



## Series 20 Differential Pressure Switches

Form 387

### SOR®'s Series 20 Differential Pressure Switch

is essentially a Static "O" Ring type pressure sensor with a bias pressure. The housing is pressurized by clean, dry air or inert gas instead of atmospheric pressure. This reference (bias pressure) opposes the process pressure. Housings are weathertight or explosion proof. Switching elements are SPDT or DPDT. See differential pressure switch principle on page 2.

### Application Information

Basic models with standard wetted parts on the Hi (process) side are normally suitable for air, oil, water and non-corrosive process fluids. See the Quick Selection Guide on page 4. Note the Lo-side restrictions. Corrosive service and particular user requirements may require optional components. See How to Order on page 3.

Series 20 Differential Pressure Switches exhibit minimal Set Point shift due to varying system (static) pressures. Process or fluid power applications that have high and varying static pressures, high overrange, proof, shock pressure or cycle rates may require a model from SOR's Series 102/103.



**Explosion Proof**



**Weatherproof**

Features and Benefits

**Built-In Quality**

- Rigid quality standards maintained from raw material to finished product.

**Delivery**

- Routine shipments 7 to 10 working days.
- Emergency shipments via air same day.

**Service**

- Factory service engineers and area factory representatives provide effective and prompt worldwide service.

**Warranty**

- 3 years from date of manufacture.

**Complete Product Line**

- Standard models with many options cover pressure range 2.5 in. wcd to 75 psid. Customized specials available.

**Wetted Parts**

- Wide selection of materials.

**Instrument Quality**

- High repeatability, narrow dead band, negligible temperature effect and static influence.

**Field Adjustable**

- Excellent resolution of Set Points, self-locking adjustment, no special tools required. No-charge factory calibration.

**Construction**

- Rugged, high cycle rate tolerance, long life, not critical to vibration, high overrange and proof pressures, withstands full Hi and Lo side pressure reversals, excellent corrosion resistance to hostile environments.

**Snap-Action Electrical Switching**

- Wide selection UL Listed and CSA Certified switching elements for AC and DC service.

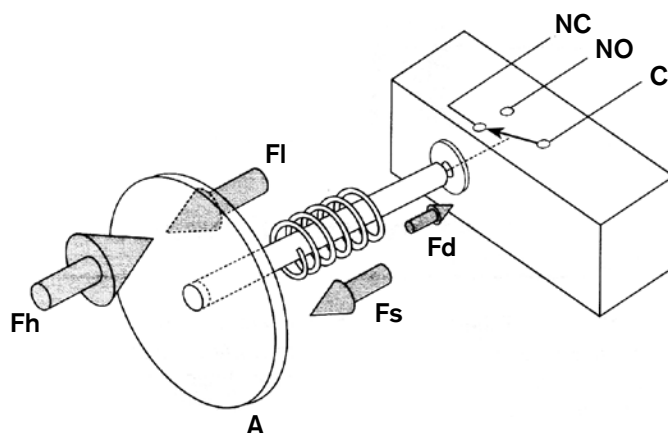
**Agency Listings/Certification**

- CSA

**Safety Certified to IEC 61508 (SIL)**

- SOR products are certified to IEC 61508 for non-redundant use in SIL1 and SIL2 Safety Instrumented Systems for most models. For more details or values applicable to a specific product, see the Safety Integrity Level Quick Guide (Form 1528).

Principle



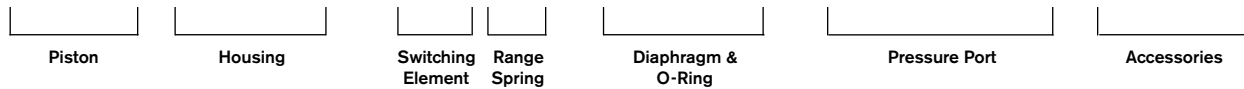
- A = Diaphragm/Piston Pressure Sensing Assembly
- F<sub>h</sub> = Force, Hi Pressure
- F<sub>l</sub> = Force, Lo (Bias) Pressure
- F<sub>s</sub> = Force, Range Spring
- F<sub>d</sub> = Force, Resultant Differential

Basic design is a Static "O" Ring diaphragm/piston pressure sensor. Process pressure acts on the diaphragm/piston to produce force F<sub>h</sub>. It is counteracted by the adjustable range spring that produces force F<sub>l</sub>.  $F_h - (F_l + F_s) = F_d$  or the Hi-side force minus the sum of the Lo-side force and the spring force equal the resultant force F<sub>d</sub> which actuates (deactuates) the SPDT electrical switching element.

There are only three wetted parts on the Hi side (process pressure): pressure port, diaphragm and o-ring. A wide selection of wetted parts materials for process compatibility and containment is available. The Lo-side pressure media is limited to clean, dry air or inert gas, because the housing is pressurized to bias the piston.

Model Number System

**22 RB-G5-M4-C2A-YY**



**Quick Selection Guide**

Basic Series 20 Differential Pressure Switches with standard wetted parts on the Hi (process) side are normally suitable for air, oil, water and non-corrosive processes. See caution note on page 5 for LO side. Refer to the Quick Selection Guide on page 4. Corrosive service and particular customer requirements may require optional components. Refer to How to Order on this page or the dedicated page to locate optional components such as housings, switching elements, diaphragm systems, pressure ports and accessories. Each position in the model number, except Accessories, must have a designator.

