

Building connections that last™

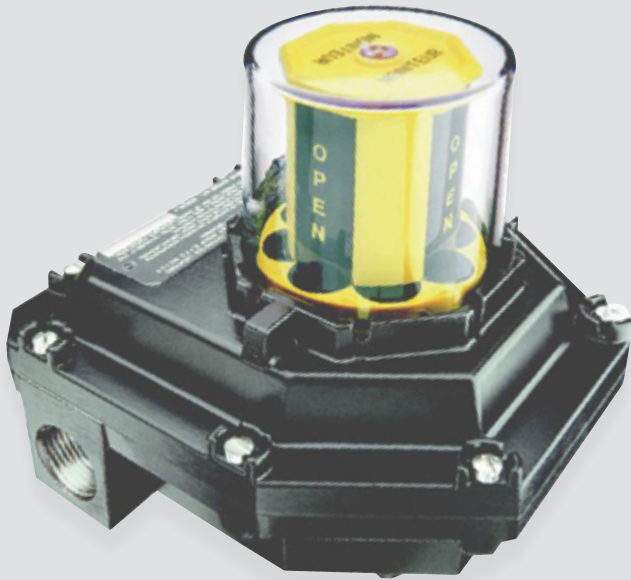


# Sentinel VPT & Watchman VPT

## Rotary Limit Switch Datasheet

### Sentinel VPT

Nema 4, 4x, 7, 9  
For Explosion-Proof Applications

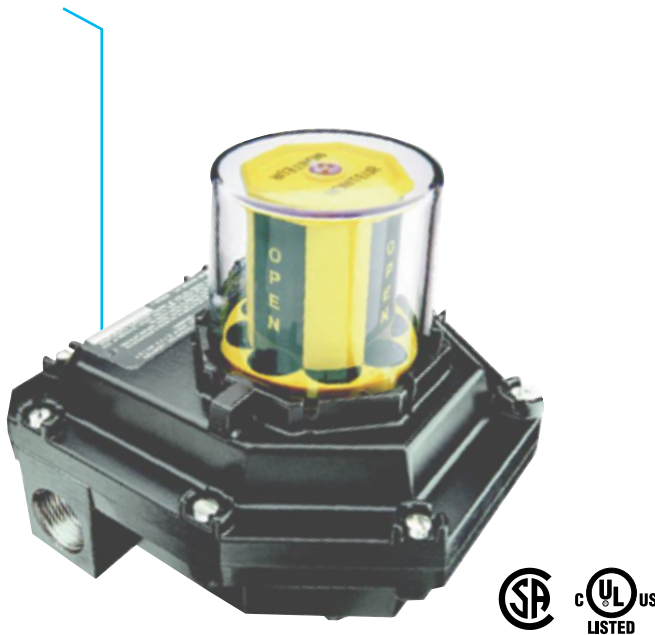


### Watchman VPT

NEMA 4, 4x  
For General Purpose Applications



## Nema 4, 4x, 7, 9 For Explosion-Proof Applications Sentinel VPT



The Sentinel VPT has been designed to provide the most visible and reliable valve position indication in explosion-proof environments. With a wide variety of switches and sensors available to match your application, the Sentinel is the perfect choice.

### Design Features

- UL and CSA Certified for Explosion-proof.
- 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 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.

### Industry Approvals:

- Mechanical Switches: UL / CSA
  - Class I, Division 1, Groups C & D;
  - Class II, Division 1, Groups E, F & G
- TTL Switches: UL / CSA
  - Class I, Division 1, Groups C & D;
  - Class I, Division 2, Groups A & B;
  - Class II, Division 1, Groups E, F & G

### NEMA 7 Material Specifications

- Enclosure: Aluminum with Optional Iridite for Corrosion Resistance, Optional Hard Anodizing for Severe Applications
- 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 - ¾" NPT Conduit Entries
- Certified Male ½" NPT Hub for Easy Direct-Mounting of Explosion-proof Solenoid Valves
- 1, 2, 3, 4 or 6 Mechanical SPDT Switches.
- 1, 2, 3, 4 or 6 Tungsten or Rhodium TTL Hermetically Sealed Proximity Switches
- 1, 2, 3 or 4 DPDT Mechanical Switches
- 1, 2, 3 or 4 Inductive Proximity or Intrinsically Safe Sensors
- Standard NAMUR, Low Profile NAMUR or Standard Shaft (¼" flats)
- 4-20mA Transmitter or 0-1k or 10k ohm High Linearity Potentiometer for 0-100% Analog

