



2WPS



5WPS



6WPS



Indicating
Pressure Switch



6WPSDO



7WPS



7WPSDO



Electrical Contact
Pressure Gauge



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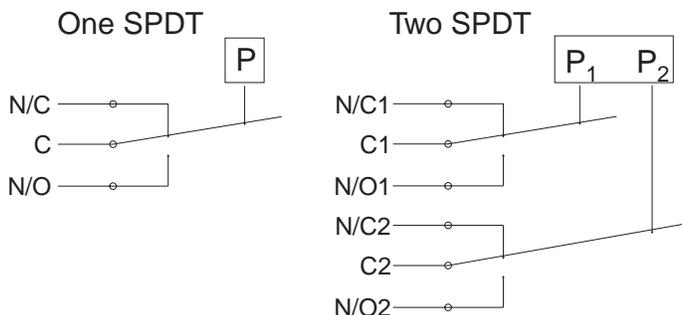
2WPS Series

PRESSURE SWITCH - BELLOWS ACTUATED



- Ranges from 10 to 3000 PSI
- Rugged NEMA 4X, 12 & 13 Housing
- One or Two SPDT Contacts
- All Metal Sensing Element
- Calibrated Setpoint Scale Available

Wiring Schematic



INSTALLATION NOTES

Orientation - The 2WPS Bellows will operate satisfactorily in any position, however, mounting the device vertically will allow the easiest adjustability and reduce sediment in the pressure chamber.

Wiring - Switches may be wired to 'normally open' or 'normally closed' terminals on electric switch(es). Single switch units have screw terminals while dual switch versions use a screw terminal block.

Pressure Connection - 1/4 NPT female is standard. 1/2 NPT male is available ("M" option).

Adjustment - Turn pressure adjustment nut(s) clockwise to increase setpoint. Detailed installation & calibration instructions are provided for every shipment. Adjustment setting is available at no charge.

Description

The Winters' Series 2WPS Pressure Switch (Bellows Sensing) features a rugged, compact, sensitive switching mechanism actuated by a bellows assembly. This mechanism can be supplied with one S.P.D.T. electric switch or two S.P.D.T. electric switches that are independently adjusted. The 2WPS (Bellows Sensing) can be supplied as a basic unit with no housing, or enclosed in a rugged die cast NEMA 4X, 12 and 13 housing. With the cover of the enclosure removed, the terminals of the electric switch/s, and the pressure adjustments are exposed for easy wiring and adjustment of the pressure setting. The die cast cover is equipped with captive stainless steel screws that retain the cover gasket when the cover is removed. A useful feature of the single switch enclosed model is a calibrated pressure adjustment that aligns with a numerical pressure indicating scale showing the set point range. The bellows pressure sensing elements are constructed from stainless steel and are sized for a wide variety of pressure ranges. Other useful options can easily be specified with this model.

Common applications include: Tank and compressor level and precision control, hydraulic systems, pumping controls and hazardous area lift station controls.

Specifications - 2WPS (Bellows Actuated)

| | |
|-------------------------------------|-----------------------------------|
| Housing: | Diecast Aluminum |
| Pressure Connection: | 1/4" NPT |
| Electrical Connection: | 1/2" NPT |
| Port Material: | Stainless with Silver Braze |
| Bellows Material: | Stainless Steel |
| Deadband: | Fixed |
| Sensitivity: | 1/2% of range (for SPDT) |
| Drift: | <1% of range (100,000 operations) |
| Contact Ratings: | 15A - 125, 250, 480 VAC |
| Set Point Adjustment: | Screw type, field adjustable |
| No. Contacts: | One or Two S.P.D.T. |
| Contact Listings: | UL Recognized, CSA Certified |
| Maximum Ambient Temperature: | 180°F |
| Minimum Ambient Temperature: | -40°F |
| Weight: | Approx. 1.8 lbs. |



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2WPS Series

PRESSURE SWITCH - BELLOWS ACTUATED

How To Order: Specify Product Code

2WPS W 1 B U 2

MODEL SERIES

HOUSING

'1' - NO HOUSING

W - WATERTIGHT - NEMA 4, 12 & 13

NUMBER OF ELECTRIC SWITCHES

1 - ONE S.P.D.T.

2 - TWO S.P.D.T. - (SWITCH TYPE "5" ONLY)

SENSING ELEMENT

B - BELLOWS SENSING ELEMENT (STANDARD)

SPECIAL FEATURES

M - 1/2 NPT MALE PIPE MOUNTING

Q - DOUBLE SNAP ACTING BELLEVILLE SPRING - TO PROVIDE POSITIVE SETPOINT

ACCURACY IN HIGH VIBRATION APPLICATIONS

U - SPECIAL EPOXY PAINT

V - HIGH TEMPERATURE SERVICE - INCREASED FROM 180°F TO 250°F AMBIENT

TYPE OF ELECTRIC SWITCHES

1 - LOW DEADBAND

15A - 125, 250, 480 VAC

2 - STANDARD DEADBAND

15A - 125, 250, 480 VAC; 0.5A - 125 V

3 - HIGH DC RATED (MAGNETIC BLOW)

10A - 125 VDC; 3A - 250 VDC

5 - SUB MINIATURE SWITCH - 2 S.P.D.T.

5A - 125, 250 VAC; 0.5A - 125 VDC

6 - GOLD CONTACT -

1 A - 125 VAC

Ranges

Bellows Actuated

2 W P S 1 B

| Adjustable Pressure Range | Fixed Switch Dead Bands | | Maximum Pressure PSI |
|---------------------------|-------------------------|------|----------------------|
| | Low | STD | |
| 0-10 psi | .40# | .80# | 300 |
| 0-20 psi | .45 | .90 | 300 |
| 0-50 psi | .50 | 1.0 | 300 |
| 0-100 psi | .75 | 1.5 | 300 |
| 0-250 psi | 3.0 | 6.0 | 1500 |
| 0-500 psi | 4.0 | 8.0 | 1500 |
| 0-750 psi | 8.0 | 16.0 | 2500 |
| 0-1000 psi | 9.5 | 19.0 | 2500 |
| 0-1500 psi | 29.0 | 58.0 | 5000 |
| 0-3000 psi | 33.0 | 66.0 | 5000 |

DEADBAND NOTES

The deadbands listed in the tables are the maximum switch differentials when the standard (Type "2" or Type "5") electric switch is used.

Deadband is affected by the type of switch used. Each type of switch's effect on deadband is as follows:

Type "1" - Low Deadband - Use ½ TYPE 2 table values.

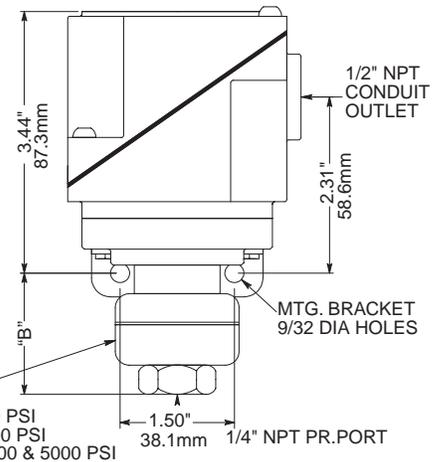
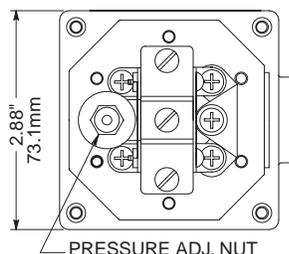
Type "2" - Std. Deadband - Use table values.

Type "3" - High DC Rated - Multiply TYPE 2 table values by two.

Type "5" - Sub Miniature - 2 S.P.D.T. - Use TYPE 5 table values.

Type "6" - Gold Contact - Use TYPE 2 table values.

Please note that Type "5" is the only available option on 2WPS Switches that requires two Electric Switches.



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12/02

2WPS Series

PRESSURE SWITCH - DIAPHRAGM ACTUATED



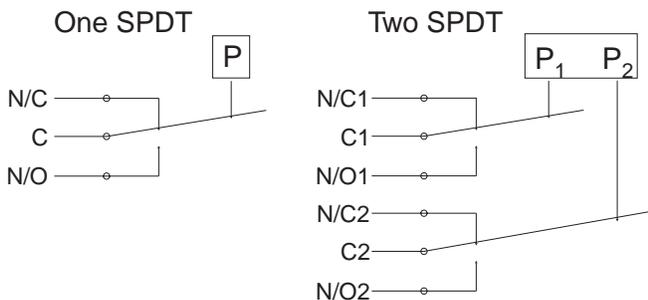
- Ranges from 2 to 300 PSI
- Rugged NEMA 4X, 12 & 13 Housing
- One or Two SPDT Contacts
- Various Wetted Materials Available
- Calibrated Setpoint Scale Available

Description

The Winters' Series 2WPS Pressure Switch (Diaphragm Actuated) features a rugged, compact, sensitive switching mechanism actuated by a diaphragm assembly. This mechanism can be supplied with one S.P.D.T. electric switch or two S.P.D.T. electric switches that are independently adjusted. The unit can be supplied with no housing, or enclosed in a rugged die cast NEMA 4X, 12 and 13 housing. With the cover of the enclosure removed, the terminals of the electric switch(es), and the pressure adjustment(s) are exposed for easy wiring and adjustment of the pressure setting. The die cast cover is equipped with captive stainless steel screws that retain the cover gasket when the cover is removed. A useful feature of the single switch enclosed model is a calibrated pressure adjustment that aligns with a numerical pressure indicating scale showing the set point range. Other useful options can easily be specified with this model.

Common applications include: Tank and compressor level and precision control, hydraulic systems, pumping controls and hazardous area lift station controls.

Wiring Schematic



INSTALLATION NOTES

Orientation - The 2WPS will operate satisfactorily in any position, however, mounting the device vertically will allow the easiest adjustability and reduce sediment in the pressure chamber.

Wiring - Switches may be wired to 'normally open' or 'normally closed' terminals on electric switch(es). Single switch units have screw terminals while dual switch versions use push-on connectors.

Pressure Connection - 1/4 NPT female is standard. 1/2 NPT male is available ("M" option).

Adjustment - Turn pressure adjustment nut(s) clockwise to increase setpoint. Detailed installation & calibration instructions are provided for every shipment. Adjustment setting is available at no charge.

| Specifications - 2WPS (Diaphragm Actuated) | |
|--|--------------------------------------|
| Housing: | Diecast Aluminum |
| Pressure Connection: | 1/4" NPT female |
| Electrical Connection: | 1/2" NPT |
| Port Material: | Brass & Aluminum |
| Diaphragm Material: | Buna N |
| Deadband: | Fixed |
| Sensitivity: | 1/2% of range (for SPDT) |
| Drift: | <1% of range (100,000 operations) |
| Contact Ratings: | 15A - 125, 250, 480 VAC |
| Set Point Adjustment: | Screw type, field adjustable |
| No. Contacts: | One or Two S.P.D.T. |
| Contact Listings: | UL Recognized, CSA Certified |
| Maximum Ambient Temperature: | 180°F |
| Minimum Ambient Temperature: | -20°F |
| Weight: | Approx. 1.5 lbs. |



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2WPS Series

PRESSURE SWITCH - DIAPHRAGM ACTUATED

How To Order: Specify Product Code

| | | | | | |
|---|------|---|---|-----|---|
| | 2WPS | W | 1 | SST | 2 |
| SERIES | | | | | |
| HOUSING | | | | | TYPE OF ELECTRIC SWITCHES |
| ' ' - NO HOUSING | | | | | 1 - LOW DEADBAND |
| W - WATERTIGHT - NEMA 4X,12 & 13 | | | | | 15A - 125, 250, 480 VAC |
| NUMBER OF ELECTRIC SWITCHES | | | | | 2 - STANDARD DEADBAND |
| 1 - ONE S.P.D.T. | | | | | 15A - 125, 250, 480 VAC; 0.5A - 125 VDC |
| 2 - TWO S.P.D.T. - (SWITCH TYPE "5" ONLY) | | | | | 3 - HIGH DC RATED (MAGNETIC BLOWOUT) |
| | | | | | 10A - 125 VDC; 3A - 250 VDC |
| SPECIAL FEATURES | | | | | 5 - SUB MINIATURTE SWITCH - 2 S.P.D.T. |
| M - 1/2 NPT MALE PIPE MOUNTING | | | | | 5A - 125, 250 VAC; 0.5A - 125 VDC |
| O - HIGH OVERPRESSURE - INCREASES MAX. PRESSURE TO 1000 PSI FOR RANGES | | | | | 6 - GOLD CONTACT - |
| 0-2 PSI TO 0-20 PSI; MAX. PRESSURE IS 1500 PSI FOR RANGES 0-50 PSI AND UP | | | | | 1 A - 125 VAC |
| Q - DOUBLE SNAP ACTING BELLEVILLE SPRING - TO PROVIDE POSITIVE SETPOINT | | | | | |
| ACCURACY IN HIGH VIBRATION APPLICATIONS | | | | | |
| SS - STAINLESS STEEL WETTED TRIM MATERIAL | | | | | |
| SN - BRASS WETTED TRIM MATERIAL | | | | | |
| SI - TEFLON WETTED TRIM MATERIAL | | | | | |
| SY - PVC WETTED TRIM MATERIAL | | | | | |
| T - TEFLON PROTECTED DIAPHRAGM | | | | | |
| U - SPECIAL EPOXY PAINT | | | | | |
| Z - VITON DIAPHRAGM MATERIAL | | | | | |

* SPECIAL FEATURES SUCH AS STAINLESS TAGGING, OR SPECIAL WETTED PARTS; KYNAR, KALREZ, HASTELLOY, ETC. ARE AVAILABLE ON REQUEST. CONSULT WINTERS FOR CAPABILITES AND PRICING FOR ANY FEATURES NOT SHOWN.



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2WPS Series

DIFFERENTIAL PRESSURE SWITCH - DIAPHRAGM ACTUATED



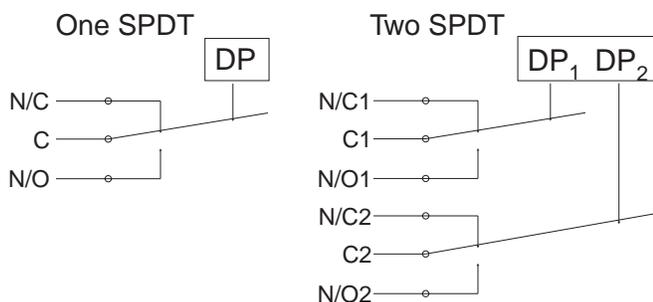
- Ranges from 10 to 100 PSID
- Rugged NEMA 4X, 12 & 13 Housing
- One or Two SPDT Contacts
- Various Wetted Materials Available
- Calibrated Setpoint Scale Available

Description

The Winters' Series 2WPS Differential Pressure Switch features a rugged, compact, sensitive switching mechanism actuated by a differential diaphragm assembly. This mechanism can be supplied with one S.P.D.T. electric switch or two S.P.D.T. electric switches that are independently adjusted. The mechanism, when attached to the differential diaphragm pressure sensing element, can be supplied as a basic unit with no housing, or enclosed in a rugged die cast NEMA 4X, 12 and 13 housing. The enclosed model is designated 2WPS (Differential). With the cover of the enclosure removed, the terminals of the electric switch/s, and the pressure adjustment/s are exposed for easy wiring and adjustment of the differential pressure setting. The die cast cover is equipped with captive stainless steel screws that retain the cover gasket when the cover is removed. Other useful options can easily be specified with this model including the DO option for applications requiring higher working pressures.

Common applications for the 2WPS (Differential) include: pump/compressor activation and filtration processing.

Wiring Schematic



INSTALLATION NOTES

Orientation - The 2WPS Differential will operate satisfactorily in any position, however, mounting the device vertically will allow the easiest adjustability and reduce sediment in the pressure chamber.

Wiring - Switches may be wired to 'normally open' or 'normally closed' terminals on electric switch(es).

Pressure Connections - 1/8 NPT female is standard.

Adjustment - Turn differential pressure adjustment nut(s) clockwise to increase setpoint. Detailed installation & calibration instructions are provided for every shipment. Adjustment setting is available at no charge.

