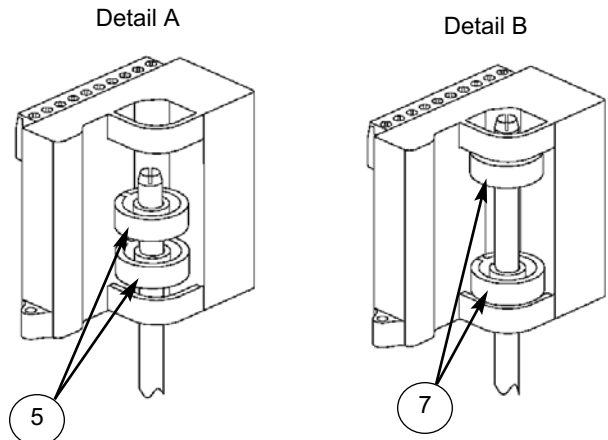
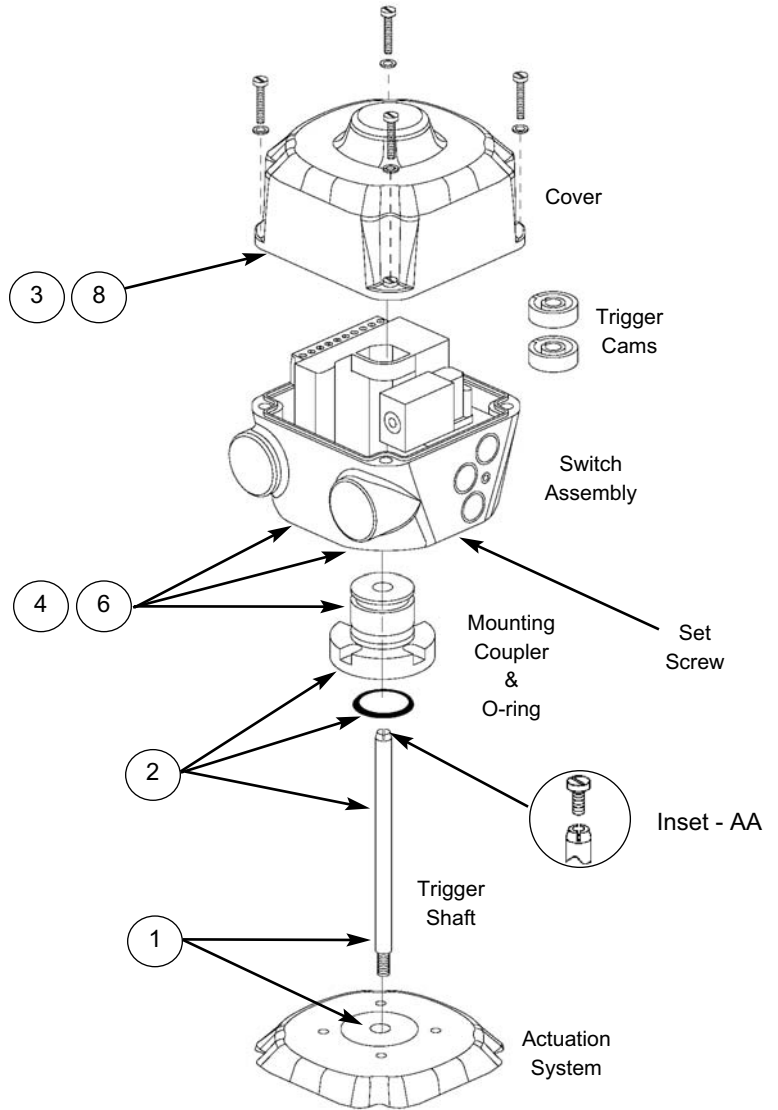