**Applications**

The Series 20 Differential Pressure Switches in this catalog are suitable for a wide variety of process and fluid power applications. Specific application requirements can normally be met by selecting optional components, such as, switching elements, diaphragm systems and pressure ports. Certain applications may require customized specials. Consult the representative in your area or the factory.

Weathertight and conventional explosion proof models are presented in this catalog. Refer to Form 388 for models with hermetically sealed switching element capsules for use in hazardous locations and extremely harsh environments.

**How to Order**

Steps 1 through 5 are required. Step 6 is optional. Orders must have complete model numbers, i.e. each component must have a designator.

- Step 1:** Select **Adjustable Range** according to Set Point from specifications (page 5).
- Step 2:** Select **Housing** for type of differential pressure switch and service (page 6).
- Step 3:** Select electrical **Switching Element** for housing and electrical service (page 7).
- Step 4:** Select **Diaphragm and O-Ring** for process compatibility and containment (page 8).
- Step 5:** Select **Pressure Port** for process connection (page 9).
- Step 6:** Select **Accessories** as required for service (page 9).

If Agency Listed, Certified or Approved pressure switches are required, see page 10 for components that must be specified.

# Series 20 Differential Pressure Switches

## Quick Selection Guide

Weathertight Model Number	Adjustable Range increasing differential pressure psid (in. wc)	Typical Dead Band psi (in. wc)	Explosion Proof Model Number
22RB - K614 - N4 - B1A	(2.5 to 45)	(0.8)	22TA - K614 - N4 - B1A
22RB - K2 - N4 - B1A	0.4 to 2.0	0.1	22TA - K2 - N4 - B1A
22RB - K4 - N4 - B1A	0.5 to 6.0	0.1	22TA - K4 - N4 - B1A
22RB - K5 - N4 - B1A	0.75 to 12	0.1	22TA - K5 - N4 - B1A
22RB - K45 - N4 - B1A	1.0 to 16	0.15	22TA - K45 - N4 - B1A
24RB - K2 - N4 - B1A	2.0 to 8.0	0.2	24TA - K2 - N4 - B1
24RB - K4 - N4 - B2A	2.0 to 25	0.3	24TA - K4 - N4 - B1A
24RB - K5 - N4 - B1A	3.0 to 50	0.4	24TA - K5 - N4 - B1A
24RB - K45 - N4 - B1A	4.0 to 75	0.5	24TA - K45 - N4 - B1A
Piston Designator	Maximum System Pressure (Lo Port)		Maximum System Pressure (Hi Port)
22	RB 20 psi	TA 200 psi	200 psi
22	RB 20 psi	TA 200 psi	750 psi

Standard Construction			
<b>Housing</b>		<b>Diaphragm</b>	
RB	Aluminum	N4	Teflon-coated Polyimide
TA	Cast iron with aluminum cover	<b>O-Ring</b>	Buna-N
<b>Switching Element</b>		<b>Pressure Port</b>	
K	SPDT 15a @250 VAC	B1A	1/4" NPT(F); Aluminum

Design and specifications are subject to change without notice. For latest revision, see [www.sorinc.com](http://www.sorinc.com).

Piston-Spring Designator	Adjustable Range increasing differential pressure		Typical Dead Band		Maximum System Pressure			
	psi (in. wc)	bar [mbar]	psi (in. wc)	bar [mbar]	Lo Port		Hi Port	
					RB	TA	psi	bar
*22 - 614	(2.5 to 45)	[6.2 to 112]	(0.8)	[2]	20 psi 1.4 bar	200 psi 14 bar	200	14
22 - 2	0.4 to 2.0	[30 to 140]	0.1	[7]				
22 - 4	0.5 to 6	[35 to 415]	0.1	[7]				
22 - 5	0.75 to 12	[50 to 830]	0.1	[7]				
22 - 45	1 to 16	[70 to 1200]	0.15	[10]				
24 - 2	2 to 8	[140 to 560]	0.2	[15]			750	50
24 - 4	2 to 25	1.5 to 2.0	0.3	[20]				
24 - 5	3 to 50	0.2 to 4.0	0.4	[30]				
24 - 45	4 to 75	0.3 to 5.0	0.5	[35]				

**Notes**



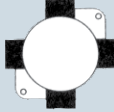
1. Dead band values are expressed as typical expected at mid-adjustable range and 50% maximum system pressure (static pressure) using the standard K switching element. When an optional switching element is specified, its corresponding dead band multiplier (pages 6 and 7) must be applied to the typical dead band value shown for piston-spring combination in Specifications.
2. Ambient temperature range: -30 to 180°F (-34 to 80°C). Check restrictions, page 7, for optional electrical switching elements, page 8 for optional diaphragm systems.
3. Diaphragm systems H, J, W, N3 and N6 may widen the dead band. Consult factory.
4. \*Adjustable range becomes 10 to 45 in. wc whenever switching elements other than K, KA or W are used.

5. Bar (mbar) values may not be exact mathematical conversions. They are practical equivalents.

**CAUTION:**

1. Maximum system operating (static) pressure on Lo side is restricted: housing RB, 20 psig; housing TA, 200 psig. Housing cover must be tightened securely because housing is pressurized.
2. Lo side must be clean, dry air or inert gas only.
3. Remove pressure or vent Lo side before removing housing cover.
4. Housing TA cover must be tightened securely for explosion proof integrity. Electrical power must be interrupted before removing cover in a hazardous location.

Failure to observe above restrictions can cause substantial damage to property or severe injury to personnel.