Specifications - 2WPS (Differential)

| | |
|-------------------------------------|-----------------------------------|
| Housing: | Diecast Aluminum |
| Pressure Connections: | 1/8" NPT female |
| Electrical Connection: | 1/2" NPT |
| Port Material: | Aluminum |
| Diaphragm Material: | Buna N |
| Deadband: | Fixed |
| Sensitivity: | 1/2% of range (for SPDT) |
| Drift: | <1% of range (100,000 operations) |
| Contact Ratings: | 15A - 125, 250, 480 VAC |
| Set Point Adjustment: | Screw type, field adjustable |
| No. Contacts: | One or Two S.P.D.T. |
| Contact Listings: | UL Recognized, CSA Certified |
| Maximum Ambient Temperature: | 180°F |
| Minimum Ambient Temperature: | -20°F |
| Weight: | Approx. 2 lbs. |



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2WPS Series

DIFFERENTIAL PRESSURE SWITCH - DIAPHRAGM ACTUATED

How to Order: Specify Product Code

2WPS W 1 D SST 2

MODEL SERIES _____

HOUSING _____
 ' ' - NO HOUSING
 W - WATERTIGHT - NEMA 4X, 12 & 13

NUMBER OF ELECTRIC SWITCHES _____
 1 - ONE S.P.D.T.
 2 - TWO S.P.D.T. - (SWITCH TYPE "5" ONLY)

SPECIAL FEATURES _____
 O - HIGH OVERPRESSURE - INCREASES MAX. STATIC PRESSURE TO 300 PSI
 Q - DOUBLE SNAP ACTING BELLEVILLE SPRING - TO PROVIDE POSITIVE SETPOINT ACCURACY IN HIGH VIBRATION APPLICATIONS
 SS - STAINLESS STEEL WETTED TRIM MATERIAL
 SN - BRASS WETTED TRIM MATERIAL
 SI - TEFLON WETTED TRIM MATERIAL
 SY - PVC WETTED TRIM MATERIAL
 T - TEFLON PROTECTED DIAPHRAGM
 U - SPECIAL EPOXY PAINT
 Z - VITON DIAPHRAGM MATERIAL

TYPE OF ELECTRIC SWITCHES
 1 - LOW DEADBAND
 15A - 125, 250, 480 VAC
 2 - STANDARD DEADBAND
 15A - 125, 250, 480 VAC; 0.5A - 125 VDC
 3 - HIGH DC RATED (MAGNETIC BLOWOUT)
 10A - 125 VDC; 3A - 250 VDC
 5 - SUB MINIATURTE SWITCH - 2 S.P.D.T.
 5A - 125, 250 VAC; 0.5A - 125 VDC
 6 - GOLD CONTACT
 1 A - 125 VAC

* SPECIAL FEATURES SUCH AS STAINLESS TAGGING, OR SPECIAL WETTED PARTS; KYNAR, KALREZ, HASTELLO, ETC. ARE AVAILABLE ON REQUEST. CONSULT WINTERS FOR CAPABILITIES AND PRICING FOR ANY FEATURES NOT SHOWN.

| Ranges | | | |
|------------------------------|------------------|-----------------------|-----|
| DIFFERENTIAL PRESSURE (DP) | | | |
| Adjustable Pressure Range | Maximum Deadband | Max. Working Pressure | |
| | Type "2" | Type "5" | |
| 0-10 PSID | .40 | 1.0 | 100 |
| 0-20 PSID | .53 | 2.3 | 100 |
| 0-50 PSID | | | |
| DIFF. PR. (DP) HIGH MAX. PR. | | | |
| 0-10 PSID | .20# | .40# | 300 |
| 0-20 PSID | .26 | .53 | 300 |
| 0-50 PSID | .45 | .90 | 300 |
| 0-100 PSID | .70 | 1.3 | 300 |

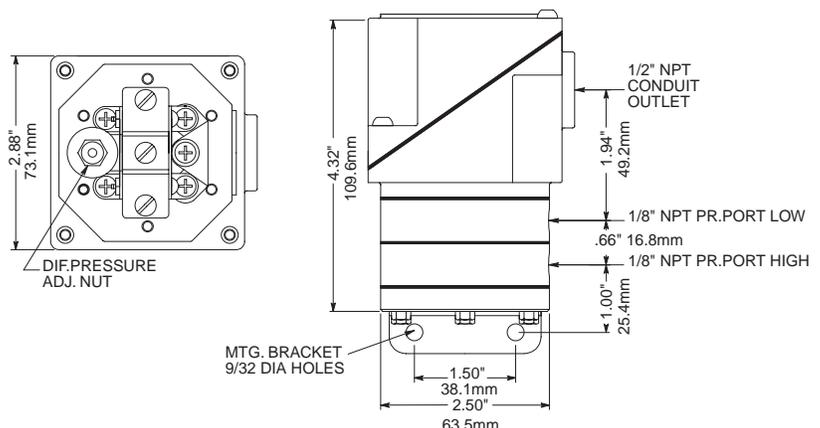
DEADBAND NOTES

The deadbands listed in the tables are the maximum switch differentials when the standard (Type "2" or Type "5") electric switch is used.

Deadband is affected by the type of switch used. Each type of switch's effect on deadband is as follows:

Type "1" - Low Deadband - Use ½ TYPE 2 table values.
 Type "2" - Std. Deadband - Use table values.
 Type "3" - High DC Rated - Multiply TYPE 2 table values by two.
 Type "5" - Sub Miniature - 2 S.P.D.T. - Use TYPE 5 table values.
 Type "6" - Gold Contact - Use TYPE 2 table values.

Please note that Type "5" is the only available option on 2WPS Switches that requires two Electric Switches.



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5WPS Series

PRESSURE SWITCH - BELLOWS ACTUATED



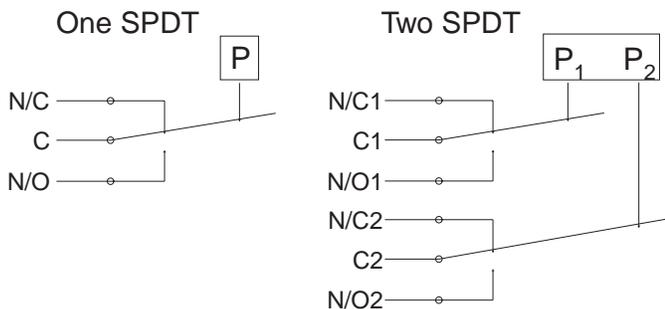
- Ranges from 0-15 PSI To 0-5000 PSI
- Rugged NEMA 4X, 12 & 13 Housing Std.
- One or Two SPDT Contacts
- Versatile Mechanism Design
- Adjustable Deadband Available

Description

The Winters' 5WPS Series (Bellows Sensing) Pressure Switch features a rugged cast aluminum housing (NEMA 4X, 12 and 13) and cover incorporating Winters standard accurate switching mechanism actuated by a stainless steel bellows assembly. Either one or two S.P.D.T. electric switch(es) are available in a variety of configurations. Some of these configurations are: Tandem settings for D.P.D.T. operation. Independent adjustment for High-Low operation. Adjustable switch differential (dead band). Manual reset on either increasing or decreasing pressure. In addition many switching configurations can be supplied with electric switches that have: Low switch differentials (dead band). High direct current ratings. Gold contacts Hermetically sealed contacts. Bellows assemblies of various areas, when applied to the 5WPS (Bellows Actuated), allow a wide variety of adjustable pressure ranges.

Common applications include: pumping stations, remote areas where a status high can be seen, ideal for Hi/Lo level control (requiring dual elements).

Wiring Schematic



INSTALLATION NOTES

Orientation - The 5WPS Bellows will operate satisfactorily in any position, however, mounting the device vertically will allow the easiest adjustability and reduce sediment in the pressure chamber.

Wiring - Switches may be wired to 'normally open' or 'normally closed' terminals on electric switch(es).

Pressure Connection - 1/4 NPT female is standard. 1/2 NPT male is available ("M" option).

Adjustment - Turn pressure adjustment nut(s) clockwise to increase setpoint. Detailed installation & calibration instructions are provided for every shipment. Setting adjustment is available at no charge.

Specifications - 5WPS (Bellows Actuated)

| | |
|-------------------------------------|-----------------------------------|
| Housing: | Cast Aluminum |
| Pressure Connection: | 1/4 NPT |
| Electrical Connection: | 1/2 NPT |
| Port Material: | Stainless Steel W/ Silver Braze |
| Bellows Material: | Stainless Steel |
| Deadband: | Fixed |
| Sensitivity: | 1/2% of range (for SPDT) |
| Drift: | <1% of range (100,000 operations) |
| Contact Ratings: | 15A - 125, 250, 480 VAC |
| Set Point Adjustment: | Screw type, field adjustable |
| No. Contacts: | 1 or 2 S.P.D.T or 1 D.P.D.T. |
| Contact Listings: | CSA Certified |
| Maximum Ambient Temperature: | 180°F |
| Minimum Ambient Temperature: | -40°F |
| Weight: | Approx. 3 lbs |



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5WPS Series

DIFFERENTIAL PRESSURE SWITCH - BELLOWS ACTUATED



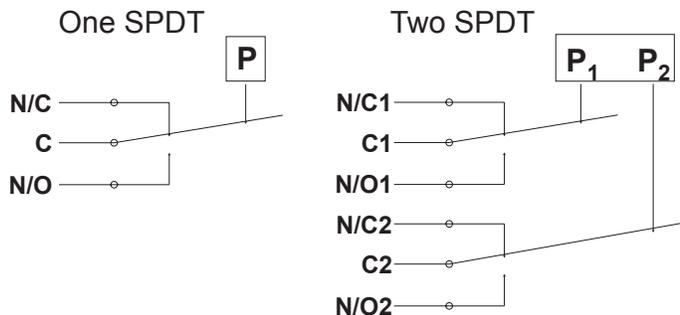
- Ranges from 0-15 PSI To 0-5000 PSI
- Rugged NEMA 4X, 12 & 13 Housing Std.
- One or Two SPDT Contacts
- Versatile Mechanism Design
- Adjustable Deadband Available

Description

The Winters 5WPS (Bellows Actuated) Differential Pressure Switch features a rugged cast aluminum housing (NEMA 4X, 12 & 13) and cover, incorporating Winters standard accurate switching mechanism, actuated by stainless steel differential pressure bellows assemblies. Either one or two S.P.D.T. electric switch/s are available in a variety of configurations. Some of these configurations are: Tandem settings for D.P.D.T. operation. Independent adjustment for High-Low operation. Adjustable switch differential (dead band). Manual reset on either increasing or decreasing pressure. In addition many switching configurations can be supplied with electric switches that have: Low switch differentials (dead band). High direct current ratings. Gold contacts hermetically sealed contacts. Differential Pressure Bellows Assemblies of various areas, when applied to the 5WPS model, allow a wide variety of adjustable Differential Pressure Ranges.

The Winters 5WPS (Differential) can be utilized in applications requiring a differential activation (i.e.filtration).

Wiring Schematic



INSTALLATION NOTES

Orientation - The 5WPS Bellows Differential will operate satisfactorily in any position, however, mounting the device vertically will allow the easiest adjustability.

Wiring - Switches may be wired to 'normally open' or 'normally closed' terminals on electric switch(es).

Pressure Connection - 1/4 NPT female is standard. 1/2 NPT male is available ("M" option).

Adjustment - Turn pressure adjustment nut(s) clockwise to increase setpoint. Detailed installation & calibration instructions are provided for every shipment. Setting adjustment is available at no charge.

Specifications - 5WPS (Bellows Actuated)

| | |
|-------------------------------------|-----------------------------------|
| Housing: | Cast Aluminum |
| Pressure Connection: | 1/4 NPT |
| Electrical Connection: | 1/2 NPT |
| Port Material: | Stainless Steel W/ Silver Braze |
| Bellows Material: | Stainless Steel |
| Deadband: | Fixed |
| Sensitivity: | 1/2% of range (for SPDT) |
| Drift: | <1% of range (100,000 operations) |
| Contact Ratings: | 15A - 125, 250, 480 VAC |
| Set Point Adjustment: | Screw type, field adjustable |
| No. Contacts: | 1 or 2 S.P.D.T or 1 D.P.D.T. |
| Contact Listings: | UL Recognized, CSA Certified |
| Maximum Ambient Temperature: | 180°F |
| Minimum Ambient Temperature: | -40°F |
| Weight: | Approx. 3 lbs |



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5WPS Series

DIFFERENTIAL PRESSURE SWITCH - BELLOWS ACTUATED

How to Order: Specify Product Code

5WPS W 1 BD V 2

SERIES

HOUSING'

W - WATERTIGHT - NEMA 4X, 12 & 13

NUMBER OF ELECTRIC SWITCHES

1 - ONE S.P.D.T.
11 - TWO TANDEM ELECTRIC SWITCHES OPERATE IN PARALLEL D.P.D.T.
2 - TWO S.P.D.T. INDEPENDENT ADJUSTMENT

SENSING ELEMENT

BD - BELLOWS ACTUATED DIFFERENTIAL PRESSURE

SPECIAL FEATURES

-- NO SPECIAL FEATURES
A - ADJUSTABLE DEADBAND
E - EXTERNAL PRESSURE ADJUSTMENT
EE - TWO EXTERNAL PRESSURE ADJUSTMENTS
L - ONE INDICATOR LIGHT
LL - TWO INDICATOR LIGHTS
M - MALE PIPE MOUNTING 1/2 NPT
Q - DOUBLE SNAP ACTION (BELLEVILLE SPRING)
R> - MANUAL RESET, SWITCH ON INCR. PR.
R< - MANUAL RESET, SWITCH ON DECR. PR.
V - HIGH TEMPERATURE SERVICE

TYPE OF ELECTRIC SWITCHES

1 - LOW DEADBAND
 15A - 125, 250, 480 VAC
2 - STANDARD DEADBAND
 15A - 125, 250, 480 VAC; 0.5A - 125 VDC
3 - HIGH DC RATED (MAGNETIC BLOWOUT)
 10A - 125 VDC; 3A - 250 VDC
4 - HERMETICALLY SEALED SWITCH
 1A - 125VAC; 25A.RES, 10A.IND, 5A.MOTOR
 3A.LAMP-28VDC
6 - GOLD CONTACT -
 1A - 125 VAC

* SPECIAL FEATURES SUCH AS STAINLESS TAGGING, APPLICATION OF DIAPHRAGM SEALS, ETC. ARE AVAILABLE ON REQUEST. CONSULT WINTERS FOR CAPABILITIES AND PRICING FOR ANY FEATURES NOT SHOWN.

DEADBAND NOTES

The deadbands listed in the tables are the maximum switch differentials when the standard (Type "2" or Type "5") electric switch is used.

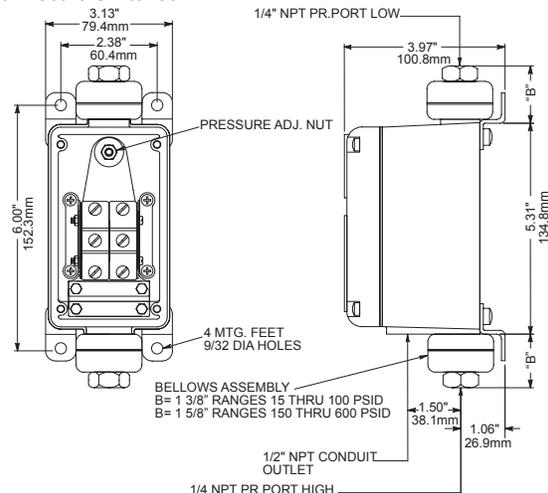
Deadband is affected by the type of switch used. Each type of switch's effect on deadband is as follows:

Type "1" - Low Deadband - Use 1/2 TYPE 2 table values.
 Type "2" - Std. Deadband - Use table values.
 Type "3" - High DC Rated - Multiply TYPE 2 table values by two.
 Type "5" - Sub Miniature - 2 S.P.D.T. - Use TYPE 5 table values.
 Type "6" - Gold Contact - Use TYPE 2 table values.

Please note that Type "5" is the only available option on 2WPS Switches that requires two Electric Switches.

| Ranges | | | |
|---|------|------|------|
| BELLOWS ACTUATED DIFFERENTIAL PRESSURE (DP) | | | |
| 0-15 PSI | .7# | 1.3# | 300 |
| 0-30 PSI | .7 | 1.4 | 300 |
| 0-60 PSI | .8 | 1.6 | 300 |
| 0-100 PSI | 1.0 | 1.9 | 300 |
| 0-150 PSI | 4.0 | 7.3 | 1500 |
| 0-200 PSI | 4.0 | 7.6 | 1500 |
| 0-300 PSI | 4.0 | 8.2 | 1500 |
| 0-600 PSI | 5.0 | 10.0 | 1500 |
| 0-1000 PSI | 12.0 | 25.0 | 3000 |
| 0-2000 PSI | 15.0 | 30.0 | 3000 |
| 0-3000 PSI | 37.0 | 75.0 | 7000 |
| 0-5000 PSI | 45.0 | 90.0 | 7000 |

| BELLOWS ACTUATED TWO-WAY DIFFERENTIAL PRESSURE | | |
|--|-------|------|
| 0-15 PSI | 2.6 | 300 |
| 0-30 PSI | 6.0 | 300 |
| 0-60 PSI | 9.7 | 300 |
| 0-100 PSI | 18.0 | 1500 |
| 0-150 PSI | 30.0 | 1500 |
| 0-200 PSI | 32.0 | 1500 |
| 0-300 PSI | 48.0 | 1500 |
| 0-600 PSI | 92.0 | 3000 |
| 0-1000 PSI | 146.0 | 3000 |
| 0-2000 PSI | 400.0 | 7000 |
| 0-3000 PSI | 425.0 | 7000 |



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5WPS Series

PRESSURE SWITCH - BELLOWS ACTUATED

How to Order: Specify Product Code

5WPS W 1 B V 2

MODEL SERIES _____

HOUSING' _____
 W - WATERTIGHT - NEMA 4X, 12 & 13

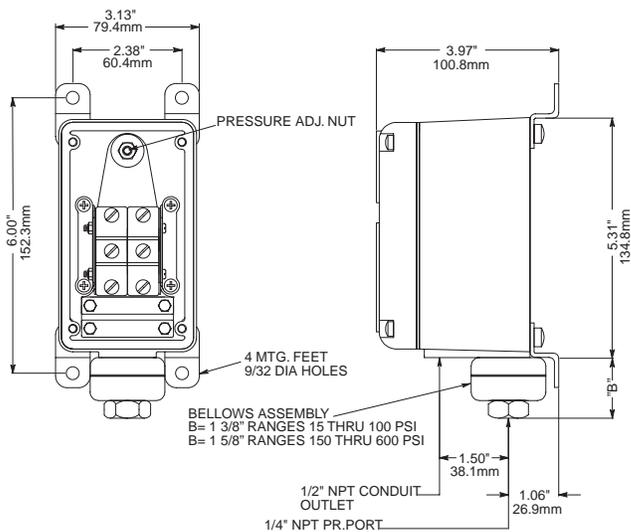
NUMBER OF ELECTRIC SWITCHES _____
 1 - ONE S.P.D.T.
 11 - TWO TANDEM ELECTRIC SWITCHES OPERATE IN PARALLEL D.P.D.T.
 2 - TWO S.P.D.T. INDEPENDENT ADJUSTMENT

SENSING ELEMENT _____
 B - BELLOWS ACTUATED

SPECIAL FEATURES _____
 - - NO SPECIAL FEATURES
 A - ADJUSTABLE DEADBAND
 E - EXTERNAL PRESSURE ADJUSTMENT
 EE - TWO EXTERNAL PRESSURE ADJUSTMENTS

TYPE OF ELECTRIC SWITCHES
 1 - LOW DEADBAND
 15A - 125, 250, 480 VAC
 2 - STANDARD DEADBAND
 15A - 125, 250, 480 VAC; 0.5
 3 - HIGH DC RATED (MAGNETI
 10A - 125 VDC; 3A - 250 VDC
 4 - HERMETICALLY SEALED SV
 1A-125VAC; 25A.RES, 10A.
 3A.LAMP-28VDC
 6 - GOLD CONTACT -
 1 A - 125 VAC

* SPECIAL FEATURES SUCH AS STAINLESS T/ APPLICATION OF DIAPHRAGM SEALS, ETC. A AVAILABLE ON REQUEST. CONSULT WINTER CAPABILITIES AND PRICING FOR ANY FEATUR



DEADBAND NOTES

The deadbands listed in the tables are the maximum switch differentials when the standard (Type "2" or Type "5") electric switch is used.