# Installation & Adjusting Instructions

## Prism™ Mounting

1. Thread the Trigger Shaft onto the actuation system stem.
2. Place provided o-ring in groove on the bottom of the Mounting Coupler and slide over the Trigger Shaft. Secure Mounting Coupler to the actuation system. Fastening of Mounting Coupler to the actuation system will be either flange mounted or threaded. (Dependent on manufacturer of valve assembly)
3. Remove the Prism's Cover.
4. Slide the Prism Switch Assembly over the Trigger Shaft via the Mounting Coupler socket located on the bottom of the Switch Assembly. Do not seat the Switch Assembly onto the Mounting Coupler. The Trigger Shaft should now be approximately midway between upper and lower Cam Stops on the Dual Module. (See Detail A)
5. While supporting the Switch Assembly with one hand, place the two Trigger Cams onto the Trigger Shaft between the cam stops. (See Detail A)
6. Fully seat the Switch Assembly onto the Mounting Coupler. Secure the Switch Assembly to the Mounting Coupler by tightening the set screw located on the bottom of the Switch Assembly, opposite of the conduit entries. **Some mounting systems for 2" and larger valves may have the Trigger Shaft threaded, in these cases thread the provided 6/32 screw into the top of the Trigger Shaft. (See Inset - AA)**
7. To set the Cam Triggers, slide the upper trigger until it touches the upper cam stop (or 6/32 screw) and push down the lower trigger until it touches the lower cam stop. Cycle the actuator and the triggers will automatically be set to the proper position. (See Detail B)
8. Perform applicable field wiring and replace Prism Cover. (Applicable wiring diagrams and connector pin-out guides located on Page 5 of this document)



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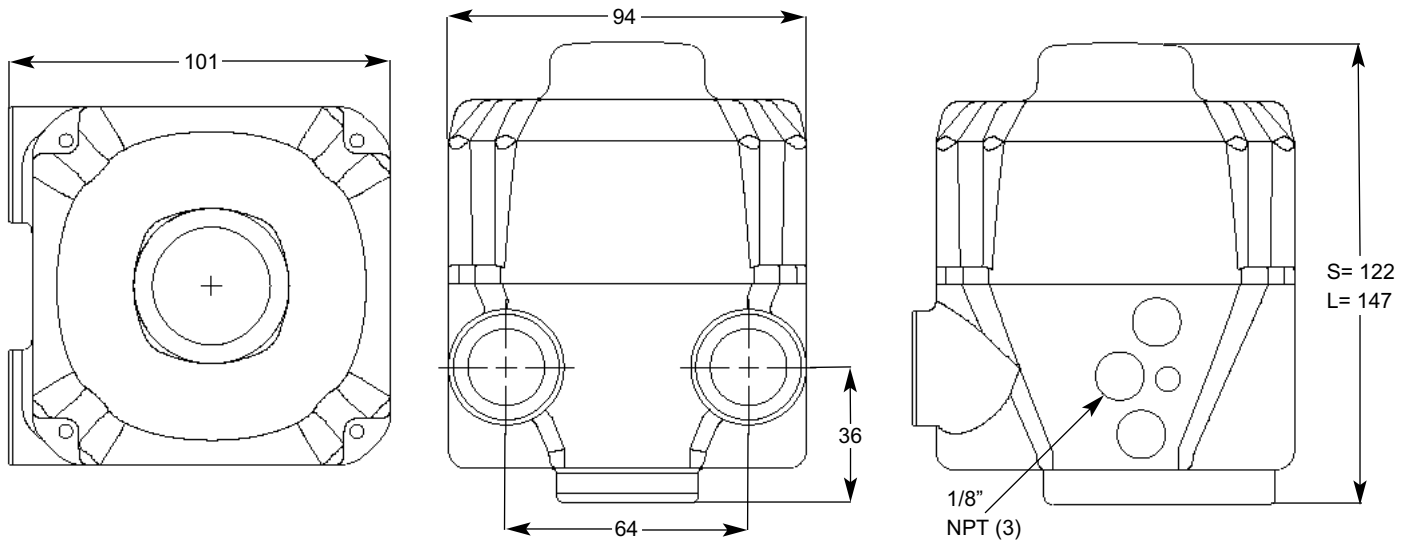
# PRISM Model Selector