Service	Description	Designator
Non-Hazardous Locations NEMA 4, 4X, IP65	Weathertight NEMA 4, 4X, IP65 Right Electrical hook-up with potted leads adapter Aluminum Switching Element Groups 1 and 2	 RB
	Weathertight NEMA 4, 4X, IP65 Right electrical hook-up with potted leads adapter Stainless Steel Switching Element Groups 1 and 2	 RH
Hazardous Locations Class I, Group A, B, C, & D Class II, Groups E, F, & G Divisions 1 & 2 (as an outlet box only)	Conventional Explosion Proof Right electrical hook-up with potted leads adapter Weathertight Cast Iron (Aluminum cover) Switching Element Group 1	 TA

**CAUTION**

1. Maximum system operating (static) pressure on Lo side is restricted: housing RB, 20 psig; housing TA, 200 psig. Housing cover must be tightened securely because housing is pressurized.
2. Lo side must be clean, dry air or inert gas only.
3. Remove pressure or vent Lo side before removing housing cover.
4. Housing TA cover must be tightened securely for explosion proof integrity. Electrical power must be interrupted before removing cover in a hazardous location. Failure to observe above restrictions can cause substantial damage to property or severe injury to personnel.

**Switching Element Group/Housing Compatibility**

Group 1	Group 2
A, AA, B, BB, E, EE, G, J, JJ, K, KA, L, S, W, Y	C, GG, KK, LL, YY

**Dead Band Considerations**

1. Dead band values are expressed as typical expected at mid-adjustable range and 50% maximum system pressure (static pressure) using the standard K switching element.
2. Dead bands are fixed (non-adjustable).
3. When an optional switching element is specified, its corresponding dead band multiplier must be applied to the typical dead band value shown for piston-spring combination in Specifications, page 5.
4. Dead band can be widened by selecting an optional switching element with a multiplier greater than 1.0.

Switching Element Designators	Dead Band Multiplier
K, KA, W	1.0
E, J, Y	1.5
A, B, G	3.0
L, YY	3.5
EE	4.0
C, JJ, S	5.0
AA, BB, GG, KK	6.0
LL	6.5

**Example:** Model 22RB-G5-M4-C2A-YY  
 Typical Dead Band: 0.1 psi  
 G-Switching Element multiplier: 3  
 Corrected Typical Dead Band 3 x 0.1 = 0.3 psi

Switching Element Service	AC Rating		DC Rating Resistive				Dead Band Multiplier		Designator	
	Volts	Amps	Volts	Amps	Volts	Amps	SPDT	DPDT	SPDT	DPDT
Normal Service AC	250	15	125	.4*	30	5.0*	1.0	6.0	K	KK
Low Power Gold Contacts	125	1	-	-	28	1.0	1.0	-	KA	N/A
	125	1	-	-	30	1.0	1.5	5.0	J	JJ
Wide Dead Band AC	250	15	125	.5	-	-	3.0	6.0	G	GG
AC or DC	250	11	125	.5*	30	5.0	3.0	6.0	A	AA
Wide Dead Band DC	250	15	125	.5	-	-	3.5	6.5	L	LL
Narrow Dead Band DC	250	5	125	.5*	30	5.0*	1.5	4.0	E	EE
Very Wide Dead Band DC	250	15	125	.5	-	-	5.0	-	C	N/A
Very High Capacity DC Magnetic Blow-Out	125	10	125	1.5 Min. 10.0 Max.	-	-	5.0	-	S	N/A
Hi Ambient Temperature Rating - 400°F	250	5	125	.3	-	-	3.0	6.0	B	BB
	250	5	125	.5*	-	-	1.5	3.5	Y	YY
	250	5	125	.3*	-	-	1.0	-	W	N/A

**Notes**

1. Only conventional switching elements are shown. Refer to SOR Form 388 (Series 102/103 Differential Pressure Switches), the SOR representative in your area, or the factory for information about hermetically sealed switch capsules.
2. All switching elements have 18" 18 AWG color-coded wire leads.
3. Dead band multipliers must be applied to typical dead band figures shown in Specifications, page 5.
4. Switching element minimum/maximum ambient temperatures:  
 -65 to 400°F (-54 to 204°C) B, Y, W  
 -65 to 250°F (-54 to 120°C) A, E, J  
 -65 to 180°F (-54 to 80°C) All others
5. Switching elements W and Y have an Elgiloy spring.
6. Certain switching elements can handle

- greater voltage. Consult the factory should your requirements exceed catalog values. All switching elements above are UL Listed and CSA Certified. The DC current ratings marked with an asterisk (\*) are not UL Listed but have been verified by testing and/or experience.
7. Cross reference the compatibility chart on page 6 to ensure that the switching element will fit in the housing.

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**CAUTION:** The switching element assembly has been precisely positioned in the housing at the factory for optimum performance. Any inadvertent movement or replacement in the field will degrade performance and could render the device inoperative unless factory authorized procedures are followed.

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**Notes**

1. N4 diaphragm system is standard, but requires a designator in the model number. It is normally suitable for air, oil, water and non-corrosive processes.
2. Other diaphragm and o-ring combinations may be available. Consult the factory or the SOR representative in your area for more information.
3. Wetted parts have been selected as representing the most suitable commercially available material for use in the service intended. However, they do not constitute a guarantee against corrosion or permeation, since processes vary from plant to plant and concentration of harmful fluids, gases or solids vary from time to time in a given process. Empirical experience by users should be the final guide. Alternate materials based on this are generally available.
4. Specify N3 diaphragm system for high cycle rate, high shock applications where Buna-N and TCP are compatible with the process.
5. Each o-ring works best in certain temperature ranges. This table shows allowable minimum and maximum temperatures for o-rings.