Deadband is affected by the type of switch used. Each type of switch's effect on deadband is as follows:

- Type "1" - Low Deadband - Use ½ TYPE 2 table values.
- Type "2" - Std. Deadband - Use table values.
- Type "3" - High DC Rated - Multiply TYPE 2 table values by two.
- Type "5" - Sub Miniature - 2 S.P.D.T. - Use TYPE 5 table values.
- Type "6" - Gold Contact - Use TYPE 2 table values.

Please note that Type "5" is the only available option on 2WPS Switches that requires two Electric Switches.

| Ranges | | | |
|---------------------------|------------------|----------|--------------------------|
| BELLOWS ACTUATED | | | |
| Adjustable Pressure Range | Maximum DEADBAND | | Maximum Working Pressure |
| | Type "2" | Type "5" | |
| 0-15 PSI | .7# | 1.5# | 300 |
| 0-30 PSI | .8 | 1.7 | 300 |
| 0-60 PSI | .9 | 1.9 | 300 |
| 0-100 PSI | 1.1 | 2.2 | 300 |
| 0-150 PSI | 4.0 | 8.5 | 1500 |
| 0-200 PSI | 4.0 | 8.8 | 1500 |
| 0-300 PSI | 5.0 | 9.5 | 1500 |
| 0-600 PSI | 6.0 | 12.0 | 1500 |
| 0-1000 PSI | 15.0 | 30.0 | 3000 |
| 0-2000 PSI | 17.0 | 35.0 | 3000 |
| 0-3000 PSI | 40.0 | 82.0 | 7000 |
| 0-5000 PSI | 48.0 | 96.0 | 7000 |



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5WPS Series

PRESSURE SWITCH - DIAPHRAGM ACTUATED



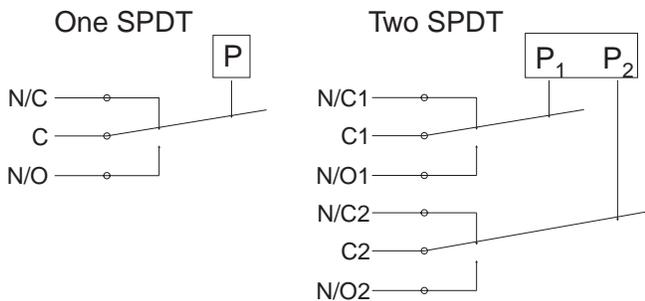
- Ranges from 0-15 PSI To 0-300 PSI
- Rugged NEMA 4X, 12 & 13 Housing Std.
- One or Two SPDT Contacts
- Versatile Mechanism Design
- Adjustable Deadband Available

Description

The 5WPS Pressure Switch features a rugged cast aluminum housing (NEMA 4X, 12 and 13 standard) and cover incorporating Winters standard accurate switching mechanism actuated by a diaphragm. Either one or two S.P.D.T. electric switch(es) are available in a variety of configurations. Some of these configurations are: Tandem settings for D.P.D.T. operation. Independent adjustment for High-Low operation. Adjustable switch differential (dead band). Manual reset on either increasing or decreasing pressure. In addition many switching configurations can be supplied with electric switches that have: Low switch differentials (dead band). High direct current ratings. Gold contacts Hermetically sealed contacts. The standard pressure-sensing element uses a strong Buna N elastimer diaphragm. Other diaphragm materials are available.

Common applications include: pumping stations, remote areas where a status high can be seen, ideal for Hi/Lo level control (requiring dual elements).

Wiring Schematic



INSTALLATION NOTES

Orientation - The 5WPS will operate satisfactorily in any position, however, mounting the device vertically will allow the easiest adjustability and reduce sediment in the pressure chamber.

Wiring - Switches may be wired to 'normally open' or 'normally closed' terminals on electric switch(es).

Pressure Connection - 1/4 NPT female is standard. 1/2 NPT male is available ("M" option).

Adjustment - Turn pressure adjustment nut(s) clockwise to increase setpoint. Detailed installation & calibration instructions are provided for every shipment. Adjustment setting is available at no charge.

Specifications - 5WPS (Diaphragm Actuated)

| | |
|-------------------------------------|-----------------------------------|
| Housing: | Cast Aluminum |
| Pressure Connection: | 1/4 NPT |
| Electrical Connection: | 1/2 NPT |
| Port Material: | Aluminum |
| Diaphragm Material: | Buna N |
| Deadband: | Fixed |
| Sensitivity: | 1/2% of range (for SPDT) |
| Drift: | <1% of range (100,000 operations) |
| Contact Ratings: | 15A - 125, 250, 480 VAC |
| Set Point Adjustment: | Screw type, field adjustable |
| No. Contacts: | 1 or 2 S.P.D.T or 1 D.P.D.T. |
| Contact Listings: | UL Recognized, CSA Certified |
| Maximum Ambient Temperature: | 180°F |
| Minimum Ambient Temperature: | -20°F |
| Weight: | Approx. 3 lbs |



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5WPS Series

PRESSURE SWITCH - DIAPHRAGM ACTUATED

How to Order: Specify Product Code

5WPS W 1 A 2

SERIES

HOUSING*

W - WATERTIGHT - NEMA 4X, 12 & 13

NUMBER OF ELECTRIC SWITCHES

1 - ONE S.P.D.T.
11 - TWO TANDEM ELECTRIC SWITCHES OPERATE IN PARALLEL D.P.D.T.
2 - TWO S.P.D.T. INDEPENDENT ADJUSTMENT

SPECIAL FEATURES

-- NO SPECIAL FEATURES
A - ADJUSTABLE DEADBAND
E - EXTERNAL PRESSURE ADJUSTMENT
EE - TWO EXTERNAL PRESSURE ADJUSTMENTS
L - ONE INDICATOR LIGHT
LL - TWO INDICATOR LIGHTS
M - MALE PIPE MOUNTING 1/2 NPT
O - HIGH OVERPRESSURE DIAPHRAGM - INCREASES MAX. PRESSURE TO 1000 PSI
Q - DOUBLE SNAP ACTION (BELLEVILLE SPRING)
R> - MANUAL RESET, SWITCH ON INCR. PR.
R< - MANUAL RESET, SWITCH ON DECR. PR.
T - TEFLON PROTECTED DIAPHRAGM
U - SPECIAL EPOXY PAINT
V - HIGH TEMPERATURE SERVICE

TYPE OF ELECTRIC SWITCHES

1 - LOW DEADBAND
15A - 125, 250, 480 VAC
2 - STANDARD DEADBAND
15A - 125, 250, 480 VAC; 0.5A - 125 VD
3 - HIGH DC RATED (MAGNETIC BLOWO)
10A - 125 VDC; 3A - 250 VDC
4 - HERMETICALLY SEALED SWITCH
1.A-125VAC; 25A.RES, 10A.IND, 5A.MC
3A.LAMP-28VDC
6 - GOLD CONTACT -
1 A - 125 VAC

* SPECIAL FEATURES SUCH AS STAINLESS TAGG KALREZ DIAPHRAGM, HIGH/LOW SWITCHING, ET AVAILABLE ON REQUEST. CONSULT WINTERS FC CAPABILITES AND PRICING FOR ANY FEATURES SHOWN.

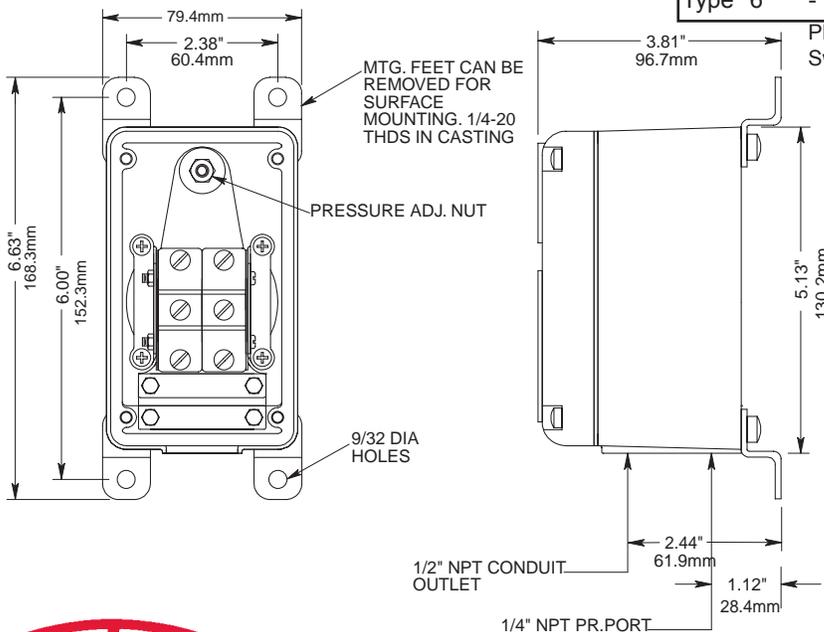
DEADBAND NOTES

The deadbands listed in the tables are the maximum switch differentials when the standard (Type "2" or Type "5") electric switch is used.

Deadband is affected by the type of switch used. Each type of switch's effect on deadband is as follows:

Type "1" - Low Deadband - Use 1/2 TYPE 2 table values.
Type "2" - Std. Deadband - Use table values.
Type "3" - High DC Rated - Multiply TYPE 2 table values by two.
Type "5" - Sub Miniature - 2 S.P.D.T. - Use TYPE 5 table values.
Type "6" - Gold Contact - Use TYPE 2 table values.

Please note that Type "5" is the only available option on 2WPS Switches that requires two Electric Switches.



Ranges

DIAPHRAGM ACTUATED

| Adjustable Pressure Range | Maximum DEADBAND | | Maximum Working Pressure |
|---------------------------|------------------|----------|--------------------------|
| | Type "2" | Type "5" | |
| PRESSURE | | | |
| 0-15 PSI | .3# | .6# | 50 |
| 0-30 PSI | .4 | .8 | 100 |
| 0-60 PSI | .5 | 1.0 | 200 |
| 0-100 PSI | 1.0 | 2.0 | 300 |
| 0-150 PSI | 1.0 | 2.5 | 300 |
| 0-200 PSI | 2.0 | 3.5 | 500 |
| 0-300 PSI | 3.0 | 5.0 | 500 |

HIGH OVER-PRESSURE

| | | | |
|-----------|-----|-----|------|
| 0-15 PSI | .3# | .6# | 1000 |
| 0-30 PSI | 0.4 | .8 | 1000 |
| 0-60 PSI | 0.5 | 1.0 | 1000 |
| 0-100 PSI | 0.8 | 1.5 | 1000 |



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06/02

5WPS Series

DIFFERENTIAL PRESSURE SWITCH - BELLOWS ACTUATED



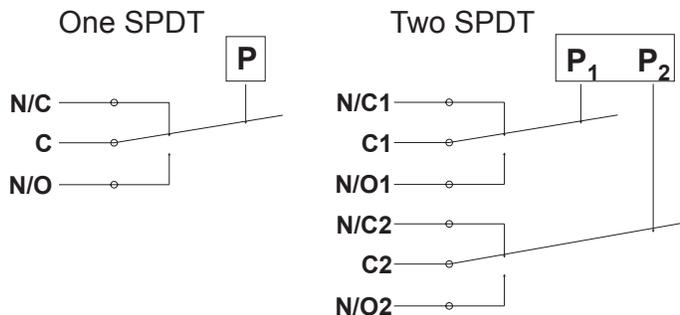
- Ranges from 0-15 PSI To 0-5000 PSI
- Rugged NEMA 4X, 12 & 13 Housing Std.
- One or Two SPDT Contacts
- Versatile Mechanism Design
- Adjustable Deadband Available

Description

The Winters 5WPS (Bellows Actuated) Differential Pressure Switch features a rugged cast aluminum housing (NEMA 4X, 12 & 13) and cover, incorporating Winters standard accurate switching mechanism, actuated by stainless steel differential pressure bellows assemblies. Either one or two S.P.D.T. electric switch/s are available in a variety of configurations. Some of these configurations are: Tandem settings for D.P.D.T. operation. Independent adjustment for High-Low operation. Adjustable switch differential (dead band). Manual reset on either increasing or decreasing pressure. In addition many switching configurations can be supplied with electric switches that have: Low switch differentials (dead band). High direct current ratings. Gold contacts hermetically sealed contacts. Differential Pressure Bellows Assemblies of various areas, when applied to the 5WPS model, allow a wide variety of adjustable Differential Pressure Ranges.

The Winters 5WPS (Differential) can be utilized in applications requiring a differential activation (i.e.filtration).

Wiring Schematic



INSTALLATION NOTES

Orientation - The 5WPS Bellows Differential will operate satisfactorily in any position, however, mounting the device vertically will allow the easiest adjustability.

Wiring - Switches may be wired to 'normally open' or 'normally closed' terminals on electric switch(es).

Pressure Connection - 1/4 NPT female is standard. 1/2 NPT male is available ("M" option).

Adjustment - Turn pressure adjustment nut(s) clockwise to increase setpoint. Detailed installation & calibration instructions are provided for every shipment. Setting adjustment is available at no charge.

Specifications - 5WPS (Bellows Actuated)

| | |
|-------------------------------------|-----------------------------------|
| Housing: | Cast Aluminum |
| Pressure Connection: | 1/4 NPT |
| Electrical Connection: | 1/2 NPT |
| Port Material: | Stainless Steel W/ Silver Braze |
| Bellows Material: | Stainless Steel |
| Deadband: | Fixed |
| Sensitivity: | 1/2% of range (for SPDT) |
| Drift: | <1% of range (100,000 operations) |
| Contact Ratings: | 15A - 125, 250, 480 VAC |
| Set Point Adjustment: | Screw type, field adjustable |
| No. Contacts: | 1 or 2 S.P.D.T or 1 D.P.D.T. |
| Contact Listings: | UL Recognized, CSA Certified |
| Maximum Ambient Temperature: | 180°F |
| Minimum Ambient Temperature: | -40°F |
| Weight: | Approx. 3 lbs |



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5WPS Series

DIFFERENTIAL PRESSURE SWITCH - BELLOWS ACTUATED

How to Order: Specify Product Code

5WPS W 1 BD V 2

SERIES

HOUSING'

W - WATERTIGHT - NEMA 4X, 12 & 13

NUMBER OF ELECTRIC SWITCHES

1 - ONE S.P.D.T.
11 - TWO TANDEM ELECTRIC SWITCHES OPERATE IN PARALLEL D.P.D.T.
2 - TWO S.P.D.T. INDEPENDENT ADJUSTMENT

SENSING ELEMENT

BD - BELLOWS ACTUATED DIFFERENTIAL PRESSURE

SPECIAL FEATURES

-- NO SPECIAL FEATURES
A - ADJUSTABLE DEADBAND
E - EXTERNAL PRESSURE ADJUSTMENT
EE - TWO EXTERNAL PRESSURE ADJUSTMENTS
L - ONE INDICATOR LIGHT
LL - TWO INDICATOR LIGHTS
M - MALE PIPE MOUNTING 1/2 NPT
Q - DOUBLE SNAP ACTION (BELLEVILLE SPRING)
R> - MANUAL RESET, SWITCH ON INCR. PR.
R< - MANUAL RESET, SWITCH ON DECR. PR.
V - HIGH TEMPERATURE SERVICE

TYPE OF ELECTRIC SWITCHES

1 - LOW DEADBAND
 15A - 125, 250, 480 VAC
2 - STANDARD DEADBAND
 15A - 125, 250, 480 VAC; 0.5A - 125 VDC
3 - HIGH DC RATED (MAGNETIC BLOWOUT)
 10A - 125 VDC; 3A - 250 VDC
4 - HERMETICALLY SEALED SWITCH
 1A-125VAC; 25A.RES, 10A.IND, 5A.MOTOR
 3A.LAMP-28VDC
6 - GOLD CONTACT -
 1 A - 125 VAC

* SPECIAL FEATURES SUCH AS STAINLESS TAGGING, APPLICATION OF DIAPHRAGM SEALS, ETC. ARE AVAILABLE ON REQUEST. CONSULT WINTERS FOR CAPABILITIES AND PRICING FOR ANY FEATURES NOT SHOWN.