	Function	Pneumatic Valve	Conduit/Connectors	Visual Indicator	Valve Size
<b>PM</b>	<p><b>33</b> (2) SST N.O. Sensors</p> <p><b>34</b> (2) SST N.C. Sensors</p> <p><b>44</b> (2) NAMUR Sensors</p> <p><b>92</b> DeviceNet VCT**</p> <p><b>93</b> Foundation Fieldbus VCT* (Bus Power Outputs; I.S.)</p> <p><b>94</b> Foundation Fieldbus VCT** (Externally Powered Outputs)</p> <p><b>95</b> Modbus VCT**</p> <p><b>96</b> AS-Interface VCT**</p> <p><b>97</b> AS-Interface VCT (Ext Add)**</p> <p>* For use with pneumatic valve option 11 or 1A only</p> <p>** For use with pneumatic valve option 11, 1B or 1D only</p>	<p><b>11</b> No Pneumatic Valve</p> <p><b>1A</b> 3-way/Piezo*</p> <p><b>1B</b> 3-way/24 VDC/1.8 W</p> <p><b>1C</b> 3-way/120 VAC/5.4 W</p> <p><b>1D</b> 3-way/24 VDC/0.5 W</p> <p><b>1E</b> 3-way/12 VDC (I.S.)**</p> <p>* For use with Function 93 only</p> <p>** For use with Function 44 only</p>	<p><b>S02</b> (2) 1/2" NPT</p> <p><b>S05</b> (2) M20</p> <p><b>S09</b> (2) Cable Glands</p> <p><b>S11</b> (1) 5-Pin Mini-Connector</p> <p><b>S13</b> (1) 4-Pin Micro-Connector</p> <p><b>S14</b> (2) 4-Pin Micro-Connector</p> <p><b>S15</b> (1) 5-Pin Micro-Connector</p> <p><b>S16</b> (1) 5-Pin Micro-Connector &amp; (1) 4-Pin Micro Connector</p>	<p><b>R</b> Red Closed/ Green Open</p> <p><b>G</b> Green Closed/ Red Open</p>	<p><b>S</b> Stroke less than 2"</p> <p><b>L</b> Stroke from 2" to 4"</p>
<b>Model Number Example: PM961BS2RS</b>					

## General Specifications and Ratings

<p><b>Materials of Construction</b></p> <p>Housing &amp; Cover: Polycarbonate</p> <p>Fasteners: Stainless Steel</p> <p>Triggering Cams: Stainless Steel Banded Polycarbonate</p> <p>Mounting System: Stainless Steel</p> <p>O-Rings: Buna-N</p> <p>Valve Manifold: Polysulfone with Stainless Steel Reinforced NPT Ports</p>	<p>Operating Life: One Million Cycles</p> <p>Temperature Range: -40° C to 80° C (-40° F to 180° F)</p> <p><b>Enclosure Protection</b></p> <p>NEMA: 4, 4X, 6; IP67</p> <p><b>Hazardous Location Ratings</b></p> <p>Nonincendive: Class I&amp;II, Div 2, All Gas Groups</p> <p><b>Warranty</b></p> <p>Dual Modules/VCTs: Five Years</p> <p>Mechanical Components: Two Years</p>
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## Dimensions (mm)



### General Pneumatic Specifications

Configuration: 3-Way, 2-Position, Spring Return  
 Porting: 1/8 NPT (all pressurized ports)  
 Rebreather Port: 4-40 size  
 Operating Pressure: 40 psi to 120 psi (2.6 to 8.0 bar)  
 Flow Rating: 0.1 Cv (1.4 Kv)  
 Rebreather: Standard on all models; Diverts air from exhausting cylinder into actuator spring side, Excess air exhausted to the atmosphere  
 Valve Cycle Time:  
 1/2" Stroke To Open = < 1 sec. To Close = < 1 sec.  
 1 1/8" Stroke To Open = 3.4 sec. To Close = 3.1 sec.  
 Operating Life: One Million Cycles

### 24 VDC

Power: 1.8 Watts (1B); 0.5 Watts (1D)  
 Current Draw: 0.075 Amps (1B); 0.02 Amps (1D)  
 Temperature Range: -18° C to 50° C (0° F to 120° F)  
 Filtration Requirements: 40 Microns

