

Reliability & Accuracy Neo-Dyn® Industrial Catalog



Neo-Dyn®
PROCESS CONTROL



Our Key to Success and Commitment



People Are the Key to Our Success

Neo-Dyn's founders had more than 200 years cumulative experience in the design and manufacture of pressure switches when they started the company in 1973. Over the years, we have built a substantial work force of skilled professionals in every discipline, from design and testing, to marketing and manufacturing. Many of our people have been with the company since its beginning.

In-House Capabilities for Total Control

Having total in-house capabilities, we provide our customers with high quality products with rapid delivery and competitive prices.

Broad Range Capabilities

Although our standard product line is among the broadest in the industry, we are not limited to what is seen in our catalog. Long before we developed our standard product line, we had a reputation for manufacturing the highest quality specialty switches available. If you don't see what you want in our catalog, our application and engineering staff will work with you to provide a switch, ideally suited to your application.

Total Reliability

In addition to our commercial and industrial products, we supply switches to the military and aerospace industries. What this means to our customers is the highest quality control standards in the industry.

Commitment to Research and Development

As an industry leader, Neo-Dyn is on the cutting edge of technology, developing new products, manufacturing methods, and materials to meet our customers' present and future needs.

Repeatability, Accuracy and Maintenance for Pressure Switches

REPEATABILITY

Repeatability is the maximum set point deviation of a single pressure switch under one given set of environmental and operational conditions. Since adjustable pressure switches can be set at any discrete set point within its given adjustable range this is the most common performance criteria stated by the manufacturer. A general repeatability statement is that a ITT Neo-Dyn pressure switch will repeat within $\pm 0.5\%$ of its set point when set in the upper 80% of its adjustable range for set points above 10 psig. Exceptions to this statement could include piston sensor pressure switches and switches whose adjustable range is inches of water.

ACCURACY

Accuracy is a term generally associated with analog instruments such as transducers and transmitters. Since a pressure switch is meant to give a contact opening or closure at a discrete set point an accuracy statement can only be given if all operational and environmental conditions are clearly defined. For example, what is the accuracy of an Neo-Dyn model 100P12C3 when set at 150 psig increasing pressure when cycled between 150 psig and 130 psig for 500 cycles over a temperature range of +40 to +160 degrees Fahrenheit at a cycle rate of 15 cycles per minute. Again, the model, the operational and environmental conditions must all be defined. ITT Neo-Dyn can provide limited testing on some of its models under various test conditions.

MAINTENANCE

Under normal circumstances ITT Neo-Dyn pressure switches do not require maintenance or re-calibration. For critical applications or those where the switches are used in a severe environment, it is suggested a calibration check be performed at intervals based upon actual in service stability data.

For more information, please visit www.neodyn.com

Temperature Limitations for Pressure Switches

Pressure switch applications often have media temperatures that are in excess of our published specifications. Even though most of Neo-Dyn's switches can actually withstand temperatures higher than those listed, they are published for varying reasons that include effects on; set point shift, decreased life expectancy, or in some cases, damage. O-rings themselves have limitations even though they are capable of temperatures higher than those we publish for the switches. Generally speaking, Buna-N and EPDM are good up to 250°F (121°C), Viton up to 400 °F (204°C). The welded assemblies have no o-rings at all.

The main purpose of this bulletin is to advise the end user that the media temperature limitations of these switches can be overcome by simply increasing the distance of the switch from the source of the media. Since Neo-Dyn's pressure switches are "dead-ended" devices, the temperature at the diaphragm or piston will not be the same as it is at the media. Often a 1 ft. (30.46 cm) length of uninsulated 1/4 inch, SS tubing is enough to lower the temperature to within published specifications. The rule of thumb utilized for these applications is as follows: For every 2 ft. (60.96 centimeters) of uninsulated-1/4 inch-SS tubing, you dissipate 100 °F (37.77 °C), in excess of +200 °F (+93.3 °C). It will of course depend on the initial media temperature, type of media, ambient temperature, and piping size & material. In some cases a longer capillary may be the best solution. Typically the tubing is coiled, so as to conserve space (pig tail). There are also other methods for dissipating heat, such as condensate chambers or reservoirs filled with liquid, which will act in the same manner as a diaphragm seal in isolating and dissipating the heat. These methods are better explained in ISA, ASME or other such industry and engineering standard practice texts.

Should you have further questions or require additional information, please contact your Regional Sales Manager or the factory directly.

Quick Reference Charts

Adjustable Pressure Switches

ADJUSTABLE PRESSURE RANGE	ENCLOSURE		PORT				WETTED MATERIAL					DIAPHRAGM			ELECTRICAL FORM			SERIES
	NEMA 3, 4, 13	NEMA 7, 9	ALUM.	STAIN.	HASTELLOY	MONEL	POLYIMIDE	BUNA N	STAIN.	TANTLM.	HASTELLOY	SPDT	DPDT	DOUBLE BRAKE				
0" to 40" H ₂ O	•	•		•	•		•		•		•	•	•	•	•	142P		
7" H ₂ O to 15 psig	•	•	•	•			•		•			•	•	•	•	110P		
2.3 to 2800 psig	•	•	•	•		•	•		•			•	•	•	•	100P/101P*		
14 to 10000 psig	•	•	•									•	•	•	•	200P/201P*		

* Applicable to Nema 3, 4 and 13 enclosure only

Compact Adjustable Pressure Switches

ADJUSTABLE PRESSURE RANGE	ENCLOSURE		PORT		WETTED MATERIAL		DIAPHRAGM		ELECTRICAL FORM		SERIES
	NEMA 3, 4, 13	NEMA 7, 9	ALUMINUM	STAINLESS	POLYIMIDE	STAINLESS	SPDT	DPDT			
1 to 170 psig	•	•	•	•	•	•	•	•	•	•	130P
1 to 2300 psig		•		•			•	•	•	•	123P
1 to 2300 psig	•	•		•			•	•	•	•	132P
25 to 6000 psig	•	•		•				•	•	•	232P
1 to 200 psig	•	•	•	•	•	•	•	•	•	•	131P

Adjustable Pressure Switches for Chemical Processing Industry

ADJUSTABLE PRESSURE RANGE	ENCLOSURE		PORT				WETTED MATERIAL					DIAPHRAGM		ELECTRICAL FORM		SERIES
	NEMA 3, 4, 13	NEMA 7, 9	STEEL	STAIN.	HASTELLOY	MONEL	POLYIMIDE	STAIN.	TANTLM.	HASTELLOY	INCONEL	SPDT	DPDT			
1.5 to 325 psig		•	•	•				•	•	•	•	•	•	•	•	112P
1 to 2300 psig		•		•	•	•	•	•	•	•	•	•	•	•	•	122P

Adjustable Vacuum Switches

ADJUSTABLE VACUUM RANGE	ENCLOSURE		PORT			WETTED MATERIAL					DIAPHRAGM			ELECTRICAL FORM			SERIES
	NEMA 3, 4, 13	NEMA 7, 9	ALUMINUM	STAINLESS	HASTELLOY	POLYIMIDE	BUNA N	STAIN.	TANTLM.	HASTELLOY	SPDT	DPDT	DOUBLE BRAKE				
0" to 40" H ₂ O	•	•		•	•	•			•		•	•	•	•	•	142P	
2" to 28" Hg	•	•	•	•		•					•	•				181P	
2" to 28" Hg	•	•	•	•		•		•			•	•				182P	

Quick Reference Charts - continue

Adjustable Differential Pressure Switches

ADJUSTABLE PRESSURE RANGE	ENCLOSURE		PORT		WETTED MATERIAL DIAPHRAGM				ELECTRICAL FORM			SERIES
	NEMA 3, 4, 13	NEMA 7, 9	ALUMINUM	STAINLESS	POLYIMIDE	STAINLESS	TANTALUM	HASTELLOY	SPDT	DPDT	DOUBLE BRAKE	
.5 to 100" H ₂ O Diff.	•	•	•	•	•	•	•	•	•	•	•	152P
1 to 150" H ₂ O		•	•	•	•				•	•		151P
.3 to 60 psid	•	•	•	•	•	•			•	•	•	160P
1 to 200 psid		•	•	•	•				•	•		162P

Adjustable Temperature Switches

ADJUSTABLE TEMPERATURE RANGE	ENCLOSURE		WETTED MATERIALS			ELECTRICAL FORM			SERIES
	NEMA 3, 4, 13	NEMA 7, 9	STEEL & STAINLESS	STAINLESS	BRASS/STAINLESS	SPDT	DPDT	DOUBLE BRAKE	
-69° to +500°F	•	•	•			•	•	•	100T
-69° to +925°F	•	•		•		•	•	•	100TC
-69° to +395°F	•	•		•		•	•		132T
-69° to +655°F	•	•		•		•	•		132TC

Factory Set/Tamperproof Pressure Switches

FIXED SET-POINT RANGE	ENCLOSURE			PORT		WETTED MATERIAL DIAPHRAGM		ELECTRICAL FORM		SERIES
	NEMA 1&2	NEMA 3, 4, 13	NEMA 7, 9	ALUMINUM	STAINLESS	POLYIMIDE	STAINLESS	SPDT	DPDT	
1.5 to 250 psig		•	•	•	•	•	•	•	•	115/115PP
2 to 2000 psig	•			•	•	•	•	•	•	105P/115PP
20 to 3050 psig		•	•	•	•	•		•	•	125P
15 to 7500 psig		•	•	•				•	•	225P

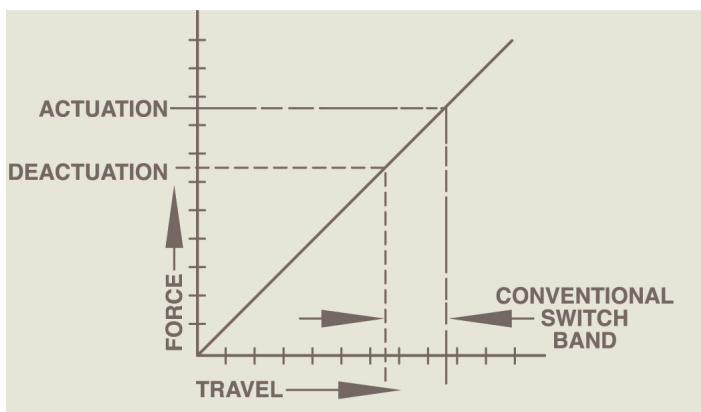
Pharmaceutical/Biochem

ADJUSTABLE SET-POINT RANGE	ENCLOSURE			PORT		WETTED MATERIAL DIAPHRAGM		ELECTRICAL FORM		SERIES
	NEMA 1&2	NEMA 3, 4, 13	NEMA 7, 9	ALUMINUM	STAINLESS	POLYIMIDE	STAINLESS	SPDT	DPDT	
1 to 725 psig			•		•		•	•	•	117P

Conventional Pressure Switch Design

Constant Rate Spring

A constant rate type pressure switch, i.e., a bellows, diaphragm, bourdon tube and spring loaded piston, are linear devices—for a certain pressure change the pressure element moves a given distance. For additional movement more pressure (force) is applied. The position of the electrical switch, therefore, influences and/or dictates the pressure switch set point.