Ranges

BELLOWS ACTUATED DIFFERENTIAL PRESSURE (DP)

| PSI Range | .7# | 1.3# | 300 |
|------------|------|------|------|
| 0-15 PSI | .7# | 1.3# | 300 |
| 0-30 PSI | .7 | 1.4 | 300 |
| 0-60 PSI | .8 | 1.6 | 300 |
| 0-100 PSI | 1.0 | 1.9 | 300 |
| 0-150 PSI | 4.0 | 7.3 | 1500 |
| 0-200 PSI | 4.0 | 7.6 | 1500 |
| 0-300 PSI | 4.0 | 8.2 | 1500 |
| 0-600 PSI | 5.0 | 10.0 | 1500 |
| 0-1000 PSI | 12.0 | 25.0 | 3000 |
| 0-2000 PSI | 15.0 | 30.0 | 3000 |
| 0-3000 PSI | 37.0 | 75.0 | 7000 |
| 0-5000 PSI | 45.0 | 90.0 | 7000 |

BELLOWS ACTUATED TWO-WAY DIFFERENTIAL PRESSURE

| | | |
|------------|-------|------|
| 0-15 PSI | 2.6 | 300 |
| 0-30 PSI | 6.0 | 300 |
| 0-60 PSI | 9.7 | 300 |
| 0-100 PSI | 18.0 | 1500 |
| 0-150 PSI | 30.0 | 1500 |
| 0-200 PSI | 32.0 | 1500 |
| 0-300 PSI | 48.0 | 1500 |
| 0-600 PSI | 92.0 | 3000 |
| 0-1000 PSI | 146.0 | 3000 |
| 0-2000 PSI | 400.0 | 7000 |
| 0-3000 PSI | 425.0 | 7000 |

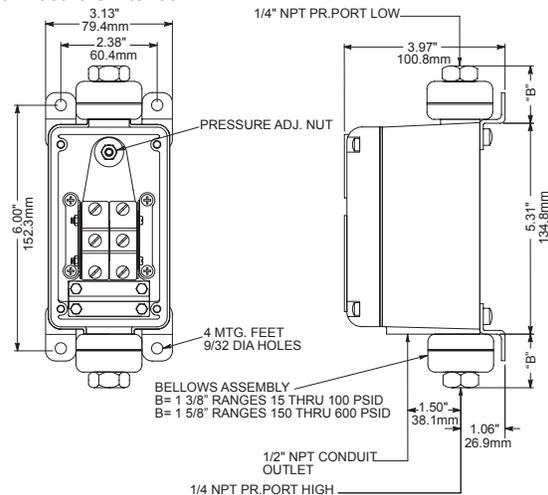
DEADBAND NOTES

The deadbands listed in the tables are the maximum switch differentials when the standard (Type "2" or Type "5") electric switch is used.

Deadband is affected by the type of switch used. Each type of switch's effect on deadband is as follows:

- Type "1" - Low Deadband - Use 1/2 TYPE 2 table values.
- Type "2" - Std. Deadband - Use table values.
- Type "3" - High DC Rated - Multiply TYPE 2 table values by two.
- Type "5" - Sub Miniature - 2 S.P.D.T. - Use TYPE 5 table values.
- Type "6" - Gold Contact - Use TYPE 2 table values.

Please note that Type "5" is the only available option on 2WPS Switches that requires two Electric Switches.



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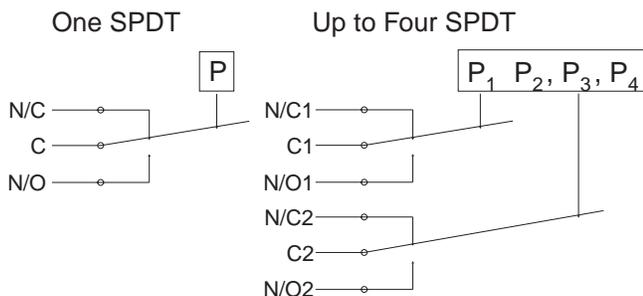
6WPS Series

PRESSURE SWITCH - BELLOWS ACTUATED



- Ranges from 0-15 PSI To 0-5000 PSI
- Rugged NEMA 4X & 12 Housing Std.
- CSA Certified
- Class I, Div. I, Gr. C & D Available
- Up to Four SPDT Contacts
- Various Wetted Materials Available

Wiring Schematic



INSTALLATION NOTES

Orientation - The 6WPS Bellows Actuated will operate satisfactorily in any position, however, mounting the device vertically will allow the easiest adjustability and reduce sediment in the pressure chamber.

Wiring - Switches may be wired to 'normally open' or 'normally closed' terminals on electric switch(es).

Pressure Connection - 1/4 NPT female is standard. 1/2 NPT male is available ("M" option).

Adjustment - Turn pressure adjustment nut(s) clockwise to increase setpoint. Detailed installation & calibration instructions are provided for every shipment. Setting adjustments available at no charge.

Description

The Winters' Series 6WPS Bellows Actuated Pressure Switch is constructed using a rugged cast aluminum housing that incorporates Winter's standard accurate switching mechanism actuated by a stainless steel bellows assembly. The housing can be specified, watertight; or explosion proof. The housing is large enough to accommodate up to four full size S.P.D.T. electric switches. These electric switches are available in a variety of configurations including adjustable switch differential (dead band), D.P.D.T., High-Low operation, and manual reset. In addition many switching configurations can be supplied with electric switches that have: Low switch differentials (dead band). High direct current ratings. Gold contacts. Hermetically sealed contacts. Bellows assemblies of various areas, when applied to the 6WPS Bellows Actuated model, allow a wide variety of adjustable pressure ranges.

Common applications for the 6WPS would be multiple tank or pump controls and an application requiring alarm systems.

Specifications - 6WPS (Bellows Actuated)

| | |
|-------------------------------------|------------------------------------|
| Housing: | Cast Aluminum |
| Pressure Connection: | 1/4 NPT |
| Electrical Connection: | 1/2 NPT |
| Port Material: | Stainless Steel W/ Silver Braze |
| Bellows Material: | Stainless Steel |
| Deadband: | Fixed |
| Sensitivity: | 1/2% of range (for SPDT) |
| Drift: | <1% of range (100,000 operations) |
| Contact Ratings: | 15A - 125, 250, 480 VAC |
| Set Point Adjustment: | Screw type, field adjustable |
| No. Contacts: | 1, 2, 3 or 4 S.P.D.T or 1 D.P.D.T. |
| Contact Listings: | UL Recognized, CSA Certified |
| Maximum Ambient Temperature: | 180°F |
| Minimum Ambient Temperature: | -40°F |
| Weight: | Approx. 5 lbs. |



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6WPS Series

PRESSURE SWITCH - BELLOWS ACTUATED

How to Order: Specify Product Code

6WPS W 1 B V 2

SERIES

HOUSING'

- W - WATERTIGHT - NEMA 4X & 12
- X - EXPLOSION PROOF - NEMA 7 & 9

NUMBER OF ELECTRIC SWITCHES

- 1 - ONE S.P.D.T.
- 11 - TWO TANDEM ELECTRIC SWITCHES OPERATE IN PARALLEL D.P.D.T.
- 2 - TWO S.P.D.T. INDEPENDENT ADJUSTMENT
- 3 - THREE S.P.D.T. INDEPENDENT ADJUSTMENT
- 4 - FOUR S.P.D.T. INDEPENDENT ADJUSTMENT

SENSING ELEMENT

- B - BELLOWS ACTUATED

SPECIAL FEATURES

- NO SPECIAL FEATURES
- A - ADJUSTABLE DEADBAND
- E - EXTERNAL PRESSURE ADJUSTMENT
- EE - TWO EXTERNAL PRESSURE ADJUSTMENTS
- L - ONE INDICATOR LIGHT (NOT ON X HOUSING)
- LL - TWO INDICATOR LIGHTS (NOT ON X HOUSING)
- M - MALE PIPE MOUNTING 1/2 NPT
- P - PANEL MOUNTING
- Q - DOUBLE SNAP ACTION (BELLEVILLE SPRING)
- R> - MANUAL RESET, SWITCH ON INCR. PR.
- R< - MANUAL RESET, SWITCH ON DECR. PR.
- V - HIGH TEMPERATURE SERVICE

TYPE OF ELECTRIC SWITCHES

- 1 - LOW DEADBAND
15A - 125, 250, 480 VAC
- 2 - STANDARD DEADBAND
15A - 125, 250, 480 VAC; 0.5A - 125 VDC
- 3 - HIGH DC RATED (MAGNETIC BLOWOUT)
10A - 125 VDC; 3A - 250 VDC
- 4 - HERMETICALLY SEALED SWITCH
1A-125VAC; 25A.RES, 10A.IND, 5A.MOTOR
3A.LAMP-28VDC
- 6 - GOLD CONTACT -
1 A - 125 VAC

* SPECIAL FEATURES SUCH AS STAINLESS TAGGING, APPLICATION OF DIAPHRAGM SEALS, ETC. ARE AVAILABLE ON REQUEST. CONSULT WINTERS FOR CAPABILITIES AND PRICING FOR ANY FEATURES NOT SHOWN.

DEADBAND NOTES

The deadbands listed in the tables are the maximum switch differentials when the Type "1" or Type "2" electric switch is used.

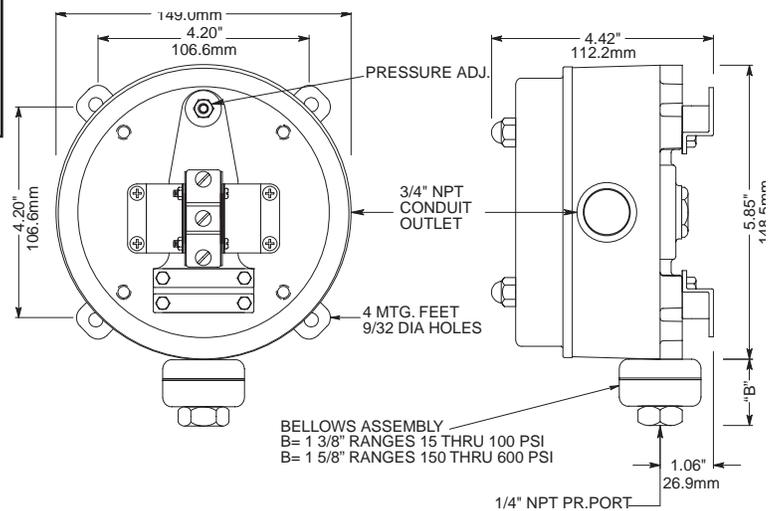
Deadband is affected by the type of electric switch used. Each type of electric switch's effect on deadband is as follows:

- Type "1" - Low Deadband - Use table values.
- Type "2" - Std. Deadband - Use table values.
- Type "3" - High DC Rated - Multiply TYPE 2 table values by two.
- Type "4" - Hermetically Sealed Switch - Multiply TYPE 2 table values by six.
- Type "6" - Gold Contact - Use TYPE 2 table values.

Ranges

BELLOWS ACTUATED

| Adjustable Pressure Range | Maximum DEADBAND Type "2" | Maximum DEADBAND Type "5" | Maximum Working Pressure |
|---------------------------|---------------------------|---------------------------|--------------------------|
| 0-15 PSI | .7# | 1.3# | 300 |
| 0-30 PSI | .7 | 1.4 | 300 |
| 0-60 PSI | .8 | 1.6 | 300 |
| 0-100 PSI | 1.0 | 1.9 | 300 |
| 0-150 PSI | 4.0 | 7.3 | 1500 |
| 0-200 PSI | 4.0 | 7.6 | 1500 |
| 0-300 PSI | 4.0 | 8.2 | 1500 |
| 0-600 PSI | 5.0 | 10.0 | 1500 |
| 0-1000 PSI | 12.0 | 25.0 | 3000 |
| 0-2000 PSI | 15.0 | 30.0 | 3000 |
| 0-3000 PSI | 37.0 | 75.0 | 7000 |
| 0-5000 PSI | 45.0 | 90.0 | 7000 |



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6WPS Series

PRESSURE SWITCH - DIAPHRAGM ACTUATED



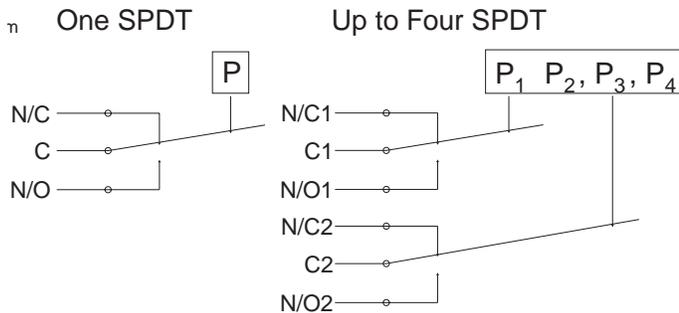
- Ranges from 0-15 PSI To 0-300 PSI
- Rugged NEMA 4X & 12 Housing Std.
- Class I, Div. I, Gr. C & D Available
- CSA Certified
- Up to Four SPDT Contacts
- Various Wetted Materials Available

Description

The 6WPS (Diaphragm Actuated) Pressure Switch is constructed using a rugged cast aluminum housing (NEMA 4X & 12) that incorporates Winter's standard accurate switching mechanism actuated by a diaphragm. The housing can be specified watertight; or explosion proof. The housing is large enough to accommodate up to four full size S.P.D.T. electric switches. These electric switches are available in a variety of configurations including adjustable switch differential (dead band), D.P.D.T., High-Low operation, and manual reset. In addition many switching configurations can be supplied with electric switches that have: Low switch differentials (dead band). High direct current ratings. Gold contacts. Hermetically sealed contacts. The standard pressure-sensing element uses a strong Buna N elastomer diaphragm. Other diaphragm materials are available.

Common applications for the 6WPS would be multiple tank or pump controls and an application requiring alarm systems.

Wiring Schematic



INSTALLATION NOTES

Orientation - The 6WPS Diaphragm Actuated will operate satisfactorily in any position, however, mounting the device vertically will allow the easiest adjustability and reduce sediment in the pressure chamber.

Wiring - Switches may be wired to 'normally open' or 'normally closed' terminals on electric switch(es).

Pressure Connection - 1/4 NPT female is standard. 1/2 NPT male is available ("M" option).

Adjustment - Turn pressure adjustment nut(s) clockwise to increase setpoint. Detailed installation & calibration instructions are provided for every shipment. Setting adjustment is available at no charge.

Specifications - 6WPS (Diaphragm Actuated)

| | |
|-------------------------------------|------------------------------------|
| Housing: | Cast Aluminum |
| Pressure Connection: | 1/4 NPT |
| Electrical Connection: | 3/4 NPT |
| Port Material: | Aluminum |
| Diaphragm Material: | Buna N |
| Deadband: | Fixed |
| Sensitivity: | 1/2% of range (for SPDT) |
| Drift: | <1% of range (100,000 operations) |
| Contact Ratings: | 15A - 125, 250, 480 VAC |
| Set Point Adjustment: | Screw type, field adjustable |
| No. Contacts: | 1, 2, 3 or 4 S.P.D.T or 1 D.P.D.T. |
| Contact Listings: | UL Recognized, CSA Certified |
| Maximum Ambient Temperature: | 180°F |
| Minimum Ambient Temperature: | -20°F |
| Weight: Approx. | 5 lbs. |



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6WPS Series

PRESSURE SWITCH - DIAPHRAGM ACTUATED

How to Order: Specify

Product Code

MODEL SERIES _____

6WPS W 1 SST 2

HOUSING'

- W - WATERTIGHT - NEMA 4X & 12
- X - EXPLOSION PROOF - NEMA 7 & 9

NUMBER OF ELECTRIC SWITCHES _____

- 1 - ONE S.P.D.T.
- 11 - TWO TANDEM ELECTRIC SWITCHES OPERATE IN PARALLEL D.P.D.T.
- 2 - TWO S.P.D.T. INDEPENDENT ADJUSTMENT
- 3 - THREE S.P.D.T. INDEPENDENT ADJUSTMENT
- 4 - FOUR S.P.D.T. INDEPENDENT ADJUSTMENT

SPECIAL FEATURES _____

- NO SPECIAL FEATURES
- A - ADJUSTABLE DEADBAND
- E - EXTERNAL PRESSURE ADJUSTMENT
- EE - TWO EXTERNAL PRESSURE ADJUSTMENTS
- F - FLANGE BASE MOUNTING
- J - SAFETY SEAL
- L - ONE INDICATOR LIGHT (NOT ON X HOUSING)
- LL - TWO INDICATOR LIGHTS (NOT ON X HOUSING)
- M - MALE PIPE MOUNTING 1/2 NPT
- P - PANEL MOUNTING
- R> - MANUAL RESET, SWITCH ON INCR. PR.
- R< - MANUAL RESET, SWITCH ON DECR. PR.
- SS - SPECIAL TRIM BASE 316 STAINLESS STEEL
- SI - SPECIAL TRIM BASE TEFLON (NOT ON X SWITCHES)
- SY - SPECIAL TRIM BASE PVC (NOT ON X SWITCHES)
- T - TEFLON PROTECTED DIAPHRAGM
- U - SPECIAL EPOXY PAINT
- V - HIGH TEMPERATURE SERVICE
- Z - VITON DIAPHRAGM

TYPE OF ELECTRIC SWITCHES

- 1 - LOW DEADBAND
15A - 125, 250, 480 VAC
- 2 - STANDARD DEADBAND
15A - 125, 250, 480 VAC; 0.5A - 125 VDC
- 3 - HIGH DC RATED (MAGNETIC BLOWOUT)
10A - 125 VDC; 3A - 250 VDC
- 4 - HERMETICALLY SEALED SWITCH
1.A-125VAC; 25A.RES, 10A.IND, 5A.MOTOR
3A.LAMP-28VDC
- 6 - GOLD CONTACT
1 A - 125 VAC

* SPECIAL FEATURES SUCH AS STAINLESS TAGGING, OR SPECIAL WETTED PARTS; KYNAR, KALREZ, HASTELLOY, ETC. ARE AVAILABLE ON REQUEST. CONSULT WINTERS FC CAPABILITES AND PRICING FOR ANY FEATURES NOT SHOWN.

