Ex tb IIIC T85}^\circ\text{C Db IP66/IP68}$   | $-50^\circ\text{C} \leq \text{Ta} \leq +55^\circ\text{C}$ |
| INMETRO                                   | $\text{Ex db IIC T5 Gb}$<br>$\text{Ex tb IIIC T100}^\circ\text{C Db IP66/IP68}$  | $-50^\circ\text{C} \leq \text{Ta} \leq +65^\circ\text{C}$ |
|   | $\text{Ex db IIC T6 Gb}$<br>$\text{Ex tb IIIC T85}^\circ\text{C Db IP66/IP68}$   | $-50^\circ\text{C} \leq \text{Ta} \leq +55^\circ\text{C}$ |
| KCs                                       | $\text{Ex d IIC T5}$<br>$\text{Ex tb IIIC T100}^\circ\text{C}$   | $-50^\circ\text{C} \leq \text{Ta} \leq +65^\circ\text{C}$ |
|   | $\text{Ex d IIC T6}$<br>$\text{Ex tb IIIC T85}^\circ\text{C}$  | $-50^\circ\text{C} \leq \text{Ta} \leq +55^\circ\text{C}$ |
| EAC Ex                                    | $1 \text{ Ex d IIC T5 Gb X}$<br>$\text{Ex tb IIIC T100}^\circ\text{C Db X}$  | $-50^\circ\text{C} \leq \text{Ta} \leq +65^\circ\text{C}$ |
|   | $1 \text{ Ex d IIC T6 Gb X}$<br>$\text{Ex tb IIIC T85}^\circ\text{C Db X}$   | $-50^\circ\text{C} \leq \text{Ta} \leq +55^\circ\text{C}$ |
| Hazardous Location America (All versions) | $\text{Class I, Zone 1, AEx db IIC T5 Gb}$<br>$\text{Class I, Div 2, Group A, B, C, and D, T5}$<br>$\text{Zone 21, AEx tb IIIC T100}^\circ\text{C Db}$<br>$\text{Class II, Div 2, Group E, F and G, T100}^\circ\text{C}$ | $-50^\circ\text{C} \leq \text{Ta} \leq +65^\circ\text{C}$ |
|   | $\text{Class I, Zone 1, AEx db IIC T6 Gb}$<br>$\text{Class I, Div 2, Group A, B, C, and D, T6}$<br>$\text{Zone 21, AEx tb IIIC T85}^\circ\text{C Db}$<br>$\text{Class II, Div 2, Group E, F and G, T85}^\circ\text{C}$   | $-50^\circ\text{C} \leq \text{Ta} \leq +55^\circ\text{C}$ |
| Hazardous Location Canada (All versions)  | $\text{Ex db IIC T5 Gb}$<br>$\text{Class I, Div 2, Group A, B, C, and D, T5}$<br>$\text{Ex tb IIIC T100}^\circ\text{C Db}$<br>$\text{Class II, Div 2, Group E, F and G, T100}^\circ\text{C}$                             | $-50^\circ\text{C} \leq \text{Ta} \leq +65^\circ\text{C}$ |
|   | $\text{Ex db IIC T6 Gb}$<br>$\text{Class I, Div 2, Group A, B, C, and D, T6}$<br>$\text{Ex tb IIIC T85}^\circ\text{C Db}$<br>$\text{Class II, Div 2, Group E, F and G, T85}^\circ\text{C}$                               | $-50^\circ\text{C} \leq \text{Ta} \leq +55^\circ\text{C}$ |