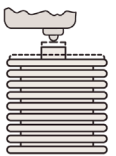
DIAPHRAGM



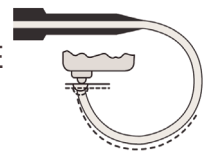
SPRING LOADED PISTON



BELLOWS



BOURDON TUBE



Disadvantages of the “Constant Rate” Switches

NON-STABLE SET POINTS - “Requires Constant Recalibration”

BECAUSE:

- Sensor mechanism follows the system pressure—subject to fatigue.
- Set point influenced by snap acting electrical—variations in snap switch differential affects deadband of pressure switch.
- Ambient temperature sensitive—relocation of electrical switch causes change in set points.
- Linkage used to adjust electrical switch—linkage wear relocates electrical, causing set point change.

VIBRATION SENSITIVE - “Causes Contact Chatter”

BECAUSE:

- Constant rate device “mimics” dynamic input—intermittent electrical signal if vibration occurs when switch is near actuation.
- Larger mass associated with constant rate sensor mechanisms—more mass means less vibration resistance.
- Spring mounted electricals or linkages—resonance frequency can cause spring or linkage to “take off” causing electrical contacts to chatter.

OVER-PRESSURE SENSITIVE - “Affects Set Point Accuracy”

BECAUSE:

- Motion transfer device must contain pressure—bellows, bourdon tubes, and welded diaphragms contain pressure as well as actuate the electrical.
- Limited sensor support—sensors with limited overpressure support are subject to set point drift.

LIMITED CYCLE LIFE - “Dependent on Set Point”

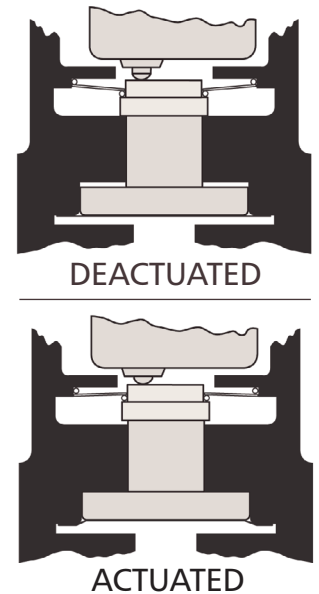
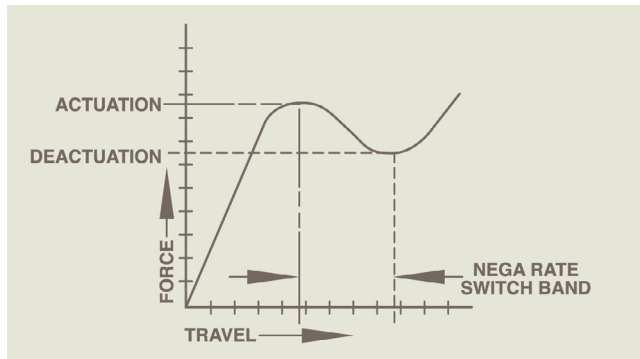
BECAUSE:

- Longer stroke—repositioning the electrical for set point changes requires greater movement.
- Shorter electrical life—“sneaking up” on the electrical can cause an electrical arc.

Neo-Dyn[®] Pressure Switch Design

Nega-Rate[®] Belleville Spring

A negative rate type pressure switch (i.e., a Belleville spring) is a snap acting device. At a certain pressure (apex of the spring curve) the spring snaps over center. At this point, it takes less pressure (force) to continue its movement. The pressure switch set point is a function of the Belleville spring. The electrical switch is in a fixed position and is synchronized to the movement of the Belleville.



Advantages of the Nega-Rate[®] Belleville Disc Spring Switches

STABLE SET POINTS - "Eliminates Constant Recalibration"

BECAUSE:

- No moving parts except during actuation—no spring fatigue or wear.
- Set point is mostly a function of the negative rate Belleville spring—variables in snap action electrical have little effect on the set point.
- Total movement of the Belleville spring compensates for any relocation of the electrical due to case growth—consistent set point over temperature change.
- No linkage utilized—no wear which can affect accuracy.

VIBRATION RESISTANT - "Eliminates Contact Chatter"

BECAUSE:

- Belleville spring does not preload the electrical prior to actuation—snap action electrical maintains its vibration resistant characteristic.
- Small mass and inherent stability of the Belleville spring resists chatter caused by vibration.
- Snap action electrical is ruggedly mounted with minimal bracketry—no spring mounted electricals or linkages.

HIGH OVER-PRESSURE CAPABILITY - "No Affect on Set Point Accuracy"

BECAUSE:

- Belleville spring does not contain the pressure—no affect on system or proof pressure capability.
- The pressure sensing portion bottoms out after actuation and is fully supported—pressure sensing parts are designed for high pressure conditions.
- Limited movement of spring mechanism—no overtravel of the snap action electrical due to high pressure.

HIGH CYCLE LIFE - "Millions of Cycles"

BECAUSE:

- Short stroke minimizes wear—Belleville spring mechanism is exercised less than .020".
- Snap action of Belleville spring reduces electrical arc—prolongs contact life.

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Neo-Dyn® Pressure, Flow & Temperature Switch Definitions & Terminology

Introduction

The following definitions and terminology describe the operating characteristics, specifications and other details relative to pressure, flow, and temperature switches.

Types of Switches

ABSOLUTE PRESSURE SWITCH: A switch that compares the pressure being sensed to that of a perfect vacuum. Construction requires the reference chamber to be evacuated.

DIFFERENTIAL PRESSURE SWITCH: A switch having both a high and low pressure port. Actuation occurs when pressure to the high port exceeds pressure to the low port by a predetermined value.

FLOW SWITCH: A Neo-Dyn® flow switch senses differential pressure generated by flow through a venturi to actuate an electrical switch at a predetermined flow level.

Definitions

Absolute Pressure - The difference between zero pressure (which exists only in a perfect vacuum) and some known pressure. Absolute pressure may be determined by adding gauge pressure to atmospheric pressure (14.7 psi at sea level).

Actuation Point - The point at which electrical switching element is operated on increasing or decreasing pressure. Neo-Dyn considers this point the increasing set point.

Ambient Pressure (or Temperature) - Pressure (or temperature) immediately surrounding the switch.

Atmospheric Pressure - The pressure caused by the weight of air. Atmospheric pressure at sea level is considered to be 14.7 psia (or 29.9 inches of mercury or 407 inches of water absolute.)

Burst Pressure - Burst pressure is the maximum pressure which may be applied to a switch without causing leakage. Permanent degradation may occur or the unit may become inoperable if burst pressure is applied. Burst pressure is normally 2x to 3 times maximum system pressure.

Charge Media - The fluid or gas with which the temperature sensing probe is filled.

Critical Set Point - The critical set point is the most important set point of the unit and is held to the closest tolerance. It can be either the actuation (increasing) or deactuation (decreasing) set point.

Deactuation Point - The point at which the electrical switching element is operated on increasing or decreasing pressure. Neo-Dyn considers this point the decreasing set point.

We hope this data provides the answers to questions which may arise and helps you in selecting a switch.

GAUGE PRESSURE (AND VACUUM) SWITCH: A switch that compares the pressure being sensed to that of atmospheric pressure. Positive pressure switches sense monitored pressure above atmospheric pressure while vacuum switches sense pressure below atmospheric.

TEMPERATURE SWITCH: A Neo-Dyn® temperature switch is identical to a pressure switch with the addition of a fluid-vapor charged sensing probe. The fluid-vapor charge is exposed to the "basic sensor" and since probe pressure varies with temperature, discrete temperature settings can be accomplished.

Deadband - The deadband, sometimes referred to as "differential" value, is the change in value between actuation and deactuation set points.

Differential Pressure - The difference between the two pressures being measured.

Direct Mount - A phrase used to refer to the mounting of an instrument directly at the source of the process variable (pressure or temperature) being sensed.

Electrical Form - Industry standards have established letter designations for the various electrical arrangements. They are 'C' for SPDT, 'CC' for DPDT and 'Z' for double break.

Form 'C': Single Pole Double Throw (SPDT) Switching Element - An SPDT switching element has one normally closed, one normally open, and one common terminal. Three terminals mean that the element can be wired with the circuit either normally open (N/O) or normally closed (N/C).

Form 'CC': Double Pole Double Throw (DPDT) Switching Element - A DPDT switching element has six electrical terminals, two normally closed, two normally open and two common. Neo-Dyn uses two independent SPDT switching elements. Some units are designed for simultaneous operation whereas, others are for separate operation at different set points.

Form 'Z': Double Break Switching Element - A double break switching has two isolated circuits. Four terminals facilitate wiring one circuit normally open and the other normally closed.

Neo-Dyn® Pressure, Flow & Temperature Switch

Definitions & Terminology

Electrical Switching Element - The electrical switching element opens or closes an electrical circuit in response to movement by the pressure/temperature sensor. Most Neo-Dyn® products are available in SPST, SPDT and DPDT.

Enclosure (Housing) - That part of the instrument which, in varying degrees, protects the mechanism from ambient conditions.