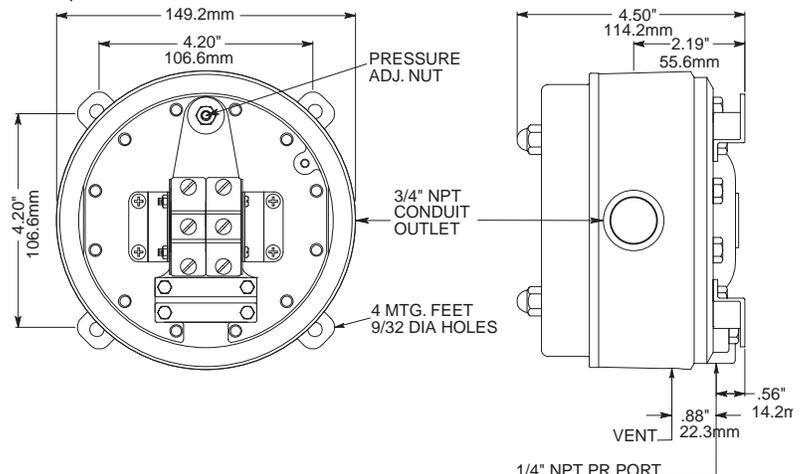
DEADBAND NOTES

The deadbands listed in the tables are the maximum switch differentials when the standard (Type "2" or Type "5") electric switch is used.

Deadband is affected by the type of switch used. Each type of switch's effect on deadband is as follows:

- Type "1" - Low Deadband - Use 1/2 TYPE 2 table values.
- Type "2" - Std. Deadband - Use table values.
- Type "3" - High DC Rated - Multiply TYPE 2 table values by two.
- Type "5" - Sub Miniature - 2 S.P.D.T. - Use TYPE 5 table values.
- Type "6" - Gold Contact - Use TYPE 2 table values.

Please note that Type "5" is the only available option on 2WPS Switches that requires two Electric Switches.



Ranges

DIAPHRAGM ACTUATED

| Adjustable Pressure Range | Maximum DEADBAND | | Maximum Working Pressure |
|---------------------------|------------------|----------|--------------------------|
| | Type "2" | Type "5" | |
| PRESSURE | | | |
| 0-15 PSI | .2# | .3# | 50 |
| 0-30 PSI | .2 | .5 | 100 |
| 0-60 PSI | .5 | 1.0 | 200 |
| 0-100 PSI | 1.0 | 2.0 | 300 |
| 0-150 PSI | 1.0 | 2.5 | 300 |
| 0-200 PSI | 2.0 | 3.5 | 500 |
| 0-300 PSI | 3.0 | 5.0 | 500 |
| VACUUM | | | |
| 30"HG /VAC | .3" | .6" | 50 |
| 30PR-30 VAC | .5" | 1.0 | 50 |
| HIGH OVER-PRESSURE | | | |
| 0-15 PSI | .3# | .6# | 1000 |
| 0-30 PSI | .4 | .8 | 1000 |
| 0-60 PSI | .5 | 1.0 | 1000 |
| 0-100 PSI | .8 | 1.5 | 1000 |

Canadian Standards Association Certified:

Industrial Control Equipment Type 4 & 12 Switches Pressure Type for Hazardous Locations, Class I, Groups C & D; Class II, Groups E, F & G.



1953

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6WPS Series

DIFFERENTIAL PRESSURE SWITCH - BELLOWS ACTUATED

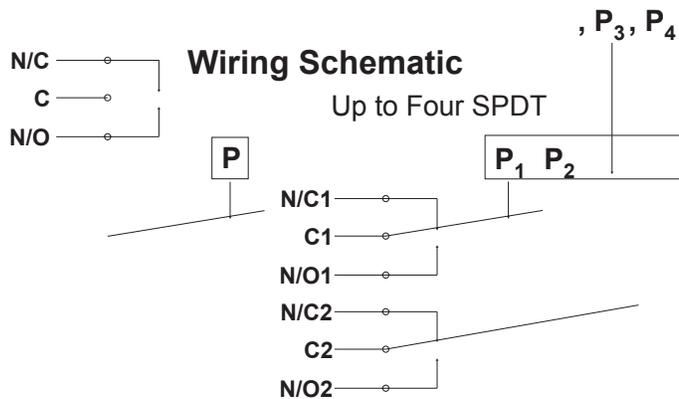


- Ranges from 0-15 PSI To 0-5000 PSI
- Rugged NEMA 4X & 12 Housing Std.
- Class I, Div. I, Gr. C & D Available
- Up to Four SPDT Contacts
- Various Wetted Materials Available

Description

The Winters' Series 6WPS Differential Pressure Switch (Bellows Actuated) is constructed using a rugged cast aluminum housing that incorporates Winter's standard accurate switching mechanism actuated by stainless steel differential pressure bellows assemblies. The housing can be specified, watertight; or explosion proof. The housing is large enough to accommodate up to four full size S.P.D.T. electric switches. These electric switches are available in a variety of configurations including adjustable switch differential (dead band), D.P.D.T., High-Low operation, and manual reset. In addition many switching configurations can be supplied with electric switches that have: Low switch differentials (dead band). High direct current ratings. Gold contacts. Hermetically sealed contacts. Differential Pressure Bellows Assemblies of various areas, when applied to this 6WPS model, allows a wide variety of adjustable Differential Pressure Ranges.

One SPDT



The 6WPS (Differential) can be utilized in filtration applications, hazardous locations and system level controls.

Specifications - 6WPS (Bellows Actuated)

| | |
|-------------------------------------|------------------------------------|
| Housing: | Cast Aluminum |
| Pressure Connection: | 1/4 NPT |
| Electrical Connection: | 1/2 NPT |
| Port Material: | Stainless Steel with Silver Braze |
| Bellows Material: | Stainless Steel |
| Deadband: | Fixed |
| Sensitivity: | 1/2% of range (for SPDT) |
| Drift: | <1% of range (100,000 operations) |
| Contact Ratings: | 15A - 125, 250, 480 VAC |
| Set Point Adjustment: | Screw type, field adjustable |
| No. Contacts: | 1, 2, 3 or 4 S.P.D.T or 1 D.P.D.T. |
| Contact Listings: | UL Recognized, CSA Certified |
| Maximum Ambient Temperature: | 180°F |
| Minimum Ambient Temperature: | -20°F |
| Weight: Approx. | 5 lbs. |

INSTALLATION NOTES

Orientation - The 6WPS Differential (Bellows) will operate satisfactorily in any position, however, mounting the device vertically will allow the easiest adjustability.

Wiring - Switches may be wired to 'normally open' or 'normally closed' terminals on electric switch(es).

Pressure Connection - 1/4 NPT female is standard. 1/2 NPT male is available ("M" option).

Adjustment - Turn pressure adjustment nut(s) clockwise to increase setpoint. Detailed installation & calibration instructions are provided for every shipment. Setting adjustment is available at no charge.

Canadian Standards Association Certified:
Industrial Control Equipment Type 4 & 12 Switches Pressure
Type for Hazardous Locations, Class I, Groups C & D; Class
II, Groups E, F & G.



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6WPS Series

DIFFERENTIAL PRESSURE SWITCH - BELLOWS ACTUATED

How to Order: Specify Product Code

6WPS W 1 BD M 2

SERIES

HOUSING'
W - WATERTIGHT - NEMA 4X & 12
X - EXPLOSION PROOF - NEMA 7 & 9

NUMBER OF ELECTRIC SWITCHES
1 - ONE S.P.D.T.
11 - TWO TANDEM ELECTRIC SWITCHES OPERATE IN PARALLEL D.P.D.T.
2 - TWO S.P.D.T. INDEPENDENT ADJUSTMENT
3 - THREE S.P.D.T. INDEPENDENT ADJUSTMENT
4 - FOUR S.P.D.T. INDEPENDENT ADJUSTMENT

SENSING ELEMENT
BD - BELLOWS ACTUATED DIFFERENTIAL PRESSURE

SPECIAL FEATURES
 -- NO SPECIAL FEATURES
A - ADJUSTABLE DEADBAND
E - EXTERNAL PRESSURE ADJUSTMENT
EE - TWO EXTERNAL PRESSURE ADJUSTMENTS
L - ONE INDICATOR LIGHT (NOT ON X HOUSING)
LL - TWO INDICATOR LIGHTS (NOT ON X HOUSING)
M - MALE PIPE MOUNTING 1/2 NPT
P - PANEL MOUNTING
Q - DOUBLE SNAP ACTION (BELLEVILLE SPRING)
R - MANUAL RESET, SWITCH ON INCR. PR.
R< - MANUAL RESET, SWITCH ON DECR. PR.
V - HIGH TEMPERATURE SERVICE

TYPE OF ELECTRIC SWITCHES
1 - LOW DEADBAND
 15A - 125, 250, 480 VAC
2 - STANDARD DEADBAND
 15A - 125, 250, 480 VAC; 0.5A - 125 VDC
3 - HIGH DC RATED (MAGNETIC BLOWOUT)
 10A - 125 VDC; 3A - 250 VDC
4 - HERMETICALLY SEALED SWITCH
 1A-125VAC; 25A.RES, 10A.IND, 5A.MOTOR
 3A.LAMP-28VDC
6 - GOLD CONTACT -
 1 A - 125 VAC

* SPECIAL FEATURES SUCH AS STAINLESS TAGGING, APPLICATION OF DIAPHRAGM SEALS, ETC. ARE AVAILABLE ON REQUEST. CONSULT WINTERS FOR CAPABILITIES AND PRICING FOR ANY FEATURES NOT SHOWN.

| Ranges | | | |
|---|------|------|------|
| BELLOWS ACTUATED DIFFERENTIAL PRESSURE (DP) | | | |
| 0-15 PSI | .7# | 1.3# | 300 |
| 0-30 PSI | .7 | 1.4 | 300 |
| 0-60 PSI | .8 | 1.6 | 300 |
| 0-100 PSI | 1.0 | 1.9 | 300 |
| 0-150 PSI | 4.0 | 7.3 | 1500 |
| 0-200 PSI | 4.0 | 7.6 | 1500 |
| 0-300 PSI | 4.0 | 8.2 | 1500 |
| 0-600 PSI | 5.0 | 10.0 | 1500 |
| 0-1000 PSI | 12.0 | 25.0 | 3000 |
| 0-2000 PSI | 15.0 | 30.0 | 3000 |
| 0-3000 PSI | 37.0 | 75.0 | 7000 |
| 0-5000 PSI | 45.0 | 90.0 | 7000 |

| BELLOWS ACTUATED TWO-WAY DIFFERENTIAL PRESSURE | | | |
|--|-------|--|------|
| 0-15 PSI | 2.6 | | 300 |
| 0-30 PSI | 6.0 | | 300 |
| 0-60 PSI | 9.7 | | 300 |
| 0-100 PSI | 18.0 | | 1500 |
| 0-150 PSI | 30.0 | | 1500 |
| 0-200 PSI | 32.0 | | 1500 |
| 0-300 PSI | 48.0 | | 1500 |
| 0-600 PSI | 92.0 | | 3000 |
| 0-1000 PSI | 146.0 | | 3000 |
| 0-2000 PSI | 400.0 | | 7000 |
| 0-3000 PSI | 425.0 | | 7000 |

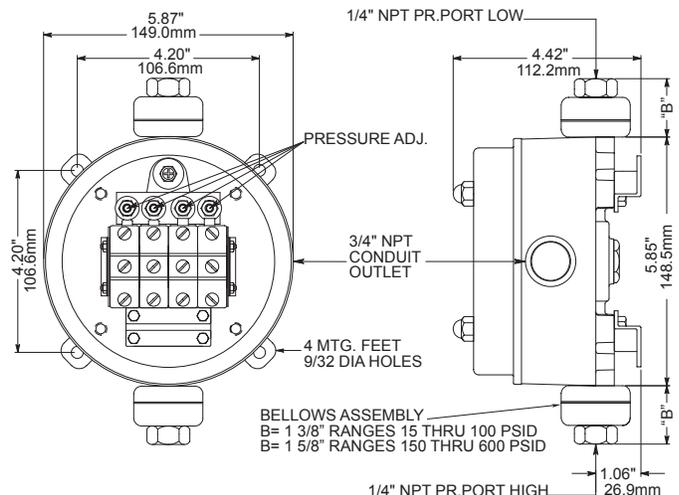
DEADBAND NOTES

The deadbands listed in the tables are the maximum switch differentials when the standard (Type "2" or Type "5") electric switch is used.

Deadband is affected by the type of switch used. Each type of switch's effect on deadband is as follows:

Type "1" - Low Deadband - Use 1/2 TYPE 2 table values.
 Type "2" - Std. Deadband - Use table values.
 Type "3" - High DC Rated - Multiply TYPE 2 table values by two.
 Type "5" - Sub Miniature - 2 S.P.D.T. - Use TYPE 5 table values.
 Type "6" - Gold Contact - Use TYPE 2 table values.

Please note that Type "5" is the only available option on 2WPS Switches that requires two Electric Switches.



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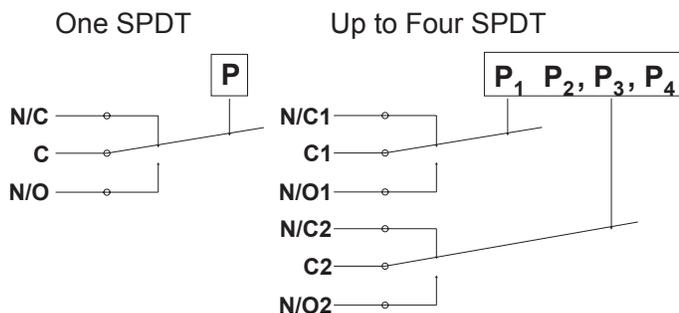
6WPS Series

DIFFERENTIAL PRESSURE SWITCH - DIAPHRAGM ACTUATED



- Ranges from 0-15 PSID & 0-30 PSID
- Rugged NEMA 4X & 12 Housing Std.
- Class I, Div. I, Gr. C & D Available
- Up to Four SPDT Contacts
- CSA Certified
- Various Wetted Materials Available

Wiring Schematic



INSTALLATION NOTES

Orientation - The 6WPS Differential, Diaphragm Actuated, will operate satisfactorily in any position, however, mounting the device vertically will allow the easiest adjustability and reduce sediment in the pressure chamber.

Wiring - Switches may be wired to 'normally open' or 'normally closed' terminals on electric switch(es).

Pressure Connection - 1/4 NPT female is standard. 1/2 NPT male is available ("M" option).

Adjustment - Turn pressure adjustment nut(s) clockwise to increase setpoint. Detailed installation & calibration instructions are provided for every shipment. Setting adjustment is available at no charge.

Description

The Winters' Series 6WPS Differential Pressure Switch (Diaphragm Actuated) is constructed using a rugged cast aluminum housing that incorporates Winter's standard accurate switching mechanism actuated by a differential diaphragm assembly. The housing can be specified, watertight; or explosion proof. The housing is large enough to accommodate up to four full size S.P.D.T. electric switches. These electric switches are available in a variety of configurations including adjustable switch differential (dead band), D.P.D.T., High-Low operation, and manual reset. In addition many switching configurations can be supplied with electric switches that have: Low switch differentials (dead band). High direct current ratings. Gold contacts. Hermetically sealed contacts. The standard pressure-sensing element uses a strong Buna N elastomer diaphragm. Other diaphragm materials are available.

The 6WPS (Differential) can be utilized in filtration applications, hazardous locations and system level controls.

Specifications - 6WPS Differential (Diaphragm Actuated)

| | |
|-------------------------------------|------------------------------------|
| Housing: | Cast Aluminum |
| Pressure Connection: | 1/4 NPT |
| Electrical Connection: | 3/4 NPT |
| Port Material: | Aluminum |
| Diaphragm Material: | Buna N |
| Deadband: | Fixed |
| Sensitivity: | 1/2% of range (for SPDT) |
| Drift: | <1% of range (100,000 operations) |
| Contact Ratings: | 15A - 125, 250, 480 VAC |
| Set Point Adjustment: | Screw type, field adjustable |
| No. Contacts: | 1, 2, 3 or 4 S.P.D.T or 1 D.P.D.T. |
| Contact Listings: | UL Recognized, CSA Certified |
| Maximum Ambient Temperature: | 180°F |
| Minimum Ambient Temperature: | -20°F |
| Weight: Approx. | 5 lbs. |



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6WPS Series

DIFFERENTIAL PRESSURE SWITCH - DIAPHRAGM ACTUATED

How to Order: Specify Product Code

6WPS W 1 D R> 2

SERIES

HOUSING*

- W - WATERTIGHT - NEMA 4X & 12
- X - EXPLOSION PROOF - NEMA 7 & 9

NUMBER OF ELECTRIC SWITCHES

- 1 - ONE S.P.D.T.
- 11 - TWO TANDEM ELECTRIC SWITCHES OPERATE IN PARALLEL D.P.D.T.
- 2 - TWO S.P.D.T. INDEPENDENT ADJUSTMENT
- 3 - THREE S.P.D.T. INDEPENDENT ADJUSTMENT
- 4 - FOUR S.P.D.T. INDEPENDENT ADJUSTMENT

SPECIAL FEATURES

- NO SPECIAL FEATURES
- A - ADJUSTABLE DEADBAND
- E - EXTERNAL PRESSURE ADJUSTMENT
- EE - TWO EXTERNAL PRESSURE ADJUSTMENTS
- L - ONE INDICATOR LIGHT (NOT ON X HOUSING)
- LL - TWO INDICATOR LIGHTS (NOT ON X HOUSING)
- M - MALE PIPE MOUNTING 1/2 NPT
- P - PANEL MOUNTING
- R> - MANUAL RESET, SWITCH ON INCR. PR.
- R< - MANUAL RESET, SWITCH ON DECR. PR.
- SS - SPECIAL TRIM BASE 316 STAINLESS STEEL
- SI - SPECIAL TRIM BASE TEFLON (NOT ON X SWITCHES)
- SY - SPECIAL TRIM BASE PVC (NOT ON X SWITCHES)
- T - TEFLON PROTECTED DIAPHRAGM
- U - SPECIAL EPOXY PAINT
- V - HIGH TEMPERATURE SERVICE
- Z - VITON DIAPHRAGM

TYPE OF ELECTRIC SWITCHES

- 1 - LOW DEADBAND
 - 15A - 125, 250, 480 VAC
- 2 - STANDARD DEADBAND
 - 15A - 125, 250, 480 VAC; 0.5A - 125 VDC
- 3 - HIGH DC RATED (MAGNETIC BLOWOUT)
 - 10A - 125 VDC; 3A - 250 VDC
- 4 - HERMETICALLY SEALED SWITCH
 - 1.A-125VAC; 25A.RES, 10A.IND, 5A.MOTOR
 - 3A.LAMP-28VDC
- 6 - GOLD CONTACT -
 - 1 A - 125 VAC

* SPECIAL FEATURES SUCH AS STAINLESS TAGGING, OR SPECIAL WETTED PARTS; KYNAR, KALREZ, HASTELLOY, ETC. ARE AVAILABLE ON REQUEST. CONSULT WINTERS FOR CAPABILITIES AND PRICING FOR ANY FEATURES NOT SHOWN.