## Nema 4, 4x, 7, 9 For Explosion-Proof Applications Sentinel VPT

### Popular Switch and Sensor Specifications

Mechanical SPDT Switches



**Electrical Ratings:**

15 A / 125–250 VAC  
2.5A / 24 VDC  
0.5A / 125 VDC  
0.25A / 250 VDC

**Operating Temperature:**

–40 to +175 °F

TTL Hermetically Sealed Proximity Switches



**Electrical Ratings Rhodium (DC Signals):**

1 A / 24VDC – 0.25  
A / 120 VAC

**Tungsten (AC Signals):**

3 A / 120 VAC – 2  
A / 24 VDC

**Operating Temperature**

–40 to +175 °F

Mechanical DPDT Switches



**Electrical Ratings:**

10 A / 125–250 VAC  
7 A / 24 VDC  
0.25A / 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)

### Part Number System

<b>A</b>	<b>M</b>	<b>Y</b>	<b>B</b>	<b>-</b>	<b>5</b>	<b>1</b>	<b>2</b>	<b>0</b>
Series	Cover	Indicator	Bearing		Shaft	Switch	Quantity	Conduit

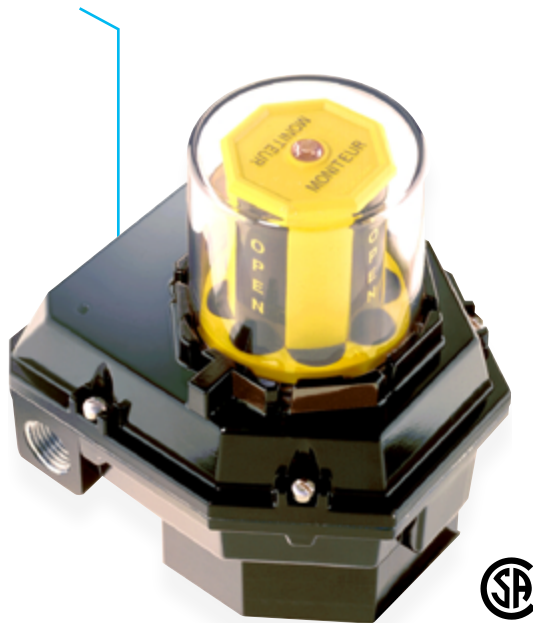
Description	Code
Series: Sentinel	F*
<b>Cover</b>	
With Indicator	M*
Flat Cover	F
<b>Indicator Type (open/closed)</b>	
No Indicator (Flat Cover)	N
Black / Yellow (Standard)	Y*
Green / Red	A
Red / Green	C
0-100% Digital	P
3-Way Path O (90 deg.)	O
3-way Path T (90 deg.)	T
3-Way Path F (90 deg.)	F
4-way Path S (90 deg.)	S
180 degree T-port	1
180 degree L-Port - OcOc	5*
180 degree L-Port - OOcc	6
ANSI Green / White	G
ANSI Blue / White	B
ANSI Red / White	R

Description	Code
<b>Bearing</b>	
Bronze	B*
303 Stainless	S
<b>Shaft</b>	
Standard 303 SS	1
Standard 316 SS	3
Low Profile NAMUR 303 SS	5*
Low Profile NAMUR 316 SS NAMUR	7
NAMUR 303 SS	E
NAMUR 316 SS	G
<b>Switch/Sensor Type</b>	
Mechanical SPDT 15A-250VAC	1*
Mechanical SPDT 0.5A-125 VDC	C
PRISM SPDT Gold Plated IA-24VDC	3
ITW Mechanical DPDT IOA-250VAC	4
Tungsten TTL Prox 3A-125 VAC	2*
Rhodium TTL Prox IA-24VDC	T*
P&F NJ2-V3-N, NAMUR	8
<b>Sensor Quality</b>	1, 2*, 3, 4*, 5, 6

Description	Code
<b>Conduit Connection</b>	
2 – ½" F NPT	0*
3 – ½" F NPT	6
1 – ½" F NPT+	8
1 – ½" M NPT	
<b>Options</b>	
Transmitter 4 – 20mA	–420
Potentiometer 0 – 1K	–1K
All Viton Seals	–V
Hard Anodized Enclosure	X14206
12 Terminal Points	–12T
16 Terminal Points	–16T
High Temperature	–HT

\*Standard Selection  
AMYB-5120  
AMYB-5T20  
AM5B-5240

## NEMA 4, 4x For General Purpose Applications Watchman VPT



### NEMA 4 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 3-½" NPT Conduit Entries
- 1, 2, 3 or 4 Mechanical SPOT 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 (¼" flats)
- 4-20mA transmitter or 0-1k or 10k ohm High Linearity Potentiometer for 0-100% Analog Output

The Watchman VPT 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.