Explosion Proof - An enclosure which is capable of withstanding an explosion which may occur within, and capable of preventing the ignition of an explosive atmosphere which may surround it.

Gauge Pressure - Gauge pressure is the difference between atmospheric pressure and a variable pressure.

Hermetically Sealed - An enclosure completely sealed from the environment. Neo-Dyn® hermetically sealed electrical assemblies are all metal with a glass header. All joints are soldered or welded to insure sealing integrity.

Mass Rate of Flow - An expression of flow by weight in a given time, such as pounds per hour (PPH).

Media - The liquid or gas being sensed by the instrument.

NEMA Classifications

Ref: NEMA Standards Publication, Pub. No. ICS6-1988

- NEMA Type 1 - General Purpose - Indoor
Type 2 - Dripproof - Indoor
Type 3 - Dusttight, Raintight and Sleet (Ice) Resistant - Outdoor
Type 3R - Rainproof and Sleet (Ice) Resistant - Outdoor
Type 3S - Dusttight, Raintight and Sleet (Ice) Proof - Outdoor
Type 4 - Watertight and Dusttight - Indoor and Outdoor
Type 4X - Watertight, Dusttight and Corrosion Resistant - Indoor and Outdoor
Type 5 - Superseded by Type 12 for Control Apparatus
Type 6 - Submersible, Watertight, Dusttight and Sleet Resistant - Indoor and Outdoor
Type 7 - Class I, Group A, B, C or D Hazardous Locations; Airbreak Equipment - Indoor
Type 8 - Class I, Group A, B, C or D Hazardous Locations; Oil-Immersed Equipment - Indoor
Type 9 - Class II, Group E, F or G Hazardous Locations; Airbreak Equipment - Indoor
Type 10 - Bureau of Mines
Type 11 - Corrosion Resistant and Dripproof; Oil-Immersed - Indoor
Type 12 - Industrial Use, Dusttight and Driptight - Indoor
Type 13 - Oiltight and Dusttight - Indoor

Non-Critical Set Point - The non-critical set point is the least important setting and the tolerances are not held as close as the critical set point. It can be either the actuation or deactuation point.

Polyimide - An engineering thermoplastic polymer characterized by high tensile strength, excellent wear resistance, chemical and radiation inertness, and good dielectric properties over a wide temperature range. Neo-Dyn® uses DuPont Kapton® Type F teflon coated flexible polyimide film as a diaphragm material.

Note: Although excellent for most applications, polyimide is subject to cracking after prolonged exposure to water above 140°F.

Pressure - Force per unit of area.

Pressure Sensing Element - The pressure sensing element is that component part which moves as pressure increases or decreases, operating an electrical switching element at a predetermined point. Neo-Dyn "Nega-Rate"™ pressure switches utilize a diaphragm or piston as a media seal with a Belleville negative-rate disc spring system.

Pressure Switch - A pressure switch is an instrument designed to convert pressure into motion to operate an electrical switching element—thereby making or breaking an electrical circuit.

Proof Pressure (or Temperature) - Normally 1½ to 2 times system, it is the maximum momentary pressure (or temperature) including surges, which may be applied to any switch without causing permanent degradation.

Remote Mount - A phrase used to refer to the mounting of an instrument away from the source of the process variable being sensed (usually via a capillary tube).

Repeatability - Repeatability is the maximum set point deviation of a single pressure switch under one given set of environmental and operational conditions.

Special Switch - A unit which is modified outside the limits of a standard catalog item.

System (Working) Pressure - System pressure is the operating pressure of any hydraulic or pneumatic system.

Tolerance - Tolerance is the maximum allowable setting deviation between two or more production units under all specified environmental and operational conditions. Tolerance represents the sum total of setting deviations due to calibration and manufacturing variations, temperature changes, etc.

Variable Pressure - Changing pressure, generally the pressure which is being measured or controlled.

Volume Rate of Flow - An expression of flow by volume in a given time, such as gallons per minute (GPM).

Wetted Materials - That portion of the unit which comes in contact with the pressure media.

Neo-Dyn®

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Media Compatibility Information

The following is a chart of common media with recommended O-Ring compounds that can be used with the Polyimide and Elastomer diaphragms used in Neo-Dyn® pressure switches except as noted.

NOTE: The information given on this chart is typical performance data for "Kapton" Type H and Type F films; it is not intended to be

used as design data. We believe this Information is the best currently available on the subject. It is offered as a possible helpful suggestion in experimentation you may care to undertake along these lines. It is subject to revision as additional knowledge and experience are gained. Neo-Dyn® makes no guarantee of results and assumes no obligation or liability whatsoever in connection with this information.

	O-Ring Compound			
	BUNA-N	EPR	VITON	KALREZ
Acetic Acid		•		
Acetone		•		
Acetylene		•		
Air	•			
Ammonia, Anhydrous		*		
Asphalt			•	
Beer	•			
Benzene			•	
Black Liquor			•	
Boric Acid	•			
Brake Fluid		•		
Brayco 719-R		•		
Brayco 885			•	
Bunker Oil	•			
Butane	•			
Carbon Dioxide	•			
Carbon Monoxide	•			
Cellulube A60, 90, 100, 150, 220, 300 and 500		•		
Chlorine				*
Chlorobenzene			•	
Citric Acid	•			
Coke Oven Gas			•	
Coolanol	•			
Diesel	•			
Di-ester-Lubricant, Mil-L-7808			•	
Dowtherm A and E			•	
Ethanol	•			
Ethylene	•			
Ethylene Glycol	•			
Freon 11, 12, 112 and 114	•			
Freon 21				*
Freon 22		•		
Fyrquel		•		
Fuel Oil	•			
Gasoline	•			
Helium	•			
Houghto – Safe 271, 620, 1010, 1055 and 1120	•			
Houghto – Safe 5040	•			
Hydraulic Oil (Petroleum Base)	•			
Hydrocarbons	•			
Hydrochloric Acid				*
Hydrofluoric Acid				*

	O-Ring Compound			
	BUNA-N	EPR	VITON	KALREZ
Hydrogen	•			
Hydrogen Sulphide		•		
Isopropanol		•		
JP-3, 4, 5 and 6	•			
Kerosene	•			
Linseed Oils	•			
Liquid Petroleum Gas	•			
Lubricating Oils (Petroleum Base)	•			
Mercury	*			
Methanol		•		
Methyl Ethyl Ketone (MEK)		•		
Mineral Oils	•			
Naptha			•	
Natural Gas	•			
Nitric Acid			•	
Nitrogen	•			
Oleum Spirits			•	
Oxygen		•		
Ozone		•		
Petroleum Oil, Crude	•			
Phosphoric Acid			•	
Propane	•			
Propanol	•			
Propylene			•	
Pydraul 135, 150, A200, 312, AC, F-9 and 625			•	
Shell Iris 902	•			
Silicone Greases	•			
Silicone Oils	•			
Skydrol 500 and 7000		•		
Soap Solutions	•			
Sodium Hydroxide				*
† Steam, Below 350PF		•		
† Steam, Above 350PF				*
Stoddard Solvent	•			
Sulphuric Acid			•	
Toluene			•	
Transformer Oil	•			
Transmission Fluid Type A	•			
Trisodium Phosphate	•			
Turbine Oil	•			
Turpentine	•			
† Water		•		

*Consult factory for port and diaphragm materials

†Polyimide diaphragm not suitable for water applications above 140°F

Conversion Tables

Temperature Conversion Table - Formula °C=5/9 (°F-32°) °F=(9/5°C) +32°

°C	°F	°C	°F	°C	°F	°C	°F	°C	°F
0	32.0	20	68.0	40	104.0	60	140.0	80	176.0
1	33.8	21	69.8	41	105.8	61	141.8	81	177.8
2	35.6	22	71.6	42	107.6	62	143.6	82	179.6
3	37.4	23	73.4	43	109.4	63	145.4	83	181.4
4	39.2	24	75.2	44	111.2	64	147.2	84	183.2
5	41.0	25	77.0	45	113.0	65	149.0	85	185.0
6	42.8	26	78.8	46	114.8	66	150.8	86	186.8
7	44.6	27	80.6	47	116.6	67	152.6	87	188.6
8	46.4	28	82.4	48	118.4	68	154.4	88	190.4
9	48.2	29	84.2	49	120.2	69	156.2	89	192.2
10	50.0	30	86.0	50	122.0	70	158.0	90	194.0
11	51.8	31	87.8	51	123.8	71	159.8	91	195.8
12	53.6	32	89.6	52	125.6	72	161.6	92	197.6
13	55.4	33	91.4	53	127.4	73	163.4	93	199.4
14	57.2	34	93.2	54	129.2	74	165.2	94	201.2
15	59.0	35	95.0	55	131.0	75	167.0	95	203.0
16	60.8	36	96.8	56	132.8	76	168.8	96	204.8
17	62.6	37	98.6	57	134.6	77	170.6	97	206.6
18	64.4	38	100.4	58	136.4	78	172.4	98	208.4
19	66.2	39	102.2	59	138.2	79	174.2	99	210.2
								100	212.0

Pressure Conversion Formulas

INTO % MULTIPLY BY TO CONVERT	PSI	"H ₂ O (15°C)	mmHg (0°C)	"Hg (0°C)	Millibar	Bar	Kg/Cm ²	kPa
PSI	•	27.70	51.71	2.036	68.95	0.06895	0.07031	6.895
"H ₂ O (15°C)	0.03609	•	1.867	0.07349	2.489	0.002489	0.002538	.249
mmHg (0°C)	0.01934	0.5357	•	0.03937	1.3333	0.0013333	0.0013596	.113
"Hg (0°C)	0.4912	13.61	25.40	•	33.86	0.03386	0.03453	3.386
Millibar	0.0145	0.4018	0.750062	0.02953	•	0.001	0.0010197	.09998
Bar	14.50	401.8	750.062	29.53	1000	•	1.0197	99.98
Kg/Cm ²	14.22	394.05	735.559	28.96	980.7	0.9807	•	98.05
kPa	.145	4.016	7.519	.2953	10.002	.010	.0102	•

"The use of ITT Industrial Controls pressure, temperature and flow switches must be in accordance with the provisions of the National Electric Code, U.L. and/or other local, military or industry standards that are pertinent to the particular end use. Installation or use not in accordance with these codes and standards could be hazardous to personnel and/or equipment."

