

### Alloy Valves and Control

#### The Reliable Choice

The AVCO Watchman has been designed to provide the most visible and reliable valve position indication in general purpose applications. With a wide variety of switches and sensors available to match your application, the Watchman is the best choice. Features Include:

CSA Certified for General Purpose applications

Patented Engineered Loc-Ring Cam and Shaft Retention System provides unsurpassed sensing accuracy over the multi-million cycle life of the physical platform.

Clear Ektar Cover offers optimum chemical resistance and strength and is environmentally sealed to prevent fogging or entry of contaminants.

Careful material selection provides the unique patented indicator a rated life of minimum 1,000,000 cycles.

Materials of construction selected to excel in high vibration, corrosive and dirty environments, either indoors or outdoors.

Indicator is fully adjustable to any valve or actuator.

Internal Switches and terminal block are labeled for easier installation.

The industry's only "true" visual valve position indicator available for multi-port valves, adjustable to match the actual physical flow pattern of the valve.

"Flat cover" version is available without an indicator for areas with tight space requirements.

**NEMA 4**



**Industry Approvals:**  
CSA General Purpose

#### Material Specifications

Enclosure - Aluminum with 2-part Polyurethane Paint

Shaft - 303 or Optional 316 Stainless Steel

Shaft Locking Ring - Stainless Steel

Indicator Cover - Ektar Copolyester

Bearing - Bronze or Optional 303 Stainless Steel

Fasteners - 316 & 18-8 Stainless Steel

O-rings - BUNA-N or Optional Viton

Cams and Splines - Acetal

#### Certified Configurations

2 or 3 - 1/2" NPT Conduit Entries

1, 2, 3 or 4 Mechanical SPDT Switches.

1 or 2 Tungsten or Rhodium TTL Hermetically Sealed Proximity Switches

1 or 2 DPDT Mechanical Switches

1, 2, 3 or 4 Inductive Proximity or Intrinsically Safe Sensors

Standard NAMUR, Low Profile NAMUR or Standard Shaft (1/4" flats)

4-20mA Transmitter or 0-1k or 10k ohm High Linearity Potentiometer for 0-100% Analog Output

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### Popular Switch and Sensor Specifications

Mechanical SPDT  
Switches



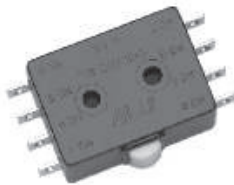
Electrical Ratings  
15 A / 125-250 VAC  
2.5 A / 24 VDC  
0.5 A / 125 VDC  
0.25 A / 250 VDC  
Operating Temperature  
-40 to +175 °F

TTL Hermetically  
Sealed Proximity  
Switches



Electrical Ratings  
Rhodium (DC Signals):  
1 A / 24VDC - 0.25 A / 120VAC  
Tungsten (AC Signals):  
3 A / 120 V AC - 2 A / 24VDC  
Operating Temperature  
-40 to +175 °F

Mechanical DPDT  
Switches



Electrical Ratings  
10 A / 125-250 VAC  
7 A / 24 VDC  
0.25 A / 125 VDC  
Operating Temperature  
-40 to +175 °F

Pepperl & Fuchs  
NJ2-V3-N NAMUR  
Inductive Sensors  
(Intrinsically Safe)



Electrical Ratings  
NAMUR 5-25 VDC  
Target Present 3-15 mA  
Target Absent <1mA  
Operating Temperature  
-25 to +140 °C

### Open/Closed and 3-Way Path Indicators



'Y'



'A'



'C'



3-Way 'O'



3-Way 'T'



3-Way 'F'



4-Way 'S'



3 Way 180 Degree '1'

### Intelligent Part Number System

F	M	Y	B	-	E	1	2	0
Series	Cover	Indicator	Bearing		Shaft	Switch	Quantity	Conduit

Description	Code	Description	Code	Description	Code
<u>Series: Watchman</u>	F	<u>Bearing</u>		<u>Conduit Connection</u>	
<u>Limit Switch</u>		Bronze	B	2 - 1/2" F NPT	0
<u>With Indicator</u>	M	303 Stainless	S	3 - 1/2" F NPT	6
<u>Flat Cover</u>	F	<u>Shaft</u>		1 - 1/2" F NPT +	
<u>Indicator Type (open/closed)</u>		Standard 303 SS	1	1 - 1/2" M NPT	8
<u>No Indicator (Flat Cover)</u>	N	Standard 316 SS	3	<u>Options</u>	
<u>Black / Yellow (Standard)</u>	Y	Low Profile NAMUR 303 SS	5	Transmitter 4 - 20mA	- 420
<u>Green / Red</u>	A	Low Profile NAMUR 316 SS	7	Potentiometer 0 - 1k	- 1K
<u>Red / Green</u>	C	NAMUR 303 SS	E	All Viton Seals	-V
<u>0-100% Digital</u>	P	NAMUR 316 SS	G	12 Terminal Points	-12T
<u>3-Way Path O (90 deg.)</u>	O	<u>Switch/Sensor Type</u>		16 Terminal Points	-16T
<u>3-Way Path T (90 deg.)</u>	T	Mechanical SPDT 15A-250VAC	1	High Temperature	-HT
<u>3-Way Path F (90 deg.)</u>	F	Mechanical SPDT 0.5A-125 VDC	C	<u>Contact Moniteur for</u>	
<u>4-Way Path S (90 deg.)</u>	S	PRISM SPDT Gold Plated 1A-24VDC	3	additional option codes	
<u>180 degree T-port</u>	1	ITW Mechanical DPDT 10A-250VAC	4	and custom requirements	
<u>180 degree L-Port - OcOc</u>	5	Tungsten TTL Prox 3A-125 VAC	2		
<u>180 degree L-Port - OOcc</u>	6	Rhodium TTL Prox 1A-24VDC	T		
<u>ANSI Green / White</u>	G	P&F NJ2-V3-N, NAMUR	8		
<u>ANSI Blue / White</u>	B	<u>Sensor Quantity</u>	1-4		
<u>ANSI Red / White</u>	R				