## Outline Dimensions



# Ordering Information

|                  | MP  | Cable Type   | Cable Length | Temperature Option  | Lens         | Analytics | HDSM SmartCodec |
|------------------|-----|--|--------------|---------------------|--------------|-----------|-----------------|
| 2.0C-H5EX-A0-BO1 | 2.0 | Cable gland and armored cable  | 4m           | T5: -50 °C to 65 °C | 4.3 - 129 mm | ✓         | ✓               |
| 2.0C-H5EX-A2-BO1 | 2.0 |  | 4m           | T6: -50 °C to 55 °C | 4.3 - 129 mm | ✓         | ✓               |
| 2.0C-H5EX-B0-BO1 | 2.0 |  | 10m          | T5: -50 °C to 65 °C | 4.3 - 129 mm | ✓         | ✓               |
| 2.0C-H5EX-B2-BO1 | 2.0 |  | 10m          | T6: -50 °C to 55 °C | 4.3 - 129 mm | ✓         | ✓               |
| 2.0C-H5EX-F1-BO1 | 2.0 | Tail cable. For installation with conduit (conduit sealing and conduit not included) | 4m           | T5: -50 °C to 65 °C | 4.3 - 129 mm | ✓         | ✓               |
| 2.0C-H5EX-F3-BO1 | 2.0 |  | 4m           | T6: -50 °C to 55 °C | 4.3 - 129 mm | ✓         | ✓               |
| 2.0C-H5EX-G1-BO1 | 2.0 |  | 10m          | T5: -50 °C to 65 °C | 4.3 - 129 mm | ✓         | ✓               |
| 2.0C-H5EX-G3-BO1 | 2.0 |  | 10m          | T6: -50 °C to 55 °C | 4.3 - 129 mm | ✓         | ✓               |







## Accessories

|                  |   |   |
|------------------|---|---|
| AVGEX-NXWBS1     |    | Wall bracket for use with H5EX-BO cameras. AISI 316L stainless steel.   |
| AVGEX-MHXWFWCA   |    | Parapet mounting bracket for use with H5EX-BO cameras. AISI 316L stainless steel.   |
| AVGEX-NXFWBT     |    | Vertical riser, 124 mm (4.9"), for use with H5EX-BO cameras. AISI 316L stainless steel.   |
| AVGEX-NXWTU      |    | Wall adapter module, for use with AVGEX-NXWBS1. AISI 316L stainless steel.  |
| AVGEX-NXCOL      |   | Pole mount adapter for use with H5EX-BO cameras or explosion protected washers. For pole diameters from 110 mm (4.3") to 150 mm (5.9"). Max load 50 kg (110 lb). AISI 316L stainless steel. |
| AVGEX-NXCW       |  | Corner mount adapter for use with H5EX-BO cameras or explosion protected washers. Max load 50 kg (110 lb). AISI 316L stainless steel.   |
| AVGEX-OCTEXP3/4C |   | Conduit cable gland, nickel-plated brass, 3/4" NPT, IECEx - ATEX - c CSA us - EAC Ex (operating temperature from -60 °C up to +80 °C).  |

## Explosion-Proof Communication Box

Communication boxes include a 3-port RJ45 and 1 SFP port Ethernet switch and 24 VAC output for powering up to:

- 2x H5EX compact bullet cameras
- 2x H5EX bullet cameras with 2x washer pump
- 1x H5EX PTZ camera with 1x washer pump

|               |   |  |
|---------------|---|--|
| AVGEX-MBA1S5A |  | Aluminum housing, 230 VAC input.   |
| AVGEX-MBA2S5A |   | Aluminum housing, 24 VAC input.  |
| AVGEX-MBA3S5A |   | Aluminum housing, 120 VAC input.   |
| AVGEX-MBX1MAA |  | AISI 316L stainless steel housing, 230 VAC input.  |
| AVGEX-MBX2MAA |   | AISI 316L stainless steel housing, 24 VAC input.   |
| AVGEX-MBX3MAA |   | AISI 316L stainless steel housing, 120 VAC input.  |
| AVGEX-MBXMP   |  | Adapter plate for communication box to AVGEX-MPXCOL or AVGEX-MPXCW mounts. AISI 316L stainless steel housing.  |
| AVGEX-MBXWRE  |  | Wrench for opening communication boxes, AVGEX-MBX.   |
| AVGEX-MPXCOL  |  | Pole mount adapter for use with AVGEX-MBXMP or H5EX PTZ cameras. For pole diameters from 110 mm (4.3") to 150 mm (5.9"). Max load 50 kg (110 lb). AISI 316L stainless steel. |
| AVGEX-MPXCW   |  | Corner mount adapter for use with AVGEX-MBXMP or H5EX PTZ cameras. Max load 50 kg (110 lb). AISI 316L stainless steel.   |

# Explosion-Proof Washer

A 10L (2.6 gal) tank with integrated manual pump and delivery up to 20m (66 ft), 24 VAC/VDC input.

AVGEX-WASEX2T4AT

AVGEX-WASEX2T4IN

AVGEX-WASEX2T4KC

AVGEX-WASEX2T4GOR



ATEX certified solenoid valve.

INMETRO certified solenoid valve.

KCS certified solenoid valve.

EAC Ex certified solenoid valve.