Note: It is buyer's responsibility to determine the suitability of the Neo-Dyn® switch for its application. ITT Industrial Controls makes no warranties and assumes no liability as to the suitability or sufficiency for buyer's application of the switch.

Underwriters' Laboratories, Inc. Listing and CSA International Certification Data. The following listings are extracted from official Underwriters' Laboratories, Inc. and CSA International records. Verification of the listings may be obtained from the respective organization by referencing the file number or by requesting a file card from the factory.

Enclosure 3

<p>CSA INTERNATIONAL Class 3231-02 ITT Industries, Valencia, CA 91355 SWITCHES - Automatic - Pressure Type Pressure switches, weatherproof enclosure, Series 115P*C3**X, SPDT and 115P*CC3**X, DPDT Pressure switches, adjustable, water-tight enclosure (CSA Encl. 4) Series 100P, 101P, 110P, 130P, 131P, 132P, 160P and 200P. Series 125P, 225P, 225PP, with suffixes. File No. 38229</p>

Enclosure 6

<p>UNDERWRITERS' LABORATORIES, INC. Guide WSQX.E56677 Nov. 27, 2002 Snap Switches for Use in Hazardous Locations. ITT Industries, Valencia, CA 91355 Class I, Groups A, B, C and D; Class II, Groups E, F and G. Cat. Nos. 057-0770, 057-0771, 057-0771 and 057-0773. The switches are provided with factory seals of conductors entering the switch enclosures. File No. E56677</p>

Enclosure 6

<p>CSA INTERNATIONAL Class 6248-01 Feb. 18, 2004 ITT Industries, Valencia, CA 91355 SWITCHES - Snap - For Hazardous Locations. Class I, Groups A, B, C and D; Class II, Groups E, F and G. Snap Switch, Cat. Nos. 057-0770, SPDT, and 057-0771, DPDT, each rated 11 amp, ¼ hp, 125 or 250Vac, 5 amp resistive, 30Vdc max; .5 amp, 125Vdc; leads factory sealed. Snap Switch, Cat. Nos. 057-0772, SPDT, and 057-0773, DPDT, each rated 1 amp @ 125 Vac and 1 amp resistive, .5 amp inductive @ 28 Vdc max, leads factory sealed. File No. 34146</p>

Electrical Assembly Specification

ELECTRICAL RATINGS - T RATINGS - AMBIENT TEMPERATURES

SWITCH CONFIGURATION	ELECTRICAL RATING	MAX AMBIENT OPERATING TEMP °C (°F)	TEMPERATURE CODE (MAX SURFACE TEMP)
FORM "C" SPDT 057-0770	11 AMP OR ¼ HP AT 125 OR 250 VAC	75 (167) 60 (140)	T5
	5 AMP AT 125 OR 250 VAC; 5 AMP RES, 3 AMP IND AT 28 VDC; 0.5 AMP RES AT 125 VDC	70 (158)	T6
FORM "CC" DPDT 057-0771	11 AMP OR ¼ HP AT 125 OR 250 VAC	65 (149) 45 (113)	T4A
	5 AMP AT 125 OR 250 VAC; 5 AMP RES, 3 AMP IND AT 28 VDC; 0.5 AMP RES AT 125 VDC	70 (158)	T6
M OPTION FORM "C" & "CC" 057-0772 (SPDT) 057-0773 (DPDT)	1 AMP AT 125 VAC; 1 AMP RES, 0.5 AMP IND AT 28 VDC	70 (158)	T6

All Standard Enclosure 6 - Pressure and Temperature Switches carry one of the electrical assemblies listed in the Table above and are suitable for the following Hazardous Locations:

- Zone 1 and 2, EEx d IIC
- Division 1 and 2; Class I, Groups A, B, C, and D; Class II, Groups E, F, and G

These assemblies carry one or all of the following agency listings:

- Underwriters Laboratories, Inc., File number E56677
- CSA International, File number LR34146
- Factory Mutual, File number J.1.IR5A9.AE
- SIRA, 10ATEX1017X and 1EEx SR10.0009X
- NCC 6574/10X for INMETRO

Temperature Limitations

for Pressure Switches

Pressure switch applications often have media temperatures that are in excess of our published specifications. Even though most of Neo-Dyn's switches can actually withstand temperatures higher than those listed, they are published for varying reasons that include effects on; set point shift, decreased life expectancy, or in some cases, damage. O-rings themselves have limitations even though they are capable of temperatures higher than those we publish for the switches. Generally speaking, Buna-N and EPR are good up to 250°F (121°C), Viton up to 400 °F (204°C). The welded assemblies have no o-rings at all.

The main purpose of this bulletin is to advise the end user that the media temperature limitations of these switches can be overcome by simply increasing the distance of the switch from the source of the media. Since

Neo-Dyn's pressure switches are "dead-ended" devices, the temperature at the diaphragm or piston will not be the same as it is at the media. Often a 1 ft. (30.46 cm) length of uninsulated 1/4 inch, SS tubing is enough to lower the temperature to within published specifications. The rule of thumb utilized for these applications is as follows:

For every 2 ft. (60.96 centimeters) of uninsulated-1/4 inch-SS tubing, you dissipate 100 °F (37.77 °C), in excess of +200 °F (+93.3 °C).

It will of course depend on the initial media temperature, type of media, ambient temperature, and piping size & material. In some cases a longer capillary may be the best solution. Typically the tubing is coiled, so as to conserve space (pig tail). There are also other methods for dissipating heat, such as condensate chambers or reservoirs filled with liquid, which will act in the same manner as a diaphragm seal in isolating and dissipating the heat. These methods are better explained in ISA, ASME or other such industry and engineering standard practice texts.

Should you have further questions or require additional information, please contact your Regional Sales Manager or the factory directly.

For more information, please visit www.neodyn.com

Repeatability, Accuracy and Maintenance

for Pressure Switches

REPEATABILITY

Repeatability is the maximum set point deviation of a single pressure switch under one given set of environmental and operational conditions. Since adjustable pressure switches can be set at any discrete set point within its given adjustable range this is the most common performance criteria stated by the manufacturer. A general repeatability statement is that a ITT Neo-Dyn pressure switch will repeat within $\pm 0.5\%$ of its set point when set in the upper 80% of its adjustable range for set points above 10 psig. Exceptions to this statement could include piston sensor pressure switches and switches whose adjustable range is inches of water.

ACCURACY

Accuracy is a term generally associated with analog instruments such as transducers and transmitters. Since a pressure switch is meant to give a contact opening or closure at a discrete set point an accuracy statement can only be given if all operational and environmental conditions are clearly defined. For example, what is the accuracy of an Neo-Dyn model 100P12C3 when set at 150 psig increasing pressure when cycled between 150 psig and 130 psig for 500 cycles over a temperature range of +40 to +160 degrees Fahrenheit at a cycle rate of 15 cycles per minute. Again, the model, the operational and environmental conditions must all be defined. ITT Neo-Dyn can provide limited testing on some of its models under various test conditions.

MAINTENANCE

Under normal circumstances ITT Neo-Dyn pressure switches do not require maintenance or re-calibration. For critical applications or those where the switches are used in a severe environment, it is suggested a calibration check be performed at intervals based upon actual in service stability data.

For more information, please visit www.neodyn.com

Switch Selection Questions

1

Does the Switch Have to Be adjustable?

Tamper-proof, tamper-resistant, fixed or adjustable

2

Normal System Pressure?

Tells the pressure the switch normally sees

3

Critical Set Point?

Tells us the range required

Tells us if the set point is increasing or decreasing and if the deadband of the switch is important

4

What is the Process Being Sensed?

Confirms the wetted materials

5

What is the Function of the Switch?

Will confirm SPDT or DPDT

6

Is the Switch Going into a Hazardous Area (Listed)?

Confirms electrical classification requirements

GENERAL PURPOSE PRESSURE SWITCHES

NEMA 4, 4X & 13

General Purpose Weather Proof	- Adjustable	1
100P Series – Internally Adjustable		
101P Series – Externally Adjustable		
110P Series – Low Pressure Range		
142P Series – Ultra Low Pressure Range		
200P Series – Hydraulic Service - Internally Adjustable		
201P Series – Hydraulic Service - Externally Adjustable		
Compact Weather Proof	- Adjustable	2
132P Series – Pneumatic or Low Impulse Hydraulic		
232P Series – High Pressure or High Impulse Hydraulic		
OEM Series Weather Proof	- Adjustable	3
130P Series – Adjustable Thru Port Cap – Pressure		
131P Series – Adjustable With Selectable Deadband – Pressure		
231P Series – Adjustable Hydraulic Switch		
Tamper Proof Series	- Factory Set	4
105P Series – Miniature Pressure Switch		
115P Series – Build-To-Order Set Points		
125P Series – Higher Range Pneumatic Applications		
225P Series – High Pressure Hydraulic Applications		

HAZARDOUS AREA PRESSURE SWITCHES

NEMA 7 & 9

Hermetically Sealed/Explosion Proof	- Adjustable	5
100P (Encl. 5) Series – Div 2 W/Terminal Strip		
100P (Encl. 6) Series – Div 1 and 2 Hermetic		
100P (Encl. 7) Series – Div 1 W/Terminal Strip		
110P (Encl. 5) Series – Div 2 W/Terminal Strip – Low Range		
110P (Encl. 6) Series – Div 1 and 2 Hermetic – Low Range		
142P Series – Div 1 and 2 Hermetic – Ultra Low Range		
200P Series – Div 1 and 2 Hermetic – Hydraulic		
Compact Hermetically Sealed/Explosion Proof	- Adjustable	6
112P Series – ANSI Flanged Pressure Switch		
122P Series – CPI Pressure Switch		
123P Series – Flush Welded Diaphragm		
132P Series – Universal Pressure Switch		
232P Series – High Pressure – Hydraulic		
OEM Series Hermetically Sealed/Explosion Proof	- Adjustable	7
130P Series – Adjustable Thru Port Cap – Pressure		
131P Series – Adjustable With Selectable Deadband – Pressure		
231P Series – Adjustable – Hydraulic		
Tamper Proof Hermetically Sealed/Explosion Proof	- Factory Set	8
115P Series – Build-To-Order Set Points		
125P Series – Higher Range Pneumatic Applications		
225P Series – High Pressure Hydraulic Applications		

Neo-Dyn® Series 100P Pressure Switch/Internal Adjustment

Versatile Nega-Rate® Belleville disc spring pressure switch for a wide range of applications. Series 100P (diaphragm sensor) for pneumatic and low impulse hydraulics up to 3000 psig system pressure.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range		Deadband (approximate)	Maximum Recommended System Pressure	Proof Pressure
	Increasing	Decreasing			
1	5 to 75	2.3 to 72.3	2.7	600	1000
2	15 to 150	9 to 144	6	3000	5000
4	50 to 300	36 to 286	14	3000	5000
5	125 to 600	100 to 575	25	3000	5000
7	500 to 1500	440 to 1440	60	3000	5000
8	800 to 2800	675 to 2675	125	3000	5000

All values given in psig.