O-Ring Material	°F	°C
Viton	32 to 400	0 to 204
Viton GLT	-20 to 400	-29 to 204
Kalrez*	5 to 400	-15 to 204
Aflas	25 to 400	-4 to 204
Buna-N Neoprene EPR	-30 to 200	-34 to 93
TCP-Teflon Coated Polymide Diaphragm	-30 to 400	-34 to 204

\*Kalrez or equivalent Perfluoroelastomer (FFKM) o-rings

6. Dead bands are slightly higher when using H, J, N3, N6 or W series diaphragm options. Consult factory.
7. Series 20 diaphragm and o-ring materials apply only to the Hi pressure process side. Welded diaphragms are not available.

O-Ring (Wetted)	Diaphragm (Wetted Primary)	Designator	
Viton	Monel	A4	
Kalrez*		A6	
Viton	Hastelloy B	H4	
Kalrez*		H6	
Viton	Hastelloy C	J4	
Kalrez*		J6	
Viton	Carpenter-20	L4	
Kalrez*		L6	
Viton GLT	316L SS	M1	
Buna-N		M2	
Viton		M4	
Neoprene		M5	
Kalrez*		M7	
Aflas		M8	
EPR		M9	
Viton		TCP	N1
Buna-N			N3 (See Note 4)
Buna-N	N4 Standard (See Note 1)		
Kalrez*	Teflon-Coated Polymide	N5	
Kalrez*		N6	
EPR	TCP	N7	
Aflas		N8	
Buna-N	Buna-N	P1	
Neoprene	Neoprene	R1	
Viton	Viton	S1	
Viton GLT		S2	
Buna-N	Tantalum (See Note 10)	W2	
Viton		W4	
Neoprene		W5	
Kalrez*		W6	
EPR	EPR	Y1	

\*Kalrez or equivalent Perfluoroelastomer (FFKM) o-rings

**Material and Connection Size**

Piston		22, 24	22, 24	24
Process Connection Size		1/4" NPT(F)	1/2" NPT(F)	1" NPT(M)
Pressure Port Material	Aluminum 6061 Wrought/ 356 or 360 Castings	<b>B1A</b>	<b>B2A</b>	N/A
	316 Stainless Steel Wrought/CF - 8M Casting	<b>C1A</b>	<b>C2A</b>	C4A
	347 Stainless Steel Wrought/CF - 8C Casting	E1A	E2A	Consult the factory for availability of Pressure Port Material and Connection Size.
	Stainless Steel Carpenter 20 Wrought/CF - 7M Casting	L1A	L2A	
	Brass Silicon Brass Casting	D1A	D2A	
	Hastelloy B	H1A	H2A	
	Hastelloy C	J1A	J2A	
	Monel	A1A	A2A	

**Notes**

1. Select the designator for material and connection size shown above. **Bold face letters** denote those items generally available from stock. Smaller light face letters denote items with limited stock and possible long delivery.
2. 1/4" and 1/2" tapered BSP(F) pressure ports are available.
3. The standard material of Numbers 22 and 24 ports is aluminum castings.
4. Series 20 Lo side port connection is 1/4" NPT(F): Material is aluminum on RB and TA housings; 316SS on RH housing.

**Step 6: Accessories**

Accessory/Option & Description	Designator
CSA Certified Differential pressure switch. Available with RB and RH housings. Housing has earth (ground wire).	<b>CS</b>
Canadian Registration Number (CRN) - Process ratings may be affected. Consult the factory for details.	<b>CV</b>
Pipe (stanchion) mounting kit for (1-1/2 to 2" pipe).	<b>PK</b>
Tag, fiber. Stamped with customer specified tagging information. Attached to housing with plastic tie.	<b>PP</b>
Powder coat epoxy coating. No coating on stainless steel parts or plated screws. (500 hours-salt spray)	<b>PY</b>
Tag, SS. Stamped with customer specified tagging information (2 lines, 18 characters and spaces per line). Attached to housing with SS wire.	<b>RR</b>
Oversize nameplate or separate tag, 316SS. Stamped with customer specified tagging information. Permanently attached to housing.	<b>TT</b>
Fungicidal varnish. Covers exterior and interior except working parts.	<b>VV</b>
Epoxy coating. Exterior only. Polyamide epoxy with 316SS pigment. (200 hours-salt spray)	<b>YY</b>
Chained cover with captive screws to conform to former JIC specifications. Meets intent of NEMA 12.	<b>ZZ</b>
X is used as a suffix to the model number for special requirements not keyed elsewhere in the model number by an X. Each X must be completely identified in the text of the order or inquiry. When more than one X is required, use X followed by the number of such items. For example, X3 means three separate otherwise unidentifiable requirements.	<b>X</b>

# Series 20 Differential Pressure Switches

## Test Certificates

Certificates	C1	C2	C3	C4	C5	C6	C8	B1	B4	B5	B6	B7	A1	A2	A3	A4	A5	A6	A7	A8
Calibration	◆							◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Hydrostatic Pressure Test		◆						◆	◆					◆	◆	◆	◆	◆	◆	◆
Inspection Report			◆					◆	◆	◆	◆	◆			◆	◆		◆	◆	◆
Compliance / Conformance				◆								◆	◆	◆		◆	◆			◆
Dielectric Test					◆				◆	◆										◆
Insulation Resistance						◆			◆	◆	◆							◆	◆	◆
Typical Material of Wetted Parts							◆	◆	◆				◆				◆	◆		

## Agency Listings

The following combinations only are available as approved, certified or listed by the agencies shown. Some components are for products not offered in this catalog. Certain components or combinations may acquire additional approval, certification or listing between print dates of this catalog. Contact the factory for the most current information.