DEADBAND NOTES

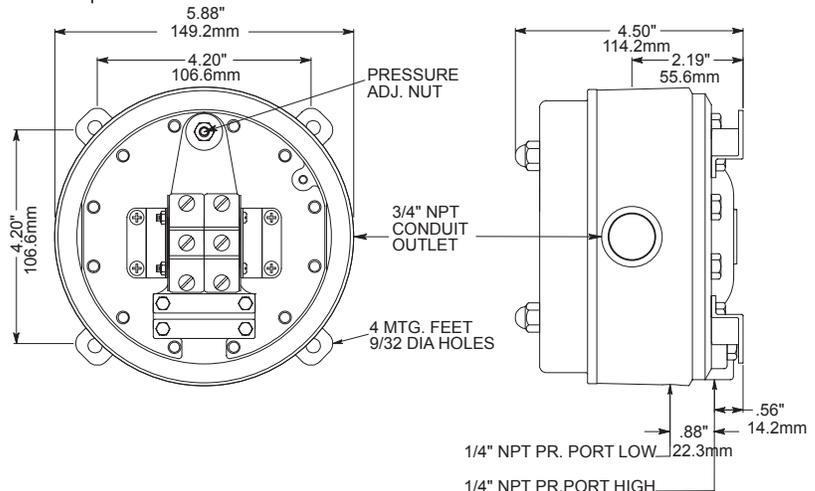
The deadbands listed in the tables are the maximum switch differentials when the standard (Type "2" or Type "5") electric switch is used.

Deadband is affected by the type of switch used. Each type of switch's effect on deadband is as follows:

- Type "1" - Low Deadband - Use 1/2 TYPE 2 table values.
- Type "2" - Std. Deadband - Use table values.
- Type "3" - High DC Rated - Multiply TYPE 2 table values by two.
- Type "5" - Sub Miniature - 2 S.P.D.T. - Use TYPE 5 table values.
- Type "6" - Gold Contact - Use TYPE 2 table values.

Please note that Type "5" is the only available option on 2WPS Switches that requires two Electric Switches.

| DIFFERENTIAL PRESSURE (DP) | | | |
|-------------------------------|------|------|-----|
| 0-15 PSID | .16# | .32# | 100 |
| 0-30 PSID | .23 | .47 | 100 |
| TWO-WAY DIFFERENTIAL PRESSURE | | | |
| 0-15 PSID | .7# | 1.5# | 100 |
| 0-30 PSID | 1.2 | 2.5 | 100 |



Canadian Standards Association Certified:
Industrial Control Equipment Type 4 & 12 Switches Pressure
Type for Hazardous Locations, Class I, Groups C & D; Class
II, Groups E, F & G.



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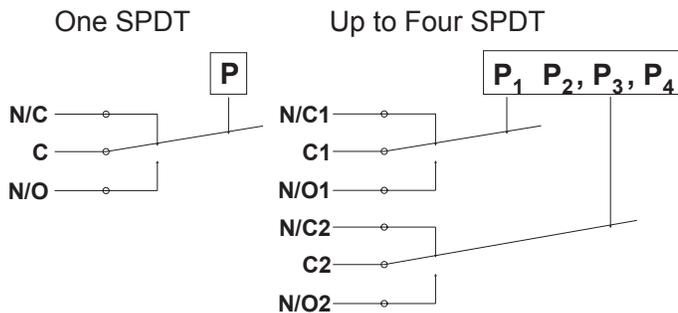
6WPSDO Series

DIFFERENTIAL PRESSURE SWITCH - DIAPHRAGM ACTUATED



- Ranges from 0-15 PSID & 0-60 PSID
- Rugged NEMA 4X & 12 Housing Std.
- Class I, Div. I, Gr. C & D Available
- Up to Four SPDT Contacts
- Various Wetted Materials Available

Wiring Schematic



INSTALLATION NOTES

Orientation - The 6WPSDO will operate satisfactorily in any position, however, mounting the device vertically will allow the easiest adjustability and reduce sediment in the pressure chamber.

Wiring - Switches may be wired to 'normally open' or 'normally closed' terminals on electric switch(es).

Pressure Connection - 1/4 NPT female is standard. 1/2 NPT male is available ("M" option).

Adjustment - Turn pressure adjustment nut(s) clockwise to increase setpoint. Detailed installation & calibration instructions are provided for every shipment. Setting adjustment is available at no charge.

Description

The Winters' Series 6WPSDO Differential Pressure Switch is designed to sense low differential pressures between high pressure sources. The high pressure seals are opposed stainless steel bellows assemblies, while the differential pressure is sensed by a diaphragm clamped between these bellows assemblies. The diaphragm has a large area to accurately sense Low Differential Pressure, and during an over-pressure the diaphragm is fully supported. The design is symmetric such that both the HIGH or LOW pressure sides of the element can withstand the maximum pressure with the opposite side at atmospheric pressure. The rugged cast aluminum housing incorporates Winter's standard accurate switching mechanism, and can be specified watertight or explosion proof. The housing is large enough to accommodate up to four full size S.P.D.T. electric switches. The standard differential pressure-sensing element is constructed of a strong aluminum alloy using a Buna N elastomer diaphragm. Other diaphragm and wetted area materials are available.

The Winters' Series 6WPSDO is utilized in high static low differential pressure filtration applications and system level controls.

Specifications - 6WPS (Diaphragm Actuated)

| | |
|-------------------------------------|------------------------------------|
| Housing: | Cast Aluminum |
| Pressure Connection: | 1/4 NPT |
| Electrical Connection: | 3/4 NPT |
| Port Material: | Aluminum |
| Diaphragm Material: | Buna N |
| Deadband: | Fixed |
| Sensitivity: | 1/2% of range (for SPDT) |
| Drift: | <1% of range (100,000 operations) |
| Contact Ratings: | 15A - 125, 250, 480 VAC |
| Set Point Adjustment: | Screw type, field adjustable |
| No. Contacts: | 1, 2, 3 or 4 S.P.D.T or 1 D.P.D.T. |
| Contact Listings: | UL Recognized, CSA Certified |
| Maximum Ambient Temperature: | 180°F |
| Minimum Ambient Temperature: | -20°F |
| Weight: Approx. | 5 lbs. |



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6WPSDO Series

DIFFERENTIAL PRESSURE SWITCH - DIAPHRAGM ACTUATED

How to Order: Specify Product Code

6WPS W 1 DO E 2

SERIES

HOUSING

- 1 - WATERTIGHT - NEMA 4X & 12
- 2 - EXPLOSION PROOF - NEMA 7 & 9

NUMBER OF ELECTRIC SWITCHES

- 1 - ONE S.P.D.T.
- 2 - TWO TANDEM ELECTRIC SWITCHES OPERATE IN PARALLEL D.P.D.T.
- 3 - TWO S.P.D.T. INDEPENDENT ADJUSTMENT
- 4 - THREE S.P.D.T. INDEPENDENT ADJUSTMENT
- 5 - FOUR S.P.D.T. INDEPENDENT ADJUSTMENT

SPECIAL FEATURES

- 1 - NO SPECIAL FEATURES
- 2 - ADJUSTABLE DEADBAND
- 3 - EXTERNAL PRESSURE ADJUSTMENT
- 4 - TWO EXTERNAL PRESSURE ADJUSTMENTS
- 5 - ONE INDICATOR LIGHT (NOT ON X HOUSING)
- 6 - TWO INDICATOR LIGHTS (NOT ON X HOUSING)
- 7 - MALE PIPE MOUNTING 1/2 NPT
- 8 - PANEL MOUNTING
- 9 - MANUAL RESET, SWITCH ON INCR. PR.
- 10 - MANUAL RESET, SWITCH ON DECR. PR.
- 11 - SPECIAL TRIM BASE 316 STAINLESS STEEL
- 12 - TEFLON PROTECTED DIAPHRAGM
- 13 - SPECIAL EPOXY PAINT
- 14 - HIGH TEMPERATURE SERVICE
- 15 - VITON DIAPHRAGM

TYPE OF ELECTRIC SWITCHES

- 1 - LOW DEADBAND
 - 15A - 125, 250, 480 VAC
- 2 - STANDARD DEADBAND
 - 15A - 125, 250, 480 VAC; 0.5A - 125 VDC
- 3 - HIGH DC RATED (MAGNETIC BLOWOUT)
 - 10A - 125 VDC; 3A - 250 VDC
- 4 - HERMETICALLY SEALED SWITCH
 - 1A-125VAC; 25A.RES, 10A.IND, 5A.MOTOR
 - 3A.LAMP-28VDC
- 5 - GOLD CONTACT -
 - 1A - 125 VAC

* SPECIAL FEATURES SUCH AS STAINLESS TAGGING, OR SPECIAL WETTED PARTS; BRASS, HASTELLOY, ETC. ARE AVAILABLE ON REQUEST. CONSULT WINTERS FOR CAPABILITIES AND PRICING FOR ANY FEATURES NOT SHOWN.

DEADBAND NOTES

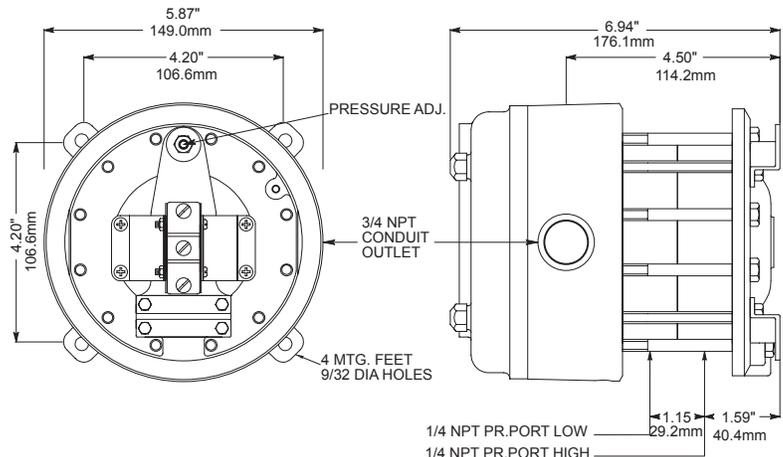
The deadbands listed in the tables are the maximum switch differentials when the standard (Type "2" or Type "5") electric switch is used.

Deadband is affected by the type of switch used. Each type of switch's effect on deadband is as follows:

- Type "1" - Low Deadband - Use 1/2 TYPE 2 table values.
- Type "2" - Std. Deadband - Use table values.
- Type "3" - High DC Rated - Multiply TYPE 2 table values by two.
- Type "5" - Sub Miniature - 2 S.P.D.T. - Use TYPE 5 table values.
- Type "6" - Gold Contact - Use TYPE 2 table values.

Please note that Type "5" is the only available option on 2WPS Switches that requires two Electric Switches.

| Ranges | | | |
|---------------------------|----------------------|----------|-----------------------|
| Adjustable Pressure Range | Maximum Deadband PSI | | Max. Working Pressure |
| | Type "1" | Type "2" | |
| 0-15 psi | .3 | .6 | 2500 psi |
| 0-30 psi | .35 | .7 | 2500 psi |
| 0-60 psi | .35 | .7 | 2500 psi |



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7WPS Series

PRESSURE SWITCH - DIAPHRAGM ACTUATED

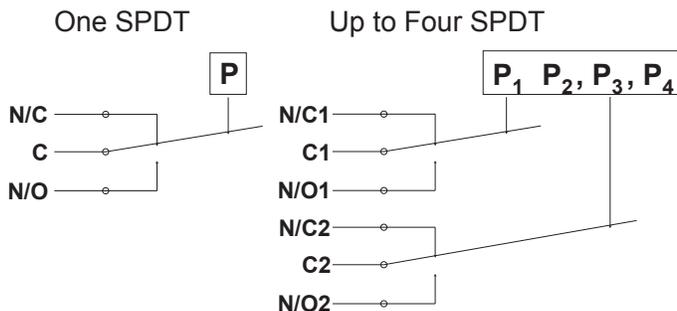


- Ranges from 1.5 W.C. To 0-150 W.C.
- Rugged NEMA 4X & 12 Housing Std.
- Class I, Div. I, Gr. C & D Available
- CSA Certified
- Up to Four SPDT Contacts
- Various Wetted Materials Available

Description

The Winters 7WPS Pressure Switch, diaphragm actuated, is designed for low pressure applications. The rugged cast aluminum housing incorporates standard accurate switching mechanism actuated by a large area diaphragm. The housing can be specified watertight or explosion proof. The housing is large enough to accommodate up to four full size S.P.D.T. electric switches. These electric switches are available in a variety of configurations including adjustable switch differential (dead band), D.P.D.T., High-Low operation, and manual reset. In addition many switching configurations can be supplied with electric switches that have: Low switch differentials (dead band). High direct current ratings. Gold contacts. Hermetically sealed contacts. The standard pressure-sensing element uses a strong Buna N elastomer diaphragm. Other diaphragm and wetted area materials are available.

Wiring Schematic



INSTALLATION NOTES

Orientation - The 7WPS Diaphragm Actuated will operate satisfactorily in any position, however, mounting the device vertically will allow the easiest adjustability and reduce sediment in the pressure chamber.

Wiring - Switches may be wired to 'normally open' or 'normally closed' terminals on electric switch(es).

Pressure Connection - 1/4 NPT female is standard. 1/2 NPT male is available ("M" option).

Adjustment - Turn pressure adjustment nut(s) clockwise to increase setpoint. Detailed installation & calibration instructions are provided for every shipment. Setting adjustment is available at no charge.

Specifications 7WPS (Diaphragm Actuated)

| | |
|-------------------------------------|-------------------------------------|
| Housing: | Cast Aluminum |
| Pressure Connection: | 1/4 NPT |
| Electrical Connection: | 3/4 NPT |
| Port Material: | Aluminum |
| Diaphragm Material: | Buna N |
| Deadband: | Fixed |
| Sensitivity: | 1/2% of range (for one SPDT Switch) |
| Drift: | <1% of range (100,000 operations) |
| Contact Ratings: | 15A - 125, 250, 480 VAC |
| Set Point Adjustment: | Screw type, field adjustable |
| No. Contacts: | 1, 2, 3 or 4 S.P.D.T or 1 D.P.D.T. |
| Contact Listings: | UL Recognized, CSA Certified |
| Maximum Ambient Temperature: | 180°F |
| Minimum Ambient Temperature: | -20°F |
| Weight: | Approx. 6 lbs |



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7WPS Series

PRESSURE SWITCH - DIAPHRAGM ACTUATED

How to Order: Specify Product Code

7WPS W 1 SST 2

MODEL SERIES

HOUSING

- W - WATERTIGHT - NEMA 4X & 12
- X - EXPLOSION PROOF - NEMA 7 & 9

NUMBER OF ELECTRIC SWITCHES

- 1 - ONE S.P.D.T.
- 11 - TWO TANDEM ELECTRIC SWITCHES OPERATE IN PARALLEL D.P.D.T.
- 2 - TWO S.P.D.T. INDEPENDENT ADJUSTMENT
- 3 - THREE S.P.D.T. INDEPENDENT ADJUSTMENT
- 4 - FOUR S.P.D.T. INDEPENDENT ADJUSTMENT

SPECIAL FEATURES

- NO SPECIAL FEATURES
- A - ADJUSTABLE DEADBAND
- E - EXTERNAL PRESSURE ADJUSTMENT
- EE - TWO EXTERNAL PRESSURE ADJUSTMENTS
- F - FLANGE BASE MOUNTING
- G - DOUBLE DIAPHRAGM EXTRA SENSITIVE LOW PR
- J - SAFETY SEAL
- L - ONE INDICATOR LIGHT (NOT ON X HOUSING)
- LL - TWO INDICATOR LIGHTS (NOT ON X HOUSING)
- M - MALE PIPE MOUNTING 1/2 NPT
- P - PANEL MOUNTING
- R> - MANUAL RESET, SWITCH ON INCR. PR.
- R< - MANUAL RESET, SWITCH ON DECR. PR.
- SS - SPECIAL TRIM BASE 316 STAINLESS STEEL
- SI - SPECIAL TRIM BASE TEFLON (NOT ON X SWITCHES)
- SY - SPECIAL TRIM BASE PVC (NOT ON X SWITCHES)
- T - TEFLON PROTECTED DIAPHRAGM
- U - SPECIAL EPOXY PAINT
- V - HIGH TEMPERATURE SERVICE
- Z - VITON DIAPHRAGM

TYPE OF ELECTRIC SWITCHES

- 1 - LOW DEADBAND
 - 15A - 125, 250, 480 VAC
- 2 - STANDARD DEADBAND
 - 15A - 125, 250, 480 VAC; 0.5A - 125 VDC
- 3 - HIGH DC RATED (MAGNETIC BLOWOUT)
 - 10A - 125 VDC; 3A - 250 VDC
- 4 - HERMETICALLY SEALED SWITCH
 - 1A-125VAC; 25A.RES, 10A.IND, 5A.MOTOR
 - 3A.LAMP-28VDC
- 6 - GOLD CONTACT -
 - 1 A - 125 VAC

* SPECIAL FEATURES SUCH AS STAINLESS TAGGING, OR SPECIAL WETTED PARTS; KYNAR, KALREZ, HASTELLOY, ETC. ARE AVAILABLE ON REQUEST. CONSULT WINTERS FOR CAPABILITIES AND PRICING FOR ANY FEATURES NOT SHOWN.