Standard Specifications

Electrical

Snap action electrical switch recognized by Underwriters' Laboratories, Inc. and CSA International

Electrical Connection

1/2 NPT female conduit connection with terminal block

Pressure Connection

Wetted Material 1
1/4 NPT Female

Wetted Material 4, 5, 7 and 9
1/2 NPT Female

Temperature Range

Ambient: -40°F to +180°F
(-40°C to +82°C)

Media: -40°F to +300°F
(-40°C to +149°C)

Media temperature limits change with O-Ring selection

Adjustment

Concealed wrench flat adjustment with range scale

Shipping Weight

Approximately 3 pounds



Order Miscellaneous Option "D"



Weather Proof (NEMA 4 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

- 1 Aluminum port, Teflon coated polyimide diaphragm and Buna-N O-Ring
- 4 316 stainless steel port, Teflon coated polyimide diaphragm and Buna-N O-Ring
- 5 316 stainless steel port and diaphragm heliarc welded
- 7 Hastelloy C port and diaphragm, heliarc welded (Except Range 1)
- 9 Monel port and inconel diaphragm heliarc welded (Except Range 1)

Adjustable Range

- 1 2.3 psig dec. to 75 psig inc. (0.2 bar dec. to 5.2 bar inc.)
- 2 9 psig dec. to 150 psig inc. (0.6 bar dec. to 10.3 bar inc.)
- 4 36 psig dec. to 300 psig inc. (2.5 bar dec. to 20.7 bar inc.)
- 5 100 psig dec. to 600 psig inc. (6.9 bar dec. to 41.4 bar inc.)
- 7 440 psig dec. to 1500 psig inc. (30.3 bar dec. to 103.4 bar inc.)
- 8 675 psig dec. to 2800 psig inc. (46.5 bar dec. to 193.1 bar inc.)

Electrical Form

- C 15 amp at 125 or 250 VAC; 1/8, hp at 125 VAC; 1/4 hp at 250 VAC; .5 amp resistive, .04 amp inductive at 125 VDC
- CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC
- Z 15 amp at 125 or 250 VAC; 1/4 hp at 125 VAC; 1/2 hp at 250 VAC; 1 amp resistive, .5 amp inductive at 125 VDC

Enclosure

- 3 Meets or exceeds the requirements of NEMA Type 3, 3R, 3S, 4, 4X and 13

Miscellaneous

- A Epoxy paint exterior — extra protection for severe environments
- B Viton O-Ring
- C EPR O-Ring
- D SIL approval and marking, per IEC61508 (includes FMEA report)
- E 7/16" - 20 SAE port (Wetted Material 1 Only)
- F Fire fuse — for fire-tested equipment (Wetted Material 4 & 5 only)
- J Annealed stainless steel port screws for H2S environments (Wetted Materials 4 and 5 only) — Consult factory for reduced system and proof pressure
- L Neon indicator light — 115 VAC
- M Gold electrical contacts for extremely low current applications
- P 5-Pin Brad Harrison connector (Reduce AC electrical rating to 8 amps — (Not for CC3 Electrical)
- S Stainless steel diaphragm (Wetted Material 4 only)
- W Stainless steel screws — exterior (Standard with Wetted Materials 4, 5, 7 and 9)
- X UL and CSA Approved and CE Mark (Not available with L or P option)
- Y 2" NPT Female port for viscous medias. Port Material is carbon steel (Wetted Material "3") — Order as 100P3xxxxY

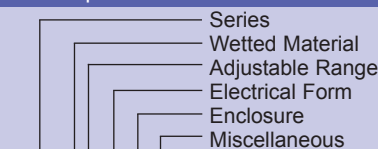
Special (Consult representative or factory)

- Non-catalog adjustable range and/or set point, deadband and proof pressure
- Media temperature capability from -65°F to +400°F
- Chemical seals installed
- Manual reset — decreasing only (available in C3 only)
- 10 amps 125 VDC electrical rating

Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

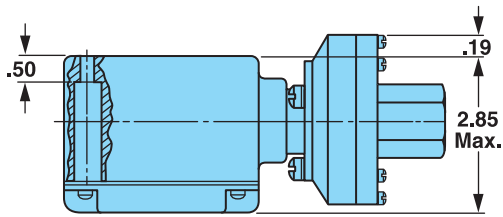
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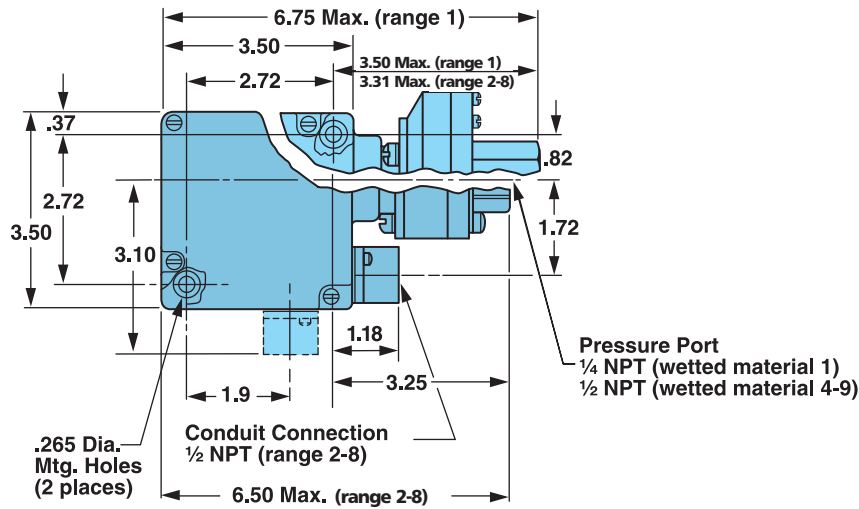
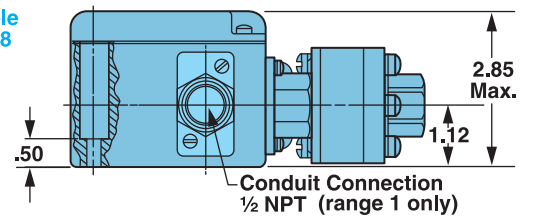
100P 1 2 C 3 _

Envelope Dimensions

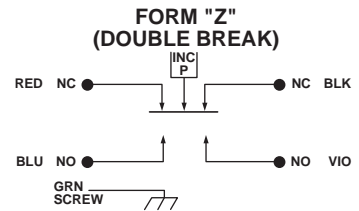
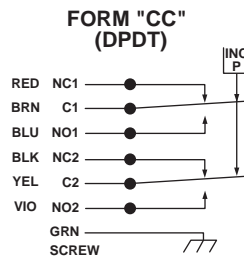
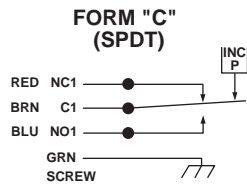
Adjustable
Range 1



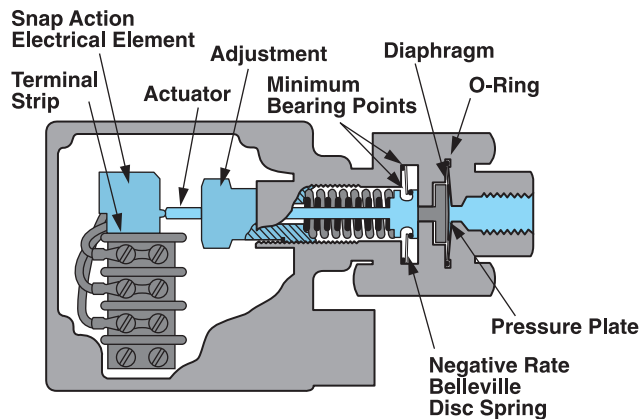
Adjustable
Range 2-8



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 101P Pressure Switch/External Adjustment

Versatile Nega-Rate® Belleville disc spring pressure switch for a wide range of applications. Series 101P (diaphragm sensor) for pneumatic and low impulse hydraulics up to 3000 psig system pressure.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range		Deadband (approximate)	Maximum Recommended System Pressure	Proof Pressure
	Increasing	Decreasing			
1	5 to 75	2.3 to 72.3	2.7	600	1000
2	15 to 150	9 to 144	6	3000	5000
4	50 to 300	36 to 286	14	3000	5000
5	125 to 600	100 to 575	25	3000	5000
7	500 to 1500	440 to 1440	60	3000	5000
8	800 to 2800	675 to 2675	125	3000	5000

All values given in psig.