### 12 VDC (Intrinsically Safe)

Power: 0.5 Watts  
 Current Draw: 0.04 Amps  
 Temperature Range: -18° C to 50° C (0° F to 120° F)  
 Filtration Requirements: 40 Microns

### Piezo

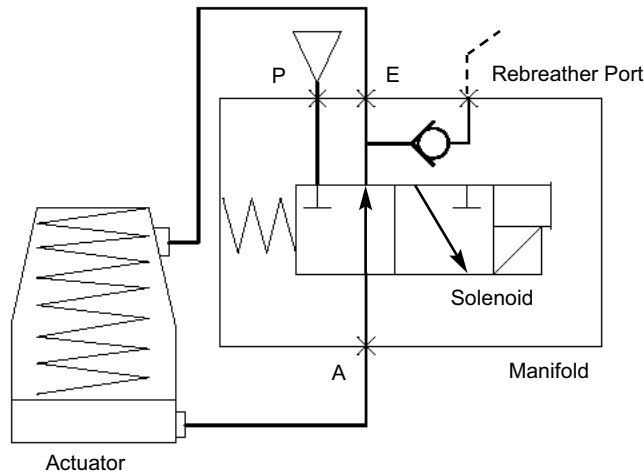
Operating Voltage: 5.5 VDC to 9.0 VDC  
 Current Draw: 2.0 mA @ 6.5 VDC  
 Temperature Range: -10° C to 60° C (14° F to 140° F)  
 Filtration Requirements: 30 Microns  
 Hazardous Ratings: Ex ia IIC T6

### Solenoid Coil Specifications

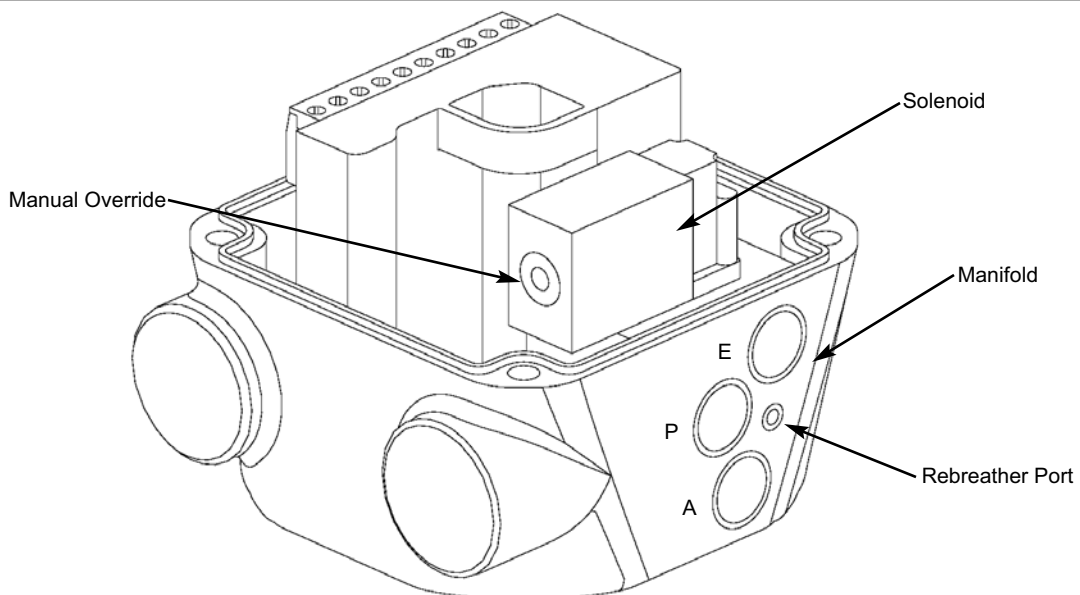
#### 120 VAC (with burn-out proof coil)

Power: 5.4 Watts  
 Inrush Current: 0.09 Amps @ 120 VAC  
 Holding Current: 0.06 Amps @ 120 VAC