### CSA Enclosure 4 (Weathertight)

Piston	Housing	Switching Element	Spring	Diaphragm & O-Ring	Pressure Port Material & Connection Size	Accessory/Option
22, 24	RB, RH	A, AA, B, BB, C, E, EE, G, GG, J, JJ, K, KA, KK, L, LL, S, W, Y, YY	All	All	All	CS Required All except ZZ

### Note

External case ground (earth) wire provided.

## Approximate Shipping Weights

Actual shipping weights may vary from charted values because of product material, configurations and packaging requirements.

Housing Designator	Weight (lbs.)	(kgs)
RB	3	1.5
RH, TA	6	3.0

### Note

PK Pipe Kit adds approximately 1.5 lbs (0.7 kgs).

SOR recognizes that there is not an industry convention with respect to terminology and definitions pertinent to differential pressure switches. The following list applies to SOR Differential Pressure Switches.

### Adjustable Range

The span of differential pressure between upper and lower limits within which the differential pressure switch can be adjusted to actuate/deactuate. It is expressed for increasing differential pressure.

### Dead Band

The difference in pressure between the increasing Set Point and the decreasing Set Point. It is expressed as “typical,” which is an average with the increasing Set Point at mid-adjustable range and 50% of maximum system pressure (static pressure) for a differential pressure switch with the standard K switching element. It is normally fixed (non-adjustable).

### Differential Pressure Switch

A bi-stable electromechanical device that actuates/deactuates one or more electrical switching element at a pre-determined discrete differential pressure (Set Point) upon rising or falling differential pressure.

### DPDT Switching Element

DPDT is two synchronized SPDT switching elements which actuate together at increasing Set Point and deactuate together at decreasing Set Point. Discrete SPDT switching elements allow two independent circuits to be switched; i.e., one AC and one DC.

The synchronization linkage is factory set, and is not field adjustable. Synchronization is verified by connecting test lamps to the switching elements and observing them go “On” simultaneously at actuation and “Off” simultaneously at deactuation.

### Maximum Differential Pressure

The maximum difference in pressure that can be continuously applied between the Hi and Lo (Lo and Hi) pressure ports without causing permanent change of Set Point, leakage or material failure.

### Overrange

The maximum system pressure that can be continuously applied to the differential pressure switch without causing permanent change of Set Point, leakage or material failure.

### Proof Pressure

The maximum input pressure that can be continuously applied to the differential pressure switch without causing leakage or catastrophic material failure. Permanent change of Set Points may occur, or the device may be rendered inoperative.

### Repeatability

The ability of a differential pressure switch to successively operate at a Set Point that is approached from a starting point in the same direction and returns to the starting point over consecutive cycles to establish a pressure profile. The closeness of the measured Set Point values is normally expressed as a percentage of full scale (maximum adjustable range differential pressure).

**Note:** Values for repeatability are not shown in this catalog because it is necessary to know the pressure profile of a particular application.

