

5WPS Series

PRESSURE SWITCH - BELLOWS ACTUATED



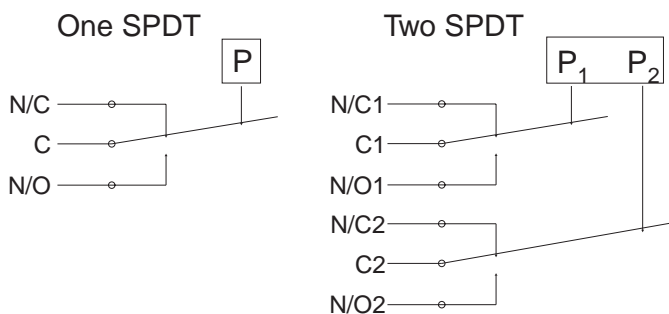
- Ranges from 0-15 PSI To 0-5000 PSI
- Rugged NEMA 4X, 12 & 13 Housing Std.
- One or Two SPDT Contacts
- Versatile Mechanism Design
- Adjustable Deadband Available

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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06/02

5WPS Series

DIFFERENTIAL PRESSURE SWITCH - BELLOWS ACTUATED



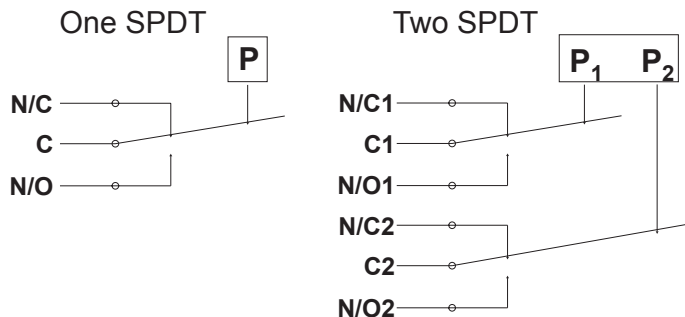
- Ranges from 0-15 PSI To 0-5000 PSI
- Rugged NEMA 4X, 12 & 13 Housing Std.
- One or Two SPDT Contacts
- Versatile Mechanism Design
- Adjustable Deadband Available

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

PSI Range	2.6	300
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

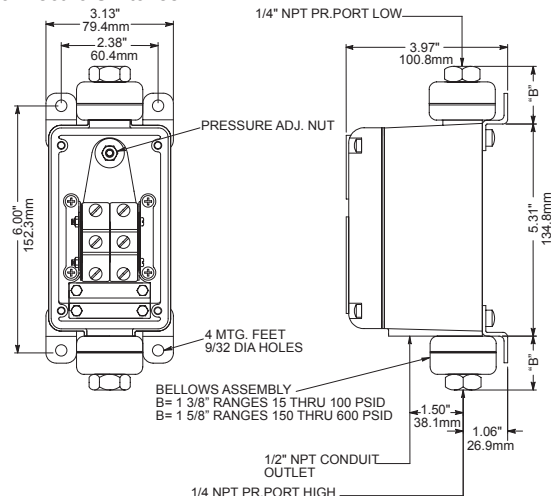
DEADBAND NOTES

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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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

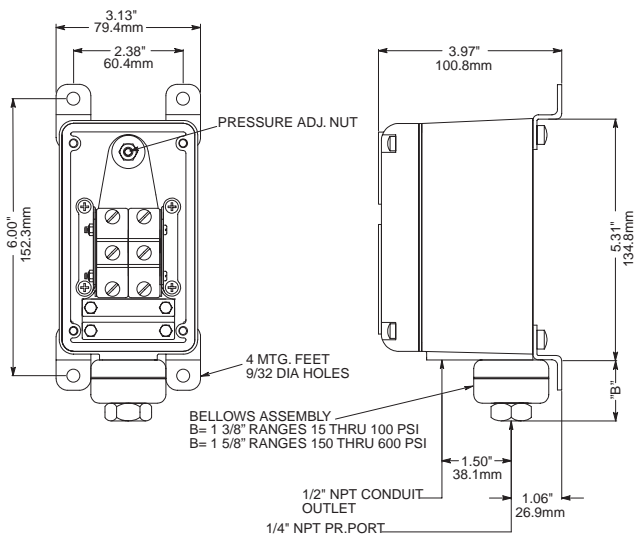
NUMBER OF ELECTRIC SWITCHES
1 - ONE S.P.D.T.
11 - TWO TANDEM ELECTRIC SWITCHES OPERATE IN PARALLEL D.P.D.T.
2 - TWO S.P.D.T. INDEPENDENT ADJUSTMENT