Standard Specifications

Electrical

Snap action electrical switch recognized by Underwriters' Laboratories, Inc. and CSA International

Electrical Connection

1/2 NPT female conduit connection with terminal block

Pressure Connection

Wetted Material 1
1/4 NPT Female

Wetted Material 4
1/2 NPT Female

Temperature Range*

Ambient: -40°F to +180°F
(-40°C to +82°C)

Media: -40°F to +300°F
(-40°C to +149°C)

*Temperature limits change with O-Ring selection

Adjustment

External screwdriver slot adjustment and range scale

Shipping Weight

Approximately 3 pounds



Order Miscellaneous Option "D"



Weather Proof (NEMA 4 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

- 1 Aluminum port, Teflon coated polyimide diaphragm and Buna-N O-Ring
- 4 316 stainless steel port, Teflon coated polyimide diaphragm and Buna-N O-Ring
- 5 316 stainless steel port and diaphragm heliarc welded
- 7 Hastelloy C port and diaphragm, heliarc welded (Except Range 1)
- 9 Monel port and inconel diaphragm heliarc welded (Except Range 1)

Adjustable Range

- 1 2.3 psig dec. to 75 psig inc. (0.2 bar dec. to 5.2 bar inc.)
- 2 9 psig dec. to 150 psig inc. (0.6 bar dec. to 10.3 bar inc.)
- 4 36 psig dec. to 300 psig inc. (2.5 bar dec. to 20.7 bar inc.)
- 5 100 psig dec. to 600 psig inc. (6.9 bar dec. to 41.4 bar inc.)
- 7 440 psig dec. to 1500 psig inc. (30.3 bar dec. to 103.4 bar inc.)
- 8 675 psig dec. to 2800 psig inc. (46.5 bar dec. to 193.1 bar inc.)

Electrical Form

- C 15 amp at 125 or 250 VAC; 1/8, hp at 125 VAC; 1/4 hp at 250 VAC; .5 amp resistive, .04 amp inductive at 125 VDC
- Z 15 amp at 125 or 250 VAC; 1/4 hp at 125 VAC; 1/2 hp at 250 VAC; 1 amp resistive, .5 amp inductive at 125 VDC

Enclosure

- 3 Meets or exceeds the requirements of NEMA Type 3, 3R, 3S, 4, 4X and 13

Miscellaneous

- A Epoxy paint exterior — extra protection for severe environments
- B Viton O-Ring
- C EPR O-Ring
- D SIL approval and marking, per IEC61508 (includes FMEA report)
- E 7/16" - 20 SAE port (Wetted Material 1 only)
- K External adjustment knob
- L Neon indicator light — 115 VAC
- M Gold electrical contacts for extremely low current applications
- P 5-Pin Brad Harrison connector (Reduce AC electrical rating to 8 amps) — (Not for CC3 Electrical)
- S Stainless steel diaphragm (Wetted Material 4 only)
- X CSA Approved and CE Mark (Not available with L or P option) (Wetted Material 4 only; Not available with Range 1)
- Y 2" NPT Female port for viscous medias. Port Material is carbon steel (Wetted Material "3") — Order as 101P3xxxxY

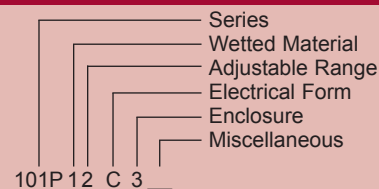
Special (Consult representative or factory)

- Non-catalog adjustable range and/or set point
- Operating temperature capability from -65°F to +400°F
- Wide deadband
- 10 amps 125 VDC electrical rating

Ordering Procedure

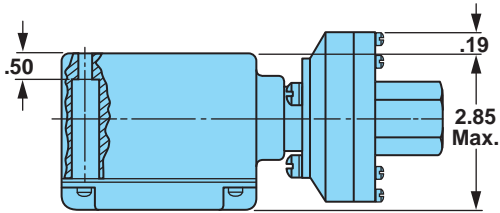
- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

Example

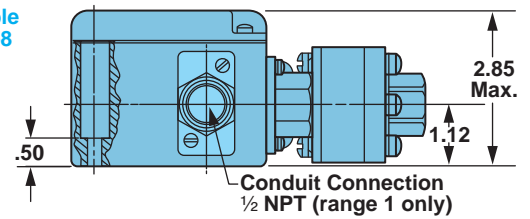


Envelope Dimensions

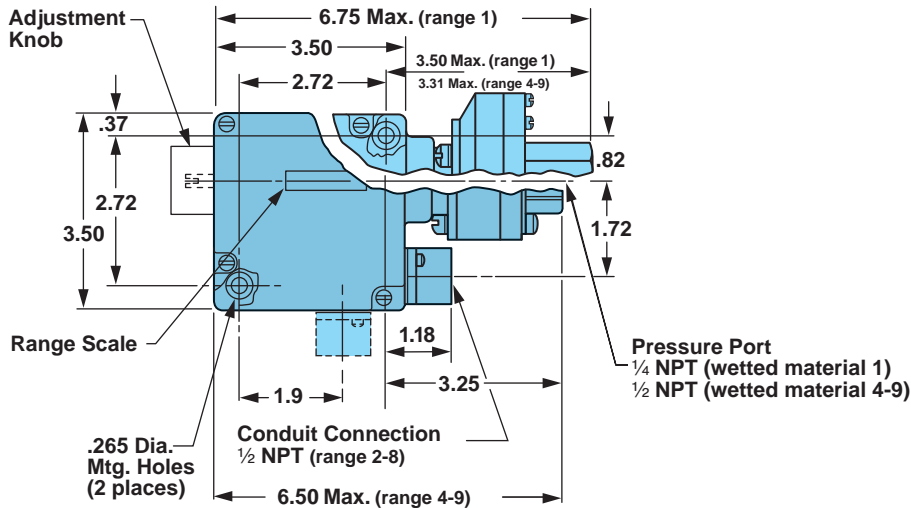
Adjustable
Range 1



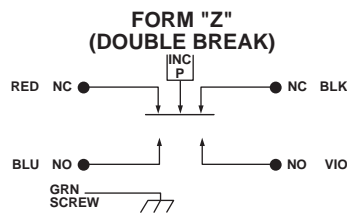
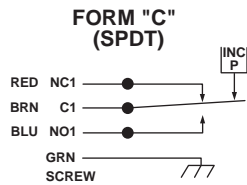
Adjustable
Range 2-8



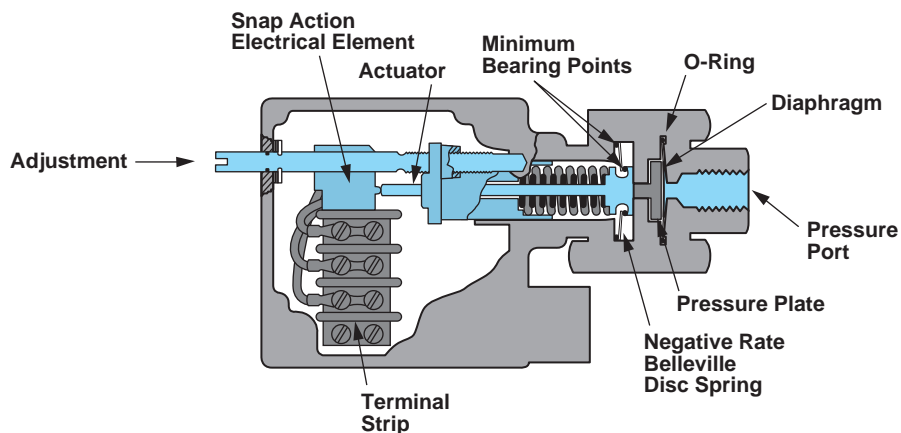
Adjustment
Knob



Electrical Form



Basic Principles of Design



Neo-Dyn[®] Series 110P Pressure Switch/Internal Adjustment

Sensitive Nega-Rate[®] Belleville spring adjustable pressure switch for low pressure applications.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range		Deadband (approximate)	Maximum Recommended System Pressure	Proof Pressure
	Increasing	Decreasing			
2	10" H ₂ O to 100" H ₂ O	7" H ₂ O to 97" H ₂ O	3" H ₂ O	300	500
4	3 to 15	2.75 to 14.75	.25	300	500

All values given in psig.

Standard Specifications

Electrical

Snap action electrical switch recognized by Underwriters' Laboratories, Inc. and CSA International

Electrical Connection

1/2 NPT female conduit connection with terminal block

Pressure Connection

Wetted Material 1
1/4 NPT Female

Wetted Material 4
1/2 NPT Female

Temperature Range*

Ambient: -40°F to +180°F
(-40°C to +82°C)

Media: -40°F to +300°F
(-40°C to +149°C)

*Temperature limits change with O-Ring selection

Adjustment

Concealed wrench flat adjustment with range scale

Shipping Weight

Approximately 3 pounds



Order Miscellaneous Option "D"



Weather Proof
(NEMA 4 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

- 1 Aluminum port, Teflon coated polyimide diaphragm and Buna-N O-Ring
- 4 316 stainless steel port, Teflon coated polyimide diaphragm and Buna-N O-Ring

Adjustable Range

- 2 7" H₂O dec. to 100" H₂O inc. (17 millibar dec. to 249 millibar inc.)
- 4 2.75 psig dec. to 15 psig inc. (0.2 bar dec. to 1.0 bar inc.)