DEADBAND NOTES

The deadbands listed in the tables are the maximum switch differentials when the Type "1" or Type "2" electric switch is used.

Deadband is affected by the type of electric switch used. Each type of electric switch's effect on deadband is as follows:

Type "1" - Low Deadband - Use table values.

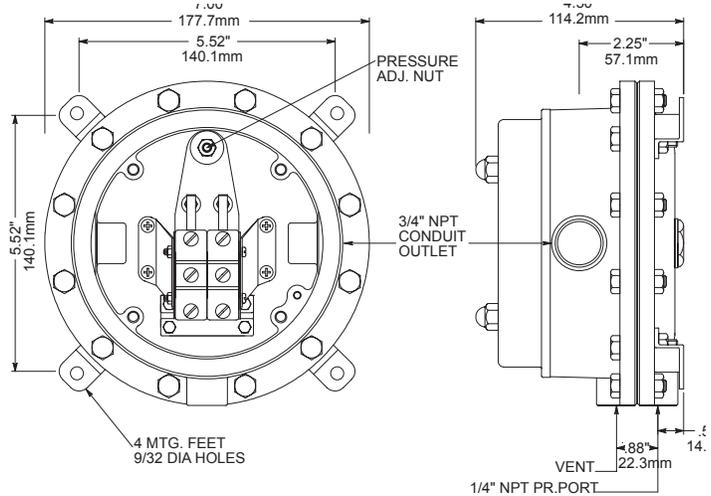
Type "2" - Std. Deadband - Use table values.

Type "3" - High DC Rated - Multiply TYPE 2 table values by two.

Type "4" - Hermetically Sealed Switch - Multiply TYPE 2 table values by six.

Type "6" - Gold Contact - Use TYPE 2 table values.

| Ranges | | | |
|---------------------------|------------------|----------|--------------------------|
| DIAPHRAGM ACTUATED | | | |
| Adjustable Pressure Range | Maximum DEADBAND | | Maximum Working Pressure |
| | Type "2" | Type "5" | |
| PRESSURE | | | |
| 0-1.5 WC | .15 | - | 25 |
| 0-3 WC | .16 | - | 25 |
| 0-6 WC | .2 | .4 | 25 |
| 0-15 WC | .3 | .6 | 25 |
| 0-30 WC | .6 | 1.1 | 25 |
| 0-60 WC | .7 | 1.4 | 25 |
| 0-100 WC | .8 | 1.6 | 25 |
| 0-150 WC | 1.2 | 2.4 | 25 |
| VACUUM | | | |
| 0-1.5 WC /VAC | .17" | | 50 |
| 0-3 WC /VAC | .18 | | 50 |
| 0-6 WC /VAC | .23" | .45 | 50 |
| 0-15 WC /VAC | 0.33 | .65 | 50 |
| 0-30 WC /VAC | 0.6 | 1.2 | 50 |
| 0-60 WC /VAC | 0.7 | 1.4 | 50 |
| 0-100 WC /VAC | .8 | 1.6 | 50 |
| 0-150 WC /VAC | 1.2 | 2.5 | 50 |
| VACUUM-PRESSURE | | | |
| 0-3 WC /VAC-PR | .45" | .87" | 25 |
| 0-6 WC /VAC-PR | .8 | 1.6 | 25 |
| 0-15 WC /VAC-PR | 1.7 | 3.4 | 25 |
| 0-30 WC /VAC-PR | 2.5 | 5.0 | 25 |
| 0-60 WC /VAC-PR | 4.8 | 9.6 | 25 |
| 0-100 WC /VAC-PR | 8.0 | 16.0 | 25 |



Canadian Standards Association Certified:
Industrial Control Equipment Type 4 & 12. Switches Pressure
Type for Hazardous Locations, Class I, Groups C & D; Class II, Groups E, F & G.



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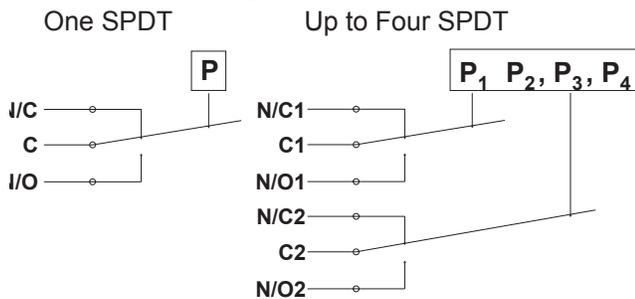
7WPS Series

DIFFERENTIAL PRESSURE SWITCH - DIAPHRAGM ACTUATED



- Ranges 0-1.5 WC/DP TO 0-150 WC/DP
- Rugged NEMA 4X & 12 Housing Std.
- Class I, Div. I, Gr. C & D Available
- CSA Certified
- Up to Four SPDT Contacts
- Various Wetted Materials Available

Wiring Schematic



INSTALLATION NOTES

Orientation - The 7WPSDO will operate satisfactorily in any position, however, mounting the device vertically will allow the easiest adjustability and reduce sediment in the pressure chamber.

Wiring - Switches may be wired to 'normally open' or 'normally closed' terminals on electric switch(es).

Pressure Connection - 1/4 NPT female is standard. 1/2 NPT male is available ("M" option).

Adjustment - Turn pressure adjustment nut(s) clockwise to increase setpoint. Detailed installation & calibration instructions are provided for every shipment. Setting adjustment is available at no charge.

Description

The Winters 7WPS Differential Pressure Switch is designed for low differential pressure applications. The rugged cast aluminum housing incorporates Winters standard accurate switching mechanism actuated by a large area differential pressure diaphragm assembly. The housing can be specified watertight or explosion proof. The housing is large enough to accommodate up to four full size S.P.D.T. electric switches. These electric switches are available in a variety of configurations including adjustable switch differential (dead band), D.P.D.T., High-Low operation, and manual reset. In addition many switching configurations can be supplied with electric switches that have:

Low switch differentials (dead band). High direct current ratings. Gold contacts. Hermetically sealed contacts. The standard pressure-sensing element uses a strong Buna N elastimer diaphragm. Other diaphragm materials are available.

Specifications - 7WPS Differential (Diaphragm Actuated)

| | |
|-------------------------------------|-------------------------------------|
| Housing: | Cast Aluminum |
| Pressure Connection: | 1/4 NPT |
| Electrical Connection: | 3/4 NPT |
| Port Material: | Aluminum |
| Diaphragm Material: | Buna N |
| Deadband: | Fixed |
| Sensitivity: | 1/2% of range (for one SPDT Switch) |
| Drift: | <1% of range (100,000 operations) |
| Contact Ratings: | 15A - 125, 250, 480 VAC |
| Set Point Adjustment: | Screw type, field adjustable |
| No. Contacts: | 1, 2, 3 or 4 S.P.D.T or 1 D.P.D.T. |
| Contact Listings: | UL Recognized, CSA Certified |
| Maximum Ambient Temperature: | 180°F |
| Minimum Ambient Temperature: | -20°F |
| Weight: | Approx. 6 lbs. |



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7WPS Series

DIFFERENTIAL PRESSURE SWITCH - DIAPHRAGM ACTUATED

How to Order: Specify Product Code

7WPS W 1 DO E 2

SERIES

HOUSING*

- W - WATERTIGHT - NEMA 4X & 12
- X - EXPLOSION PROOF - NEMA 7 & 9

NUMBER OF ELECTRIC SWITCHES

- 1 - ONE S.P.D.T.
- 11 - TWO TANDEM ELECTRIC SWITCHES OPERATE IN PARALLEL D.P.D.T.
- 2 - TWO S.P.D.T. INDEPENDENT ADJUSTMENT
- 3 - THREE S.P.D.T. INDEPENDENT ADJUSTMENT
- 4 - FOUR S.P.D.T. INDEPENDENT ADJUSTMENT

SPECIAL FEATURES

- NO SPECIAL FEATURES
- A - ADJUSTABLE DEADBAND
- E - EXTERNAL PRESSURE ADJUSTMENT
- EE - TWO EXTERNAL PRESSURE ADJUSTMENTS
- L - ONE INDICATOR LIGHT (NOT ON X HOUSING)
- LL - TWO INDICATOR LIGHTS (NOT ON X HOUSING)
- M - MALE PIPE MOUNTING 1/2 NPT
- P - PANEL MOUNTING

TYPE OF ELECTRIC SWITCHES

- 1 - LOW DEADBAND
 - 15A - 125, 250, 480 VAC
- 2 - STANDARD DEADBAND
 - 15A - 125, 250, 480 VAC; 0.5A - 125 VDC
- 3 - HIGH DC RATED (MAGNETIC BLOWOUT)
 - 10A - 125 VDC; 3A - 250 VDC
- 4 - HERMETICALLY SEALED SWITCH
 - 1A-125VAC; 25A.RES, 10A.IND, 5A.MOTOR
 - 3A.LAMP-28VDC
- 6 - GOLD CONTACT -
 - 1 A - 125 VAC

* SPECIAL FEATURES SUCH AS STAINLESS TAGGING, OR SPECIAL WETTED PARTS; BRASS, HASTELLOY, ETC. ARE AVAILABLE ON REQUEST. CONSULT WINTERS FOR CAPABILITIES AND PRICING FOR ANY FEATURES NOT SHOWN.

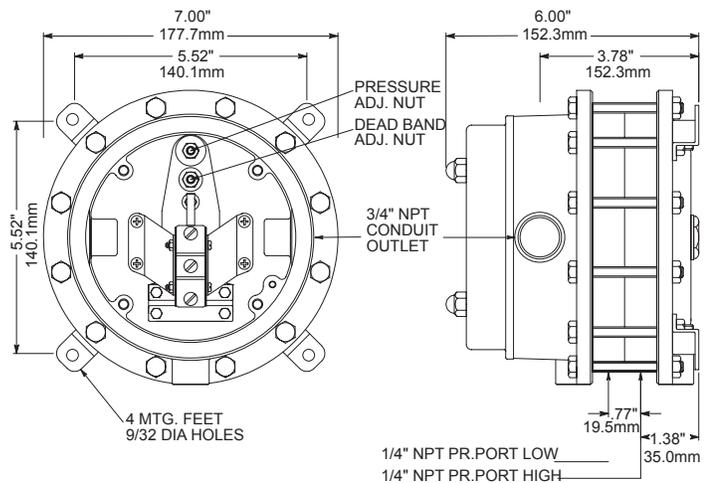
DEADBAND NOTES

The deadbands listed in the tables are the maximum switch differentials when the Type "1" or Type "2" electric switch is used.

Deadband is affected by the type of electric switch used. Each type of electric switch's effect on deadband is as follows:

- Type "1" - Low Deadband - Use table values.
- Type "2" - Std. Deadband - Use table values.
- Type "3" - High DC Rated - Multiply TYPE 2 table values by two.
- Type "4" - Hermetically Sealed Switch - Multiply TYPE 2 table values by six.
- Type "6" - Gold Contact - Use TYPE 2 table values.

| Ranges | | | |
|---------------------------|---------------------|----------|--------------------------|
| DIAPHRAGM ACTUATED | | | |
| Adjustable Pressure Range | Maximum DEADBAND WC | | Maximum Working Pressure |
| | Type "2" | Type "5" | |
| PRESSURE | | | |
| 0-1.5 WC/DP | .17 | - | 50 PSI |
| 0-3 WC/DP | | - | 50 PSI |
| 0-6 WC/DP | .18 | - | 50 PSI |
| 0-15 WC/DP | .23 | .45 | 50 PSI |
| 0-30 WC/DP | .6 | 1.2 | 50 PSI |
| 0-60 WC/DP | .7 | 1.4 | 50 PSI |
| 0-100 WC/DP | .8 | 1.6 | 50 PSI |
| 0-200 WC/DP | 1.2 | 2.5 | 50 PSI |



Canadian Standards Association Certified:
Industrial Control Equipment Type 4 & 12. Switches Pressure Type for Hazardous Locations, Class I, Groups C & D; Class II, Groups E, F & G.



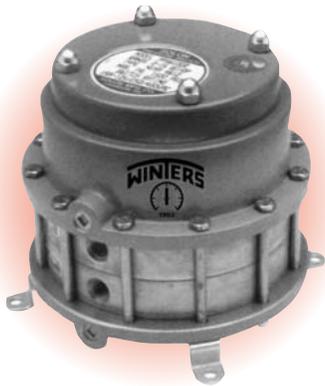
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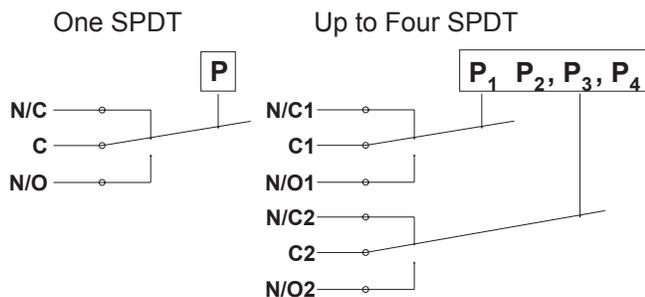
7WPSDO Series

DIFFERENTIAL PRESSURE SWITCH - DIAPHRAGM ACTUATED



- Ranges 0-6 WC/DP TO 0-200 WC/DP
- Rugged NEMA 4X & 12 Housing Std.
- Class I, Div. I, Gr. C & D Available
- Up to Four SPDT Contacts
- Various Wetted Materials Available

Wiring Schematic



INSTALLATION NOTES

Orientation - The 7WPSDO will operate satisfactorily in any position, however, mounting the device vertically will allow the easiest adjustability and reduce sediment in the pressure chamber.

Wiring - Switches may be wired to 'normally open' or 'normally closed' terminals on electric switch(es).

Pressure Connection - 1/4 NPT female is standard. 1/2 NPT male is available ("M" option).

Adjustment - Turn pressure adjustment nut(s) clockwise to increase setpoint. Detailed installation & calibration instructions are provided for every shipment. Setting adjustment is available at no charge.

Description

The Winters 7WPSDO Differential Pressure Switch is designed to sense low differential pressures between high pressure sources. The high pressure seals are opposed stainless steel bellows assemblies, while the differential pressure is sensed by a diaphragm clamped between these bellows assemblies. The diaphragm has a large area to accurately sense Low Differential Pressure, and during an over-pressure the diaphragm is fully supported. The design is symmetric such that both the HIGH or LOW pressure sides of the element can withstand the maximum pressure with the opposite side at atmospheric pressure. The rugged cast aluminum housing incorporates Winters standard accurate switching mechanism, and can be specified watertight or explosion proof. The housing is large enough to accommodate up to four full size S.P.D.T. electric switches. The standard differential pressure-sensing element is constructed of a strong aluminum alloy using a Buna N elastomer diaphragm. Other diaphragm and wetted area materials are available. See the Special Features section on the opposite side for other materials and other options that are useful for particular applications.

Specifications - 7WPSDO (Diaphragm Actuated)

| | |
|-------------------------------------|-------------------------------------|
| Housing: | Cast Aluminum |
| Pressure Connection: | 1/4 NPT |
| Electrical Connection: | 3/4 NPT |
| Port Material: | Aluminum |
| Diaphragm Material: | Buna N |
| Deadband: | Fixed |
| Sensitivity: | 1/2% of range (for one SPDT Switch) |
| Drift: | <1% of range (100,000 operations) |
| Contact Ratings: | 15A - 125, 250, 480 VAC |
| Set Point Adjustment: | Screw type, field adjustable |
| No. Contacts: | 1, 2, 3 or 4 S.P.D.T or 1 D.P.D.T. |
| Contact Listings: | UL Recognized, CSA Certified |
| Maximum Ambient Temperature: | 180°F |
| Minimum Ambient Temperature: | -20°F |
| Weight: | Approx. 6 lbs. |



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7WPSDO Series

DIFFERENTIAL PRESSURE SWITCH DIAPHRAGM ACTUATED

How to Order: Specify Product Code

7WPS W 1 DO E 2

SERIES

HOUSING'

- W - WATERTIGHT - NEMA 4X & 12
- X - EXPLOSION PROOF - NEMA 7 & 9

NUMBER OF ELECTRIC SWITCHES

- 1 - ONE S.P.D.T.
- 11 - TWO TANDEM ELECTRIC SWITCHES OPERATE IN PARALLEL D.P.D.T.
- 2 - TWO S.P.D.T. INDEPENDENT ADJUSTMENT
- 3 - THREE S.P.D.T. INDEPENDENT ADJUSTMENT
- 4 - FOUR S.P.D.T. INDEPENDENT ADJUSTMENT

SPECIAL FEATURES

- NO SPECIAL FEATURES
- A - ADJUSTABLE DEADBAND
- E - EXTERNAL PRESSURE ADJUSTMENT
- EE - TWO EXTERNAL PRESSURE ADJUSTMENTS
- L - ONE INDICATOR LIGHT (NOT ON X HOUSING)
- LL - TWO INDICATOR LIGHTS (NOT ON X HOUSING)
- M - MALE PIPE MOUNTING 1/2 NPT
- P - PANEL MOUNTING
- R> - MANUAL RESET, SWITCH ON INCR. PR.
- R< - MANUAL RESET, SWITCH ON DECR. PR.
- SS - SPECIAL TRIM BASE 316 STAINLESS STEEL
- T - TEFLON PROTECTED DIAPHRAGM
- U - SPECIAL EPOXY PAINT
- V - HIGH TEMPERATURE SERVICE
- Z - VITON DIAPHRAGM

TYPE OF ELECTRIC SWITCHES

- 1 - LOW DEADBAND
 - 15A - 125, 250, 480 VAC
- 2 - STANDARD DEADBAND
 - 15A - 125, 250, 480 VAC; 0.5A - 125 VDC
- 3 - HIGH DC RATED (MAGNETIC BLOWOUT)
 - 10A - 125 VDC; 3A - 250 VDC
- 4 - HERMETICALLY SEALED SWITCH
 - 1A-125VAC; 25A.RES, 10A.IND, 5A.MOTOR
 - 3A.LAMP-28VDC
- 6 - GOLD CONTACT -
 - 1 A - 125 VAC

* SPECIAL FEATURES SUCH AS STAINLESS TAGGING, OR SPECIAL WETTED PARTS; BRASS, HASTELLOY, ETC. ARE AVAILABLE ON REQUEST. CONSULT WINTERS FOR CAPABILITIES AND PRICING FOR ANY FEATURES NOT SHOWN.