### Design Features

- 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 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.
- Use with ABZ, Quadrant, and Sharpe Valves.

## NEMA 4, 4x For General Purpose Applications Watchman VPT

### Popular Switch and Sensor Specifications

Mechanical SPDT Switches



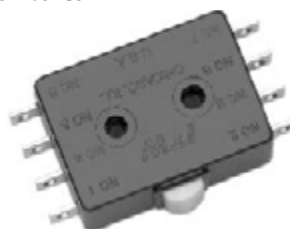
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15 A / 125-250 VAC  
2.5A / 24 VDC  
0.5A / 125 VDC  
0.25A / 250 VDC  
**Operating Temperature:**  
-40 to +175 °F

TTL Hermetically Sealed Proximity Switches



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

Mechanical DPDT Switches



**Electrical Ratings:**  
10 A / 125-250 VAC  
7 A / 24 VDC  
0.25A / 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)

### Part Number System

<b>F</b>	<b>M</b>	<b>Y</b>	<b>B</b>	<b>5</b>	<b>1</b>	<b>2</b>	<b>0</b>
Series	Cover	Indicator	Bearing	Shaft	Switch	Quantity	

Description	Code
Series: Watchman	F*
<b>Cover</b>	
With Indicator	M*
Flat Cover	F
<b>Indicator Type (open/closed)</b>	
No Indicator (Flat Cover)	N*
Black / Yellow (Standard)	Y
Green / Red	A
Red / Green	C
0-100% Digital	P
3-Way Path O (90 deg.)	O
3-way Path T (90 deg.)	T
3-Way Path F (90 deg.)	F
4-way Path S (90 deg.)	S
180 degree T-port	1
180 degree L-Port - OcOc	5
180 degree L-Port - OOcc	6
ANSI Green / White	G
ANSI Blue / White	B
ANSI Red / White	R

Description	Code
<b>Bearing</b>	
Bronze	B*
303 Stainless Shaft	S
<b>Shaft</b>	
Standard 303 SS	1
Standard 316 SS	3
Low Profile NAMUR 303 SS	5*
Low Profile NAMUR 316 SS NAMUR	7
NAMUR 303 SS	E
NAMUR 316 SS	G
<b>Switch/Sensor Type</b>	
Mechanical SPDT 15A-250VAC	1*
Mechanical SPDT 0.5A-125 VDC	C
PRISM SPDT Gold Plated IA-24VDC	3
ITW Mechanical DPDT IOA-250VAC	4
Tungsten TTL Prox 3A-125 VAC	2*
Rhodium TTL Prox IA-24VDC	T
P&F NJ2-V3-N, NAMUR	8
<b>Sensor Quality</b>	1, 2*, 3, 4

Description	Code
<b>Conduit Connection</b>	
2 - 3/4" F NPT	0*
3 - 3/4" F NPT	6
1 - 3/4" F NPT+	8
1 - 1/2" M NPT	
<b>Options</b>	
Transmitter 4 - 20mA	-420
Potentiometer 0 - 1K	-1K
All Viton Seals	-V
12 Terminal Points	-12T
16 Terminal Points	-16T
High Temperature	-HT
*Standard Selection FMYB-5120 FMYB-5220	

### **About ASC Engineered Solutions**

ASC Engineered Solutions is defined by quality—in its products, services and support. With more than 1,400 employees, the company's portfolio of precision-engineered piping support, valves and connections provides products to more than 4,000 customers across industries, such as mechanical, industrial, fire protection, oil and gas, and commercial and residential construction. Its portfolio of leading brands includes ABZ Valve®, AFCON®, Anvil®, Anvil EPS, Anvil Services, Basic-PSA, Beck®, Catawissa, Cooplet®, FlexHead®, FPPI®, Gruvlok®, J.B. Smith, Merit®, North Alabama Pipe, Quadrant®, SCI®, Sharpe®, SlideLOK®, SPF® and SprinkFLEX®. With headquarters in Commerce, CA, and Exeter, NH, ASC also has ISO 9001:2015 certified production facilities in PA, TN, IL, TX, AL, LA, KS, and RI.



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