Electrical Form

- C 15 amp at 125 or 250 VAC; 1/8 hp at 125 VAC; 1/4 hp at 250 VAC; .5 amp resistive, .04 amp inductive at 125 VDC
- CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC
- Z 15 amp at 125 or 250 VAC; 1/4 hp at 125 VAC; 1/2 hp at 250 VAC; 1 amp resistive, .5 amp inductive at 125 VDC

Enclosure

- 3 Meets or exceeds the requirements of NEMA Type 3, 3R, 3S, 4, 4X and 13

Miscellaneous

- A Epoxy paint exterior — extra protection for severe environments
- B Viton O-Ring
- C EPR O-Ring
- D SIL approval and marking, per IEC61508 (includes FMEA report)
- F Fire fuse — for fire-tested equipment (Wetted Material 4 only; not available with G)
- G 1/2 NPT male port (Wetted Material 4 only)
- L Neon indicator light — 115 VAC
- M Gold electrical contacts for extremely low current applications
- P 5-Pin Brad Harrison connector (Reduce AC electrical rating to 8 amps)— (Not for CC3 Electrical)
- S Stainless steel diaphragm (Wetted Material 4 only)
- W Stainless steel screws — exterior (Standard with Wetted Material 4)
- X UL and CSA Approved and CE Mark (Not available with L or P option)

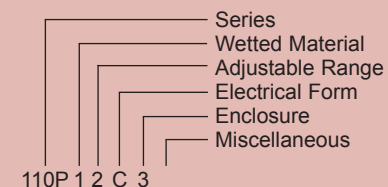
Special (Consult representative or factory)

- Non-catalog adjustable range and/or set point, deadband and proof pressure
- Chemical seals installed

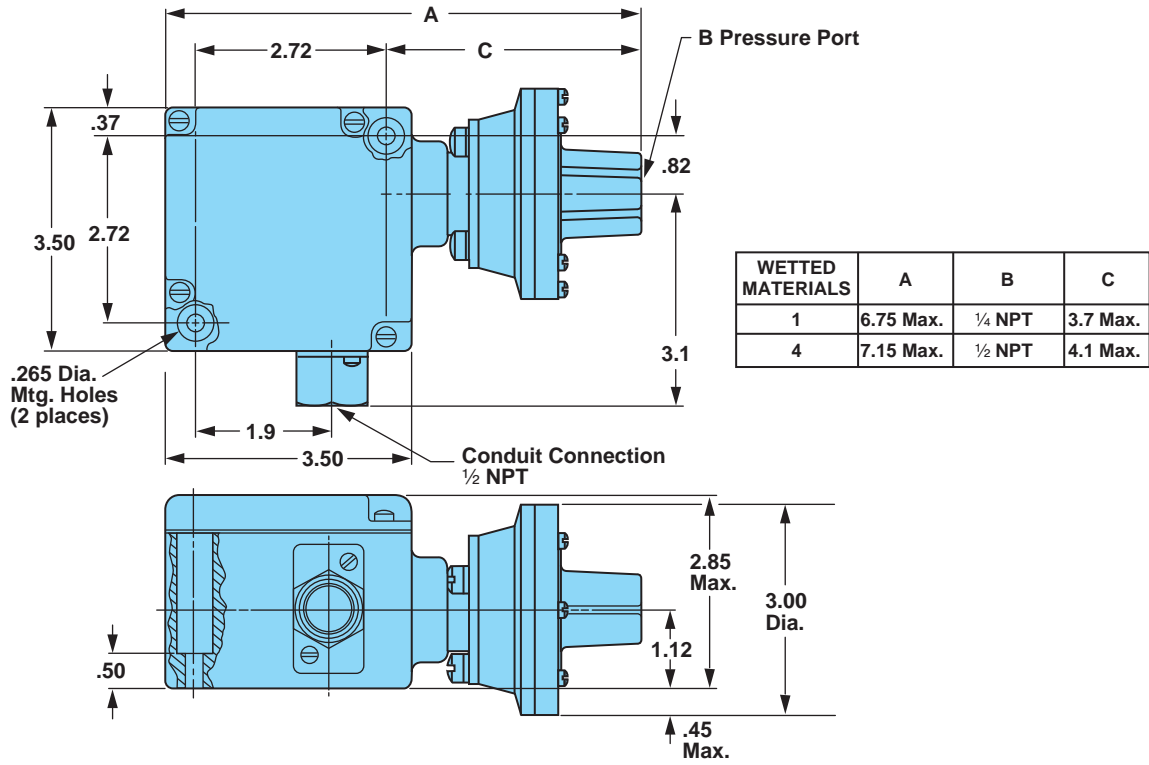
Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

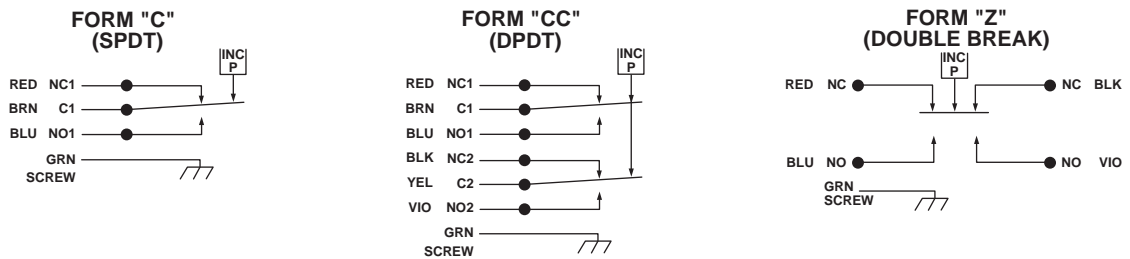
Example



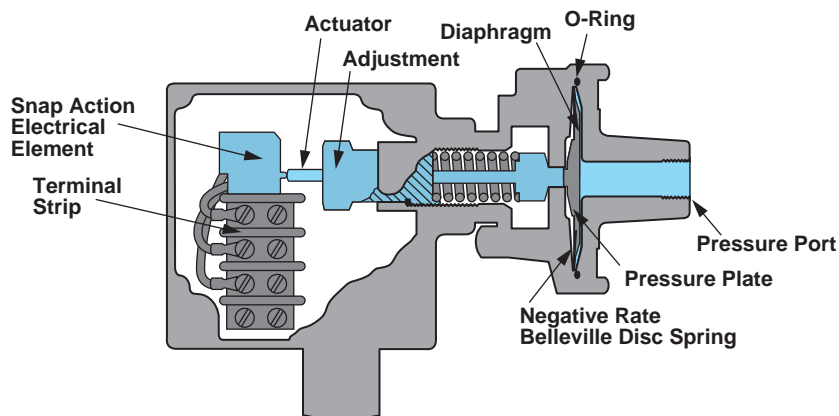
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 142P8 Ultra Low Vacuum/Pressure Switch

Ultra low pressure and vacuum to pressure crossover switch. Unique construction using efficient Nega-Rate® Belleville disc spring for stable set points and high proof pressure. Wide range of wetted materials makes this series well suited for applications that formerly required the use of diaphragm seals.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range	Deadband* (approximate)	Maximum Recommended System Pressure	Proof Pressure
	Increasing			
0	1" to 10" H ₂ O	.75" H ₂ O	30" H ₂ O Vacuum to 30" H ₂ O Pressure	30" H ₂ O Vacuum to +5 psig
1	2" to 40" H ₂ O	1" H ₂ O	30" H ₂ O Vacuum to +5 psig	30" H ₂ O Vacuum to +15 psig
2	0" to 40" H ₂ O Vacuum to 0" to 40" H ₂ O Pressure	1" H ₂ O	Full Vacuum to +15 psig	Full Vacuum to 100 psig

*Deadband 50% wider with "CC" (DPDT) and "Z" (Double Break) Electrical Forms.

Standard Specifications

Electrical

Snap action electrical switch recognized by Underwriters' Laboratories, Inc. and CSA International

Electrical Connection

1/2 NPT female conduit connection with terminal block

Pressure Connection

1/2 NPT Female

Temperature Range*

Ambient: -40°F to +180°F
(-40°C to +82°C)

Media: -50°F to +250°F
(-46°C to +121°C)

*Temperature limits change with O-Ring selection

Adjustment

Concealed wrench flat adjustment with range scale

Shipping Weight

Approximately 3.5 pounds



Order Miscellaneous Option "D"



Weather Proof (NEMA 4 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Adjustable Range

- 0 .25" H₂O (.62 mbar) dec. to 10" (24.9 mbar) H₂O inc.
- 1 1" H₂O (2.49 mbar) dec. to 40" (99.6 mbar) H₂O inc.
- 2 40" H₂O (99.6 mbar) inc. vac. to 40" (99.6 mbar) H₂O inc. pressure

Electrical Form

- C 15 amp at 125 or 250 VAC; 1/8 hp at 125 VAC; 1/4 hp at 250 VAC; .5 amp resistive, .04 amp inductive at 125 VDC
- CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive 28 VDC; .5 amp resistive at 125 VDC
- Z 15 amp at 125 or 250 VAC; 1/4 hp at 125 VAC; 1/2 hp at 250 VAC; 1 amp resistive, .5 amp inductive at 125 VDC

Enclosure

- 3 Meets or exceeds the requirements of NEMA Type 3 3R, 3S, 4, 4X and 13

Miscellaneous

- A Epoxy paint exterior — extra protection for severe environments
- D SIL approval and marking, per IEC61508 (includes FMEA report)
- L Neon light indicator — 115 VAC
- M Gold electrical contacts for extremely low current applications

Port Material

- 4 316 Stainless Steel
- 7 Hastelloy C

Diaphragm

- 1 Polyimide
- 4 316 Stainless Steel
- 6 Tantalum
- 7 Hastelloy C

O-Rings

- 2 Kalrez
- 3 Viton
- 5 EPR
- 8 Buna-N

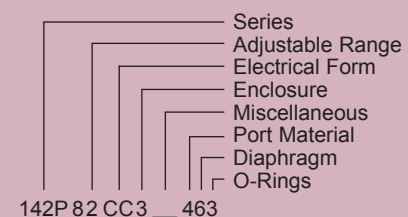
Special (Consult representative or factory)

- Non-catalog adjustable range and/or set point and deadband
- Operating temperature capabilities from -65°F to 400°F