DEADBAND NOTES

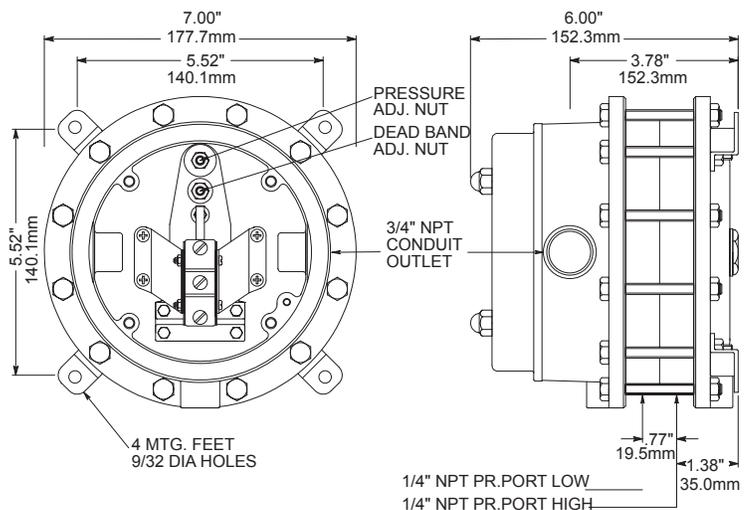
The deadbands listed in the tables are the maximum switch differentials when the Type "1" or Type "2" electric switch is used.

Deadband is affected by the type of electric switch used. Each type of electric switch's effect on deadband is as follows:

- Type "1" - Low Deadband - Use table values.
- Type "2" - Std. Deadband - Use table values.
- Type "3" - High DC Rated - Multiply TYPE 2 table values by two.
- Type "4" - Hermetically Sealed Switch - Multiply TYPE 2 table values by six.
- Type "6" - Gold Contact - Use TYPE 2 table values.

Ranges

| LOW DIFF. PR. (DP) HIGH MAX. (7WPSDO) | | | |
|---------------------------------------|------------------|----------|--------------------------|
| Adjustable Pressure Range | Maximum DEADBAND | | Maximum Working Pressure |
| | Type "2" | Type "5" | |
| 0-6 WC / DP | 1.1" | 2.2" | 1500 |
| 0-15 WC / DP | 1.2 | 2.3 | 1500 |
| 0-30 WC / DP | 1.2 | 2.3 | 1500 |
| 0-60 WC / DP | 1.3 | 2.5 | 1500 |
| 0-100 WC / DP | 1.5 | 2.9 | 1500 |
| 0-150 WC / DP | 1.7 | 3.4 | 1500 |
| 0-200 WC / DP | 1.9 | 3.8 | 1500 |

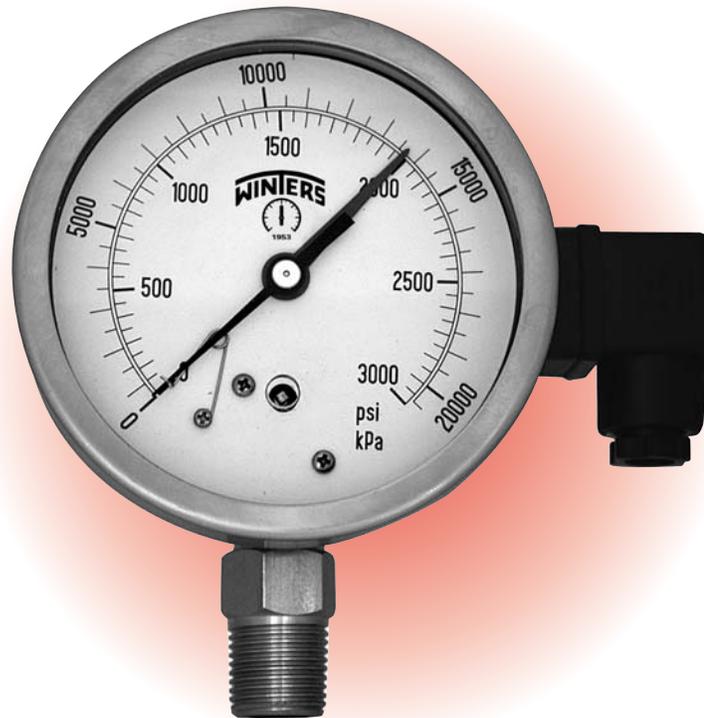


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Indicating Pressure Switch



Description

Winters' Indicating Pressure Switches are designed for use in applications that require automatic regulation of hydraulic and pneumatic equipment. Winters' Indicating Pressure Switches allow for both remote and direct readings and the highly visible switch set pointer can be easily adjusted using the standard external reset internals. Winters' Indicating Pressure Switches are suitable for both corrosive and non-corrosive applications.

Specifications

| | |
|-----------------------------|---|
| Dial: | 4" (100mm) white aluminum dial with black and red markings |
| Case: | AISI 304 stainless steel |
| Lens: | Plexiglass |
| Ring: | AISI 304 stainless steel |
| Pointer: | Pressure indicating - aluminum, anodized black, Switch set point aluminum, anodized red |
| Adjustment Knob: | Plastic, black |
| Socket: | OT58 brass or AISI 316L stainless steel 1/4" NPT or 1/2" NPT standard, bottom |
| Connection: | AISI 316L stainless steel C-shaped for ranges 600 psi (4,200 kPa) and lower |
| Bourdon Tube: | AISI 316L stainless steel spiral for ranges 1000 psi (7,000 kPa) and above |
| Welding: | Tin silver alloy for brass socket AISI 316 TIG Argonarc for stainless steel socket |
| Gasket: | EPDM |
| Working Pressure: | Maximum 75% of full scale value |
| Ambient Temperature: | -13°F to 150°F (-25°C to 65°C) |
| Process Temperature: | -13°F to 150°F (-25°C to 65°C) |
| Accuracy: | +/-2.5% accuracy (ANSI/ASME Grade B) |
| Protection: | IP44 as per IEC 529, UNI 8896 |
| Electrical: | N.1 SPDT microswitch |
| Contact Setting: | Between 10% and 75% of full scale value |
| Junction Box: | Fibre glass reinforced polyamid with cable gland |



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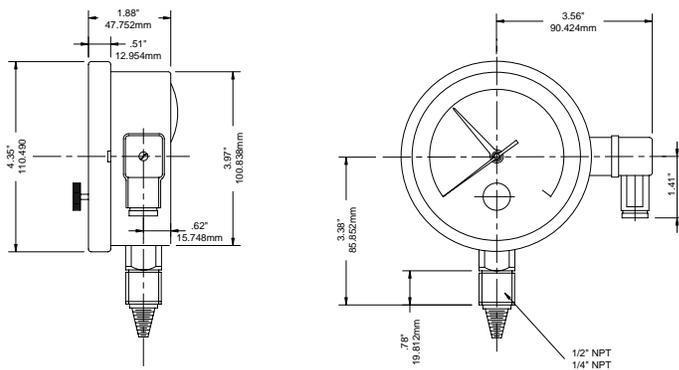
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Indicating Pressure Switch

How to order: Specify product code

| Dial Size | 4" (100mm) | | | |
|-------------------------|------------|--------|--------|--------|
| Connection | Bottom | Bottom | Bottom | Bottom |
| NPT Connection | 1/4" | 1/4" | 1/2" | 1/2" |
| Tube, Socket & Movement | Brass | St/St | Brass | St/St |
| 0/15 psi | S601 | S641 | * | S656 |
| 0/30 psi | S602 | S642 | * | S657 |
| 0/60 psi | S603 | S643 | * | S658 |
| 0/100 psi | S604 | S644 | * | S659 |
| 0/160 psi | S605 | S645 | * | S660 |
| 0/200 psi | S606 | S646 | * | S661 |
| 0/300 psi | S607 | S647 | * | S662 |
| 0/400 psi | S610 | S650 | * | S666 |
| 0/600 psi | S608 | S648 | * | S663 |
| 0/1000 psi | S609 | S649 | S624 | S664 |
| 0/1500 psi | * | * | S625 | S665 |
| 0/2000 psi | * | * | S626 | S667 |
| 0/3000 psi | * | * | S627 | S668 |
| 0/5000 psi | * | * | S628 | S669 |
| 0/10000 psi | * | * | S629 | S670 |

4" Bottom Connection



| Rating Load | | | |
|-------------|-------|-----|----------------|
| Volt | DC | AC | Inductive Load |
| 220 | 0.3 A | 4 A | 4 A |
| 110 | 0.4 A | 4 A | 4 A |
| 48 | 4 A | 4 A | 4 A |
| 24 | 5 A | 5 A | 4 A |

| Wiring | | |
|--------|---------------|--------------|
| Wiring | Junction Box | Cable |
| NC | Contact N. °1 | Brown |
| NO | Contact N. °2 | Black |
| C | Contact N. °3 | Blue |
| Ground | Ground | Yellow-Green |



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Electrical Contact Pressure Gauge



Description

Winters Electrical Contact Pressure Gauge is suitable for any application that requires an electrical device to be activated or deactivated based on a given pressure value. The single electrical contact can be ordered to either, make contact or break contact, on the upwards or downward movement of the pointer. The double electrical contacts can make and break contact on both, the upwards and downward movement of the pointer.

For example: a boiler that is designed to operate safely up to a pressure of 100 psi. If the boiler exceeds 100 psi, you could risk damage to the boiler (explosion). In order to prevent the boiler from exceeding 100 psi, a contact could be installed on the pressure gauge. The pressure gauge would then, be linked to a cut-off switch or electric relief valve, which would turn on once the pressure gauge reached a preset high pressure limit (i.e. 85 psi). The relief valve would then open and allow the excess pressure to escape before any damage is done.

Specifications

| | |
|-----------------------------|--|
| Dial: | 6" (150mm) white aluminum dial with black and red markings |
| Case: | Steel painted black |
| Lens: | Plexiglass |
| Ring: | Steel painted black |
| Pointer: | Aluminum, anodized black, adjustable |
| Movement: | Brass/ 304 stainless steel |
| Socket: | Brass/316 stainless steel |
| Connection: | 1/4" NPT standard, bottom |
| Bourdon Tube: | Phosphor bronze - (316L over 600 psi) |
| Welding: | Silver alloy, TIG |
| Protection: | IP50 |
| Over-pressure Limit: | 25% of full scale value |
| Working Pressure: | Maximum 75% of full scale value |
| Ambient Temperature: | -41°F to 122°F (5°C to 50°C) |
| Process Temperature: | -41°F to 122°F (5°C to 50°C) |
| Accuracy: | ± 1.0% of full scale value (ANSI/ASME Grade A) |
| Contacts: | Externally adjustable, single or double contacts |
| Maximum Voltage: | AC - 380V; 50Hz DC - 220V |
| Current: | Maximum current in closed contacts: 1A |
| Output: | Maximum output at closed contacts: AC - 30VA, DC - 30W |
| Frequency: | 10-55Hz |



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Electrical Contact Pressure Gauge

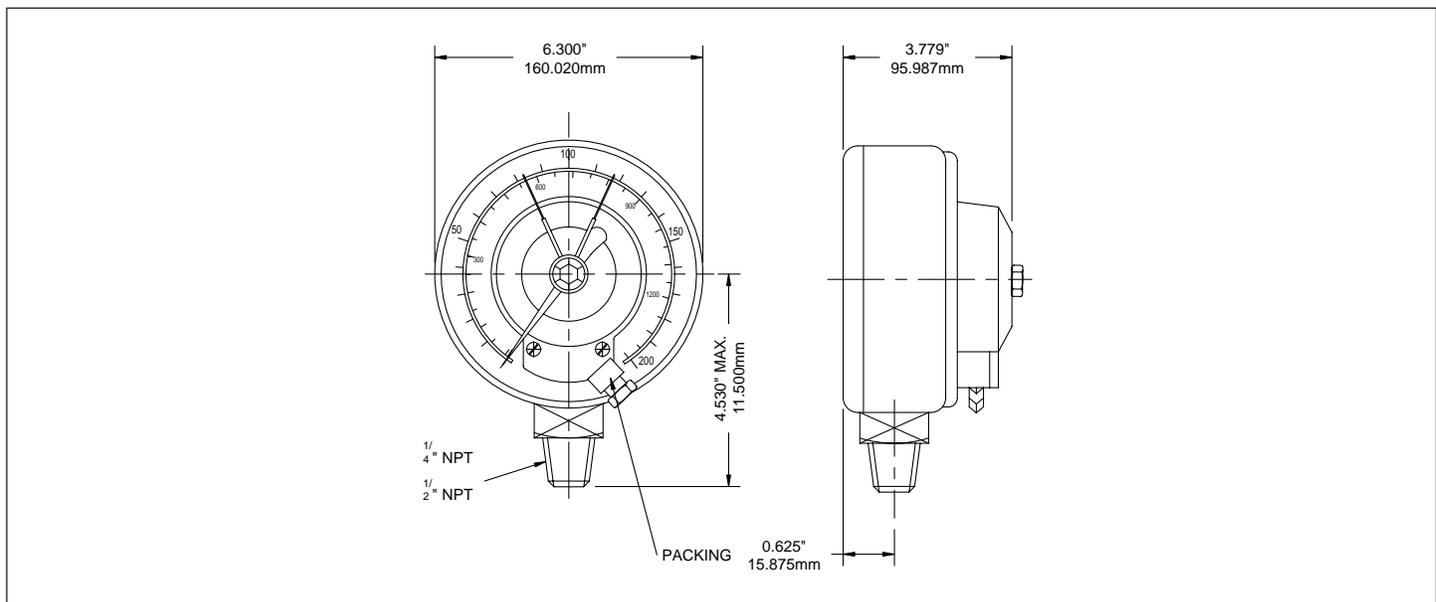
How to order: Specify product code*

PRODUCT CODES

| Number of Contacts Tube, Socket, Movement | Single Contact | | Double Contact | |
|---|----------------|-----------------|----------------|-----------------|
| | Brass | Stainless Steel | Brass | Stainless Steel |
| 30" Hg. vacuum/kPa | P6075ECS | P6260ECS | P6075ECD | P6260ECD |
| 30"/0/15 psi/kPa | P6076ECS | P6261ECS | P6076ECD | P6261ECD |
| 30"/0/30 psi/kPa | P6077ECS | P6162ECS | P6077ECD | P6162ECD |
| 30"/0/60 psi/kPa | P6078ECS | P6163ECS | P6078ECD | P6163ECD |
| 30"/0/100 psi/kPa | P6079ECS | P6164ECS | P6079ECD | P6164ECD |
| 30"/0/160 psi/kPa | P6080ECS | P6265ECS | P6080ECD | P6265ECD |
| 30"/0/200 psi/kPa | P6081ECS | P6266ECS | P6081ECD | P6266ECD |
| 30"/0/300 psi/kPa | P6082ECS | P6267ECS | P6082ECD | P6267ECD |
| 0 - 15 psi/kPa | P6083ECS | P6098ECS | P6083ECD | P6098ECD |
| 0 - 30 psi/kPa | P6084ECS | P6099ECS | P6084ECD | P6099ECD |
| 0 - 60 psi/kPa | P6085ECS | P6100ECS | P6085ECD | P6100ECD |
| 0 - 100 psi/kPa | P6086ECS | P6101ECS | P6086ECD | P6101ECD |
| 0 - 160 psi/kPa | P6087ECS | P6102ECS | P6087ECD | P6102ECD |
| 0 - 200 psi/kPa | P6088ECS | P6103ECS | P6088ECD | P6103ECD |
| 0 - 300 psi/kPa | P6089ECS | P6104ECS | P6089ECD | P6104ECD |
| 0 - 400 psi/kPa | P6090ECS | P6105ECS | P6090ECD | P6105ECD |
| 0 - 600 psi/kPa | P6091ECS | P6106ECS | P6091ECD | P6106ECD |
| 0 - 1000 psi/kPa | P6092ECS | P6107ECS | P6092ECD | P6107ECD |
| 0 - 1500 psi/kPa | P6093ECS | P6108ECS | P6093ECD | P6108ECD |
| 0 - 2000 psi/kPa | P6094ECS | P6109ECS | P6094ECD | P6109ECD |
| 0 - 3000 psi/kPa | P6095ECS | P6110ECS | P6095ECD | P6110ECD |
| 0 - 5000 psi/kPa | P6096ECS | P6111ECS | P6096ECD | P6111ECD |
| 0 - 10000 psi/kPa | P6170ECS | P6180ECS | P6170ECD | P6180ECD |
| 0 - 15000 psi/kPa | P6171ECS | P6181ECS | P6171ECD | P6181ECD |
| 0 - 20000 psi/kPa | P6172ECS | P6182ECS | P6172ECD | P6182ECD |

Other ranges, materials, connections and gauge styles available

*Please specify Contact Action: open and/or closed at specific pressure points



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