### Set Point

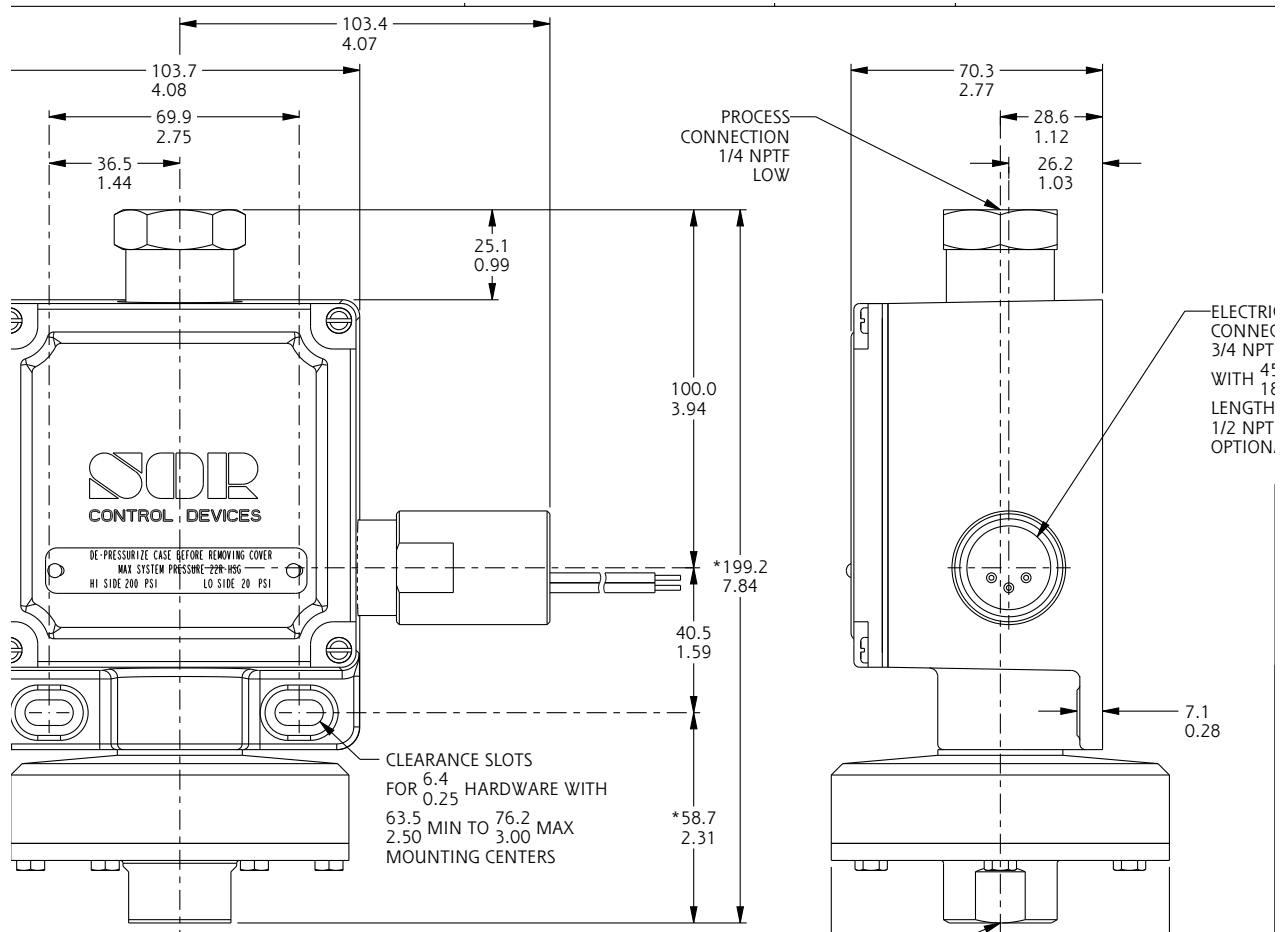
That discrete differential pressure at which the differential pressure switch is adjusted to actuate/deactuate on rising or falling differential pressure. It must fall within the adjustable range and be called out as increasing or decreasing differential pressure.

### SPDT Switching Element

Single-Pole, Double-Throw (SPDT) has three connections: C – Common, NO – Normally Open and NC –Normally Closed, which allows the switch to be electrically connected to the circuit in either NO or NC state.

Dimensions in this catalog are for reference only. They may be changed without notice. Contact the factory for certified drawings for a particular model number. Dimensions in this catalog are expressed as millimeters over inches. (Linear = mm/in.)

**Weathertight – NEMA 4, 4X**



Drawing 0090446

**Piston Designator: 22**  
**Housing Designator: RB, RH**

**Notes**

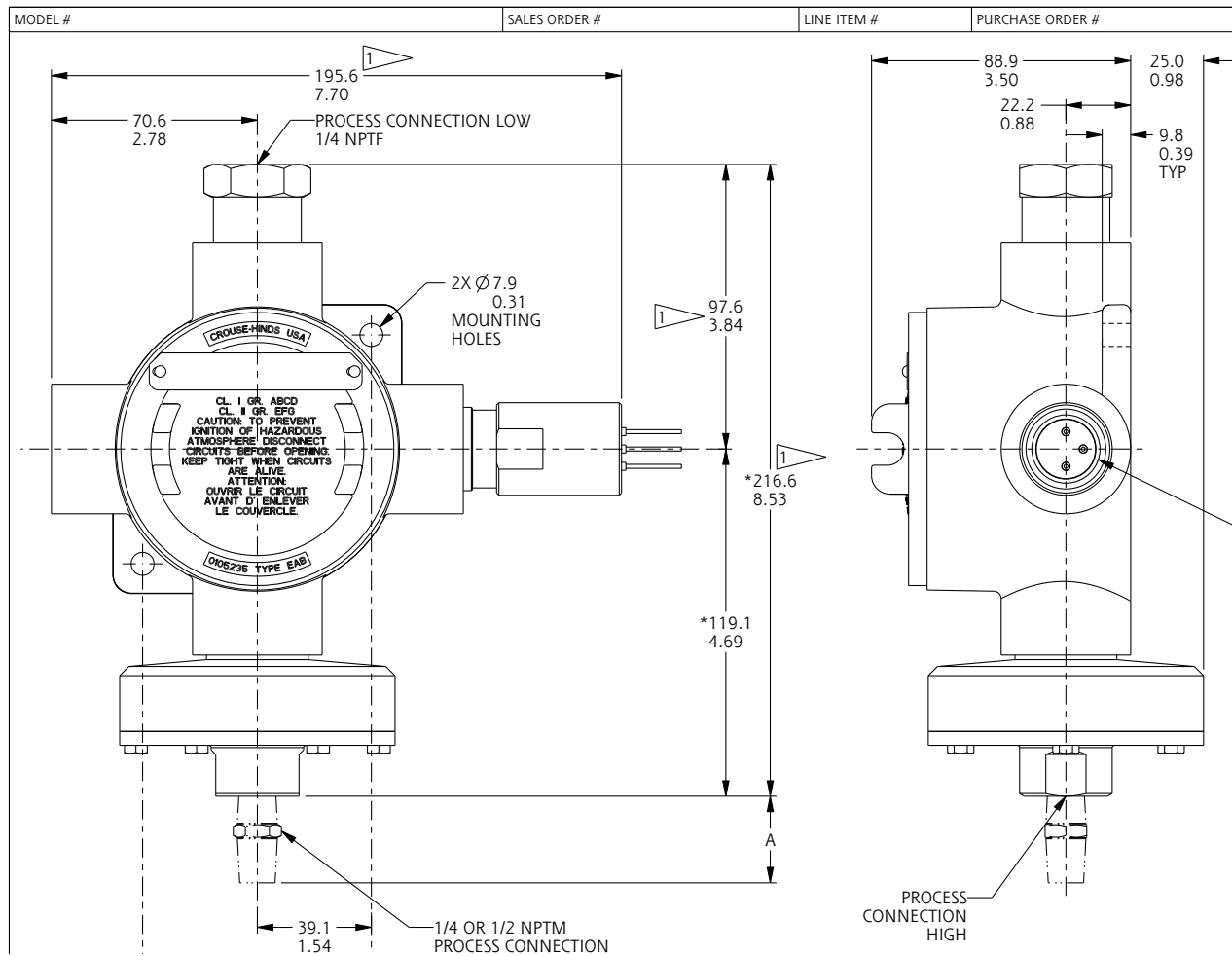
For 1" NPT(M) high side pressure port, add  $\frac{5.6}{0.22}$  to dimensions marked with asterisk (\*).