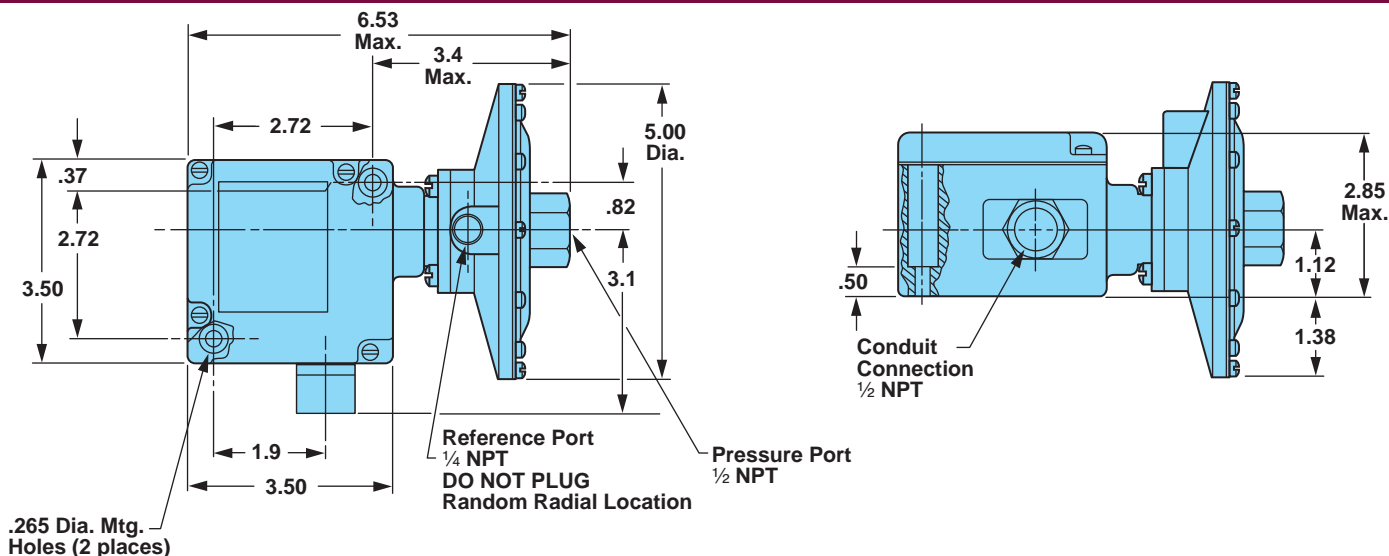
Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

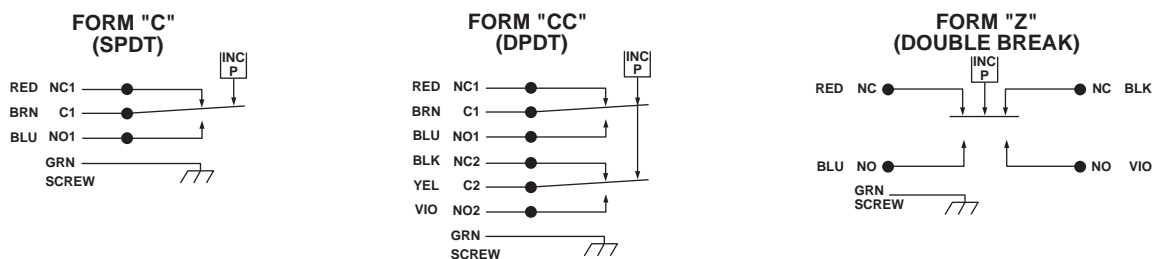
Example



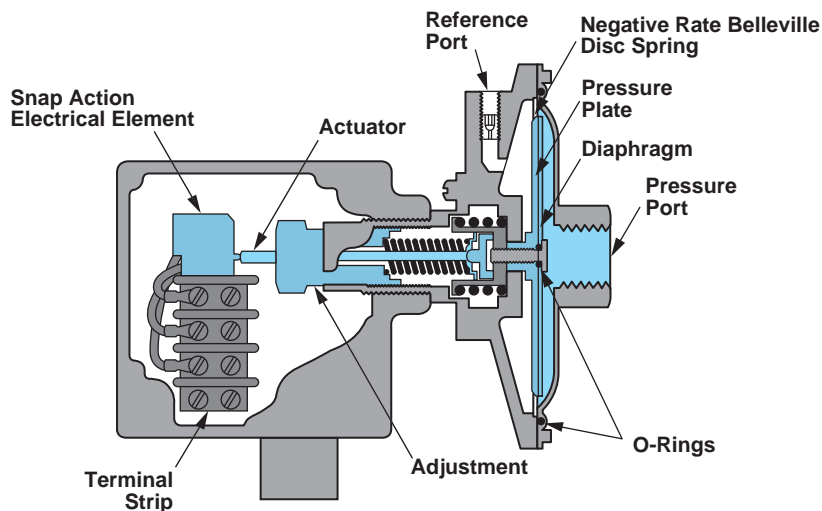
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 200P Pressure Switch/Internal Adjustment

Versatile Nega-Rate® Belleville disc spring pressure switch for a wide range of applications. Series 200P (piston sensor) for hydraulic applications up to 10000 psig system pressure.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range		Deadband† (approximate)		Maximum Recommended System Pressure	Proof Pressure
	Increasing	Decreasing	Min.	Max.		
2	20 to 220	14 to 202	6	18	3000	4500
3	200 to 1500	150 to 1275	50	225	7500	10000
6	500 to 3000	375 to 2700	125	300	7500	10000
8	1000 to 10000	800 to 9000	200	1000	10000*	15000**

All values given in psig.

†The deadband increases as the adjustable set point is increased.

*Diminished safety factor equal to approximately 2:1.

**Diminished safety factor equal to approximately 1.3:1.

Standard Specifications

Electrical

Snap action electrical switch recognized by Underwriters' Laboratories, Inc. and CSA International

Electrical Connection

1/2 NPT female conduit connection with terminal block

Pressure Connection

Wetted Material 1
1/4 NPT Female

Temperature Range*

Ambient: -40°F to +180°F
(-40°C to +82°C)

Media: -40°F to +300°F
(-40°C to +149°C)

*Temperature limits change with O-Ring selection

Adjustment

Concealed wrench flat adjustment with range scale

Shipping Weight

Approximately 3 pounds



Order Miscellaneous Option "D"



Weather Proof (NEMA 4 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

1 Aluminum port and piston, Teflon seal and Buna-N O-Ring

Adjustable Range

2 14 psig dec. to 220 psig inc. (1.0 bar dec. to 15.2 bar inc.)
 3 150 psig dec. to 1500 psig inc. (10.3 bar dec. to 103.4 bar inc.)
 6 375 psig dec. to 3000 psig inc. (25.9 bar dec. to 206.9 bar inc.)
 8 800 psig dec. to 10000 psig inc. (55.2 bar dec. to 689.5 bar inc.)

Electrical Form

C 15 amp at 125 or 250 VAC; 1/8 hp at 125 VAC; 1/4 hp at 250 VAC;
 .5 amp resistive, .04 amp inductive at 125 VDC
 CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC;
 .5 amp resistive at 125 VDC
 Z 15 amp at 125 or 250 VAC; 1/4 hp at 125 VAC; 1/2 hp at 250 VAC; 1 amp resistive,
 .5 amp inductive at 125 VDC

Enclosure

3 Meets or exceeds the requirements of NEMA Type 3, 3R, 3S, 4, 4X and 13

Miscellaneous

A Epoxy paint exterior — extra protection for severe environments
 B Viton O-Ring
 C EPR O-Ring
 D SIL approval and marking, per IEC61508 (includes FMEA report)
 E 7/16" - 20 SAE port
 L Neon indicator light — 115 VAC
 M Gold electrical contacts for extremely low current applications
 P 5-Pin Brad Harrison connector (Reduce AC electrical rating to 8 amps)
 — (Not for CC3 Electrical)
 W Stainless steel screws — exterior
 X UL and CSA Certified with CE Mark (Not available with L or P option)

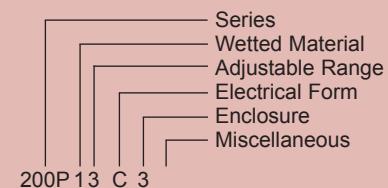
Special (Consult representative or factory)

- Non-catalog adjustable range and/or set point, deadband and proof pressure
- Operating temperature capability from -65°F to +400°F
- Manual reset — decreasing only (available in C3 only)
- 10 amps 125 VDC electrical rating

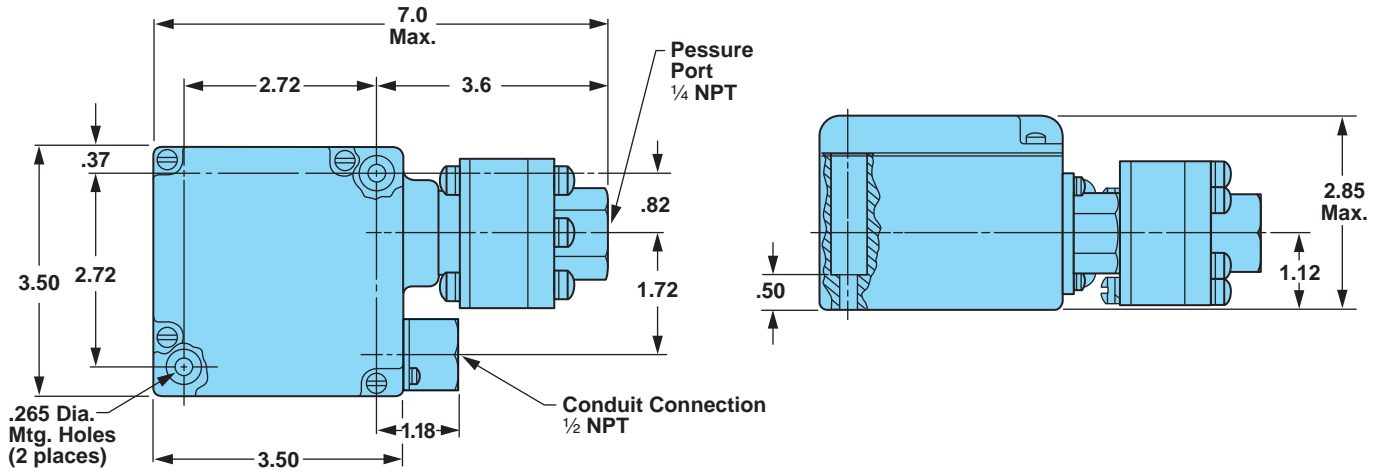
Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

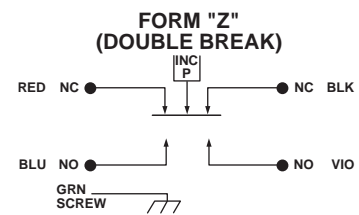
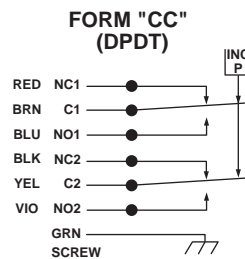
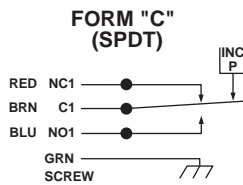
Example