## Pneumatic Valve Schematic



## Pneumatic Valve Component Locator



**Specifications**

Operating Voltage	9-32 VDC via Foundation Fieldbus voltage
Bus Current Draw	16mA
External Voltage	24 VDC (Discrete Outputs)
External Power Max Current	Discrete Outputs - Total 166mA available
Configuration:	(2) Discrete Inputs (Sensors) (2) Externally powered Discrete Outputs (Max 4 watts available)** (** Discrete Output 1 is used for units with integral solenoid)
Function Blocks	2 DI; 2 DO
Indication	Input 1 = Red LED Input 2 = Green LED

**Standard Channel Assignments**

Channel 1 (DI1) - Discrete Input 1 (Red LED);	1 = True; 0 = False
Channel 2 (DI2) - Discrete Input 2 (Green LED);	1 = True; 0 = False
Channel 3 (DO1) - Discrete Output 1 (OUT 1);	1 = True; 0 = False
Channel 4 (DO2) - Discrete Output 2 (OUT 2);	1 = True; 0 = False

**Special Channel Assignments**

Channel 8 (DO1) - Discrete Output 1 (OUT 1) with state report from Discrete Input 1 (READBACK\_D)  
Channel 9 (DO2) - Discrete Output 2 (OUT 2) with state report from Discrete Input 2 (READBACK\_D)

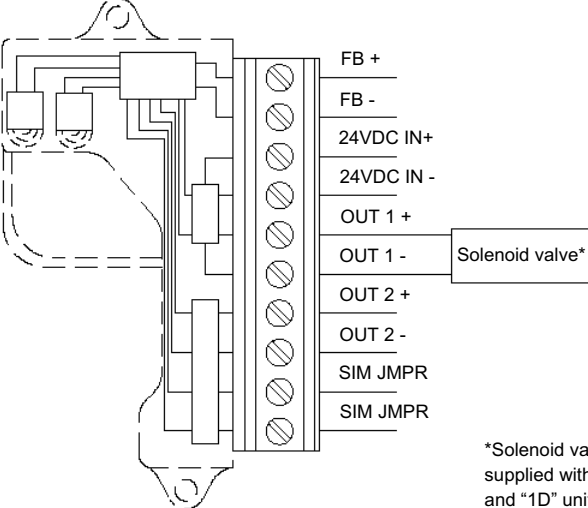
**Valve Control Single Block Mode**

Channel 10 (DO1) - Discrete Output 1 (OUT 1) with state report Discrete Inputs 1&2 (READBACK\_D):  
READBACK\_D Values:  
0 = None  
1 = Discrete Input 1 is True  
2 = Discrete Input 2 is True  
3 = Both Discrete Inputs 1&2 are True

**WARNING:**

**DO NOT APPLY EXTERNAL POWER TO THE OUTPUT TERMINALS. THIS WILL CAUSE PERMANENT DAMAGE TO THE UNIT**

**To Bench Test a Foundation Fieldbus VCT:** To test sensors, use 9-32 VDC power supply across FB + and FB -. No series resistor needed. A functioning Foundation Fieldbus network is required to test communications and the discrete outputs. An external 24 VDC to 24VDC IN + and 24VDC IN - is required to energize solenoids connected to the discrete outputs




\*Solenoid valve supplied with "1B" and "1D" units only

**Connector Option (S13)**

PIN	PM9411S13XX	PM941BS13XX	PM941DS13XX
1	FB -	FB -	FB -
2	FB +	FB +	FB +
3	24VDC IN +	24VDC IN +	24VDC IN +
4	24VDC IN -	24VDC IN -	24VDC IN -


MICRO-CONNECTOR



MALE (PINS)

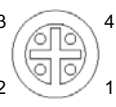
**Connector Option (S14)**

MICRO-CONNECTOR



MALE (PINS)

MICRO-CONNECTOR



FEMALE (SOCKETS)

PIN	PM9411S14XX
1	FB -
2	FB +
3	24VDC IN +
4	24VDC IN -
XX	XXXXXXXXXX
1	SIM JMPR
2	SIM JMPR
3	OUT 1 -
4	OUT 1 +