**Electrical Connection Size**

Standard 3/4" NPT(F)  
 Optional 1/2" NPT(F); 1/2" NPT(M);  
 M20 x 1.5, PG 13.5, PF 3/4"

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**Conventional Explosion Proof**



Drawing 0090118

**Piston Designator: 22**  
**Housing Designator: TA**

**Notes**

For 1" NPT(M) high side pressure port, add  $\frac{5.6}{0.22}$  to dimensions marked with asterisk (\*).

**Electrical Connection Size**

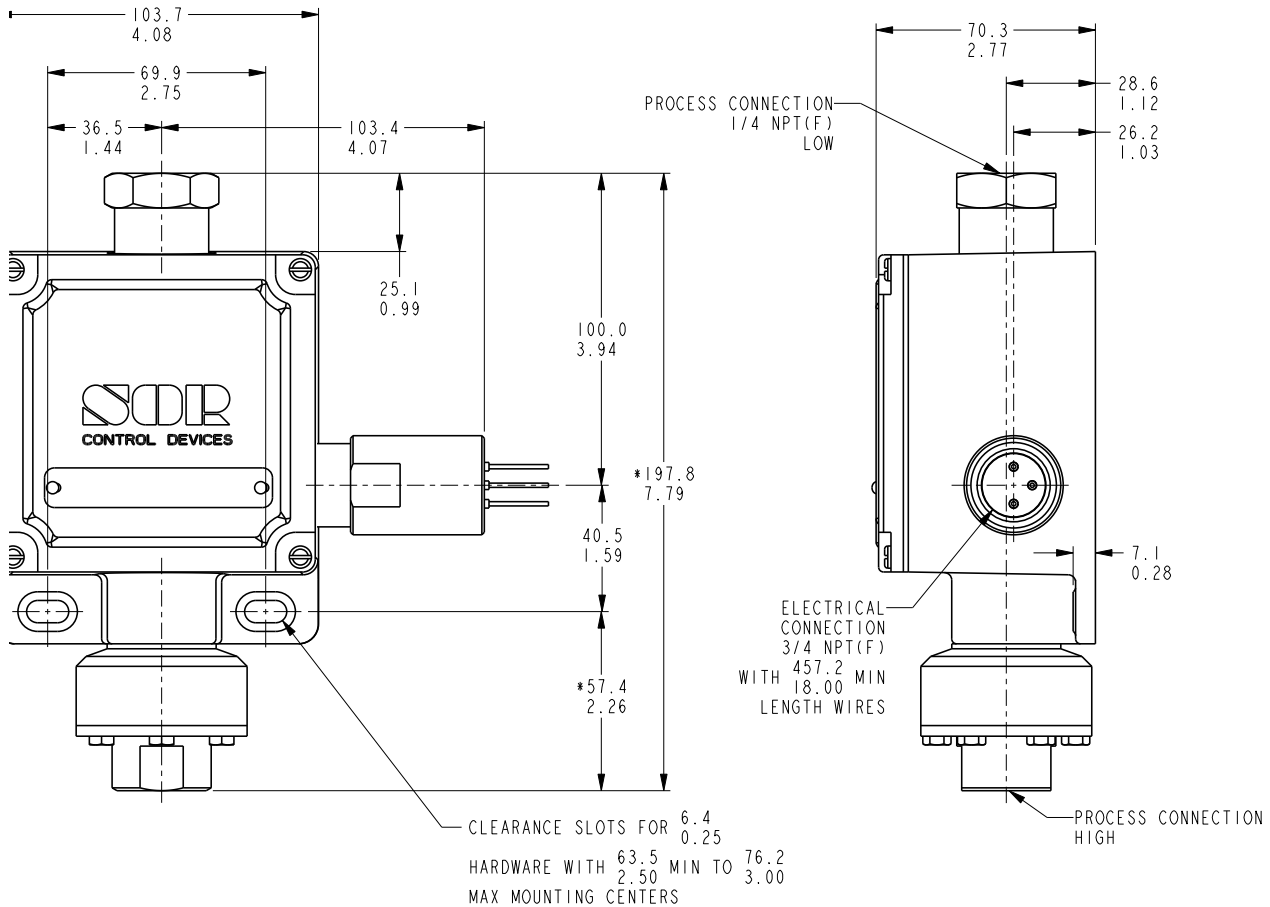
Standard 3/4" NPT(F)  
Optional 1/2" NPT(F); 1/2" NPT(M);  
M20 x 1.5, PG 13.5, PF 3/4"

# Series 20 Differential Pressure Switches

## Dimensions

Dimensions in this catalog are for reference only. They may be changed without notice. Contact the factory for certified drawings for a particular model number. Dimensions in this catalog are expressed as millimeters over inches. (Linear = mm/in.).