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 (MAGNETIC)
10A - 125 VDC; 3A - 250 VDC
4 - HERMETICALLY SEALED SWITCH
1A-125VAC; 25A.RES, 10A.
3A.LAMP-28VDC
6 - GOLD CONTACT -
1 A - 125 VAC

* SPECIAL FEATURES SUCH AS STAINLESS STEEL APPLICATION OF DIAPHRAGM SEALS, ETC. ARE AVAILABLE ON REQUEST. CONSULT WINTERS CAPABILITIES AND PRICING FOR ANY FEATURES.



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			
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

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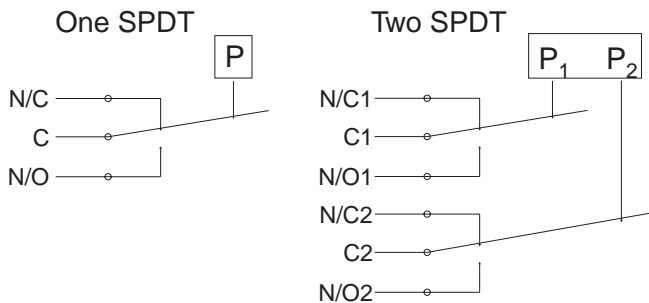
- Ranges from 0-15 PSI To 0-300 PSI
- Rugged NEMA 4X, 12 & 13 Housing Std.
- One or Two SPDT Contacts
- Versatile Mechanism Design
- Adjustable Deadband Available

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.

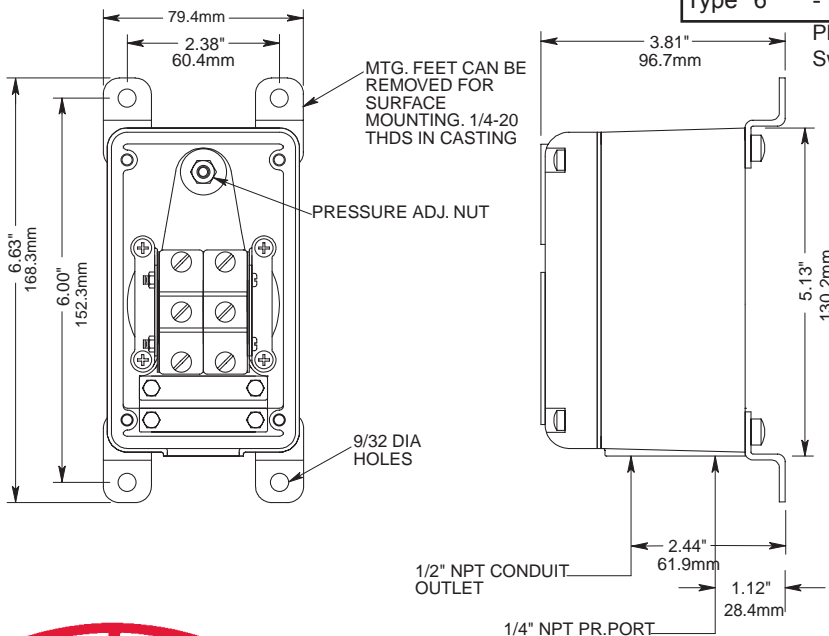
DEADBAND NOTES

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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