### Weathertight – NEMA 4, 4X



Drawing 0091359

**Piston Designator: 24**  
**Housing Designator: RB, RH**

#### Notes

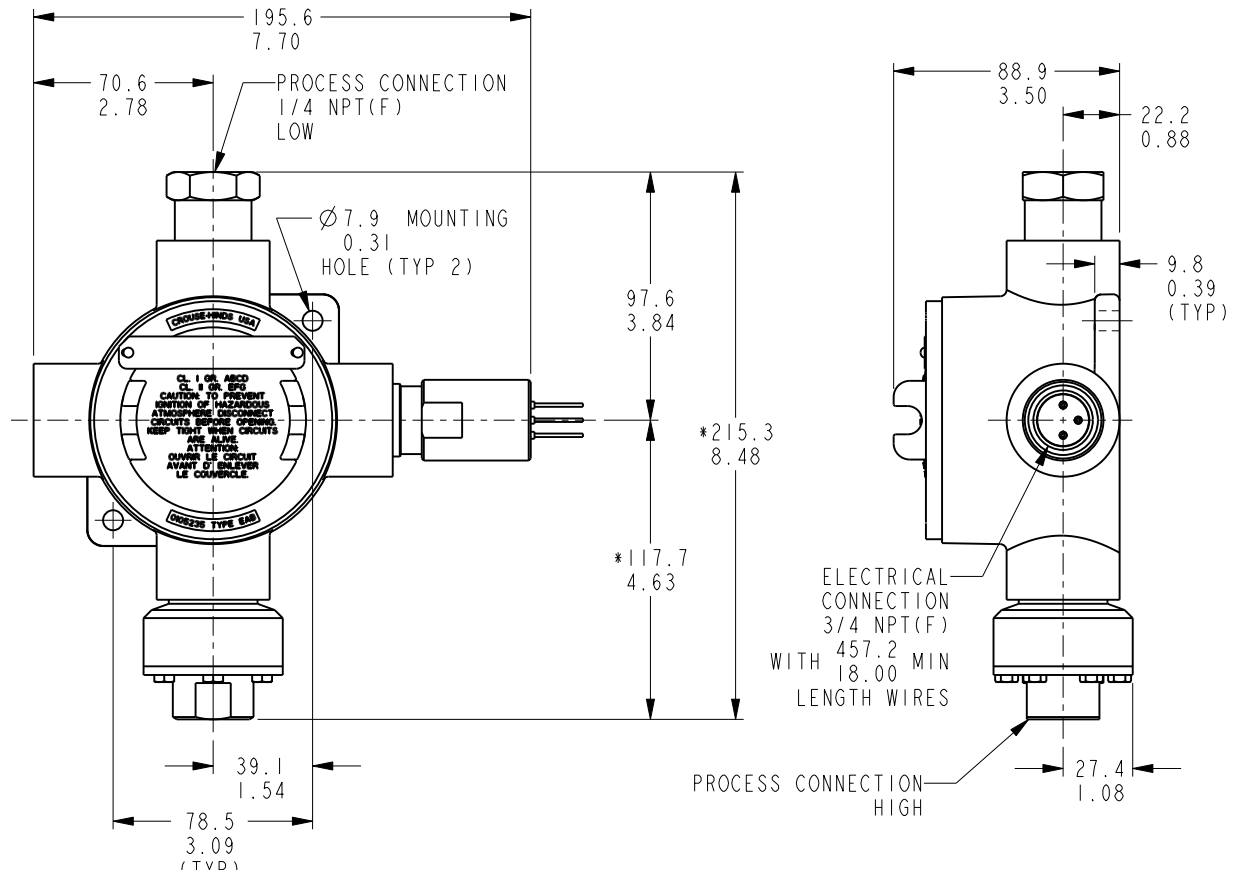
For 1" NPT(M) high side pressure port, add  $\frac{5.6}{0.22}$  to dimensions marked with asterisk (\*).

#### Electrical Connection Size

Standard	3/4" NPT(F)
Optional	1/2" NPT(F); 1/2" NPT(M); M20 x 1.5, PG 13.5, PF 3/4"

Dimensions in this catalog are for reference only. They may be changed without notice. Contact the factory for certified drawings for a particular model number. Dimensions in this catalog are expressed as millimeters over inches. (Linear = mm/in.).

**Conventional Explosion Proof**



Drawing 0090176

**Piston Designator: 24**  
**Housing Designator: TA**

**Notes**

For 1" NPT(M) high side pressure port, add  $\frac{5.6}{0.22}$  to dimensions marked with asterisk (\*).

**Electrical Connection Size**

Standard 3/4" NPT(F)  
 Optional 1/2" NPT(F); 1/2" NPT(M);  
 M20 x 1.5, PG 13.5, PF 3/4"

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**Level  
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# Level

**Temperature  
Switches**



# Temperature Pressure

**Flow  
Switches**



# Flow



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**Pressure  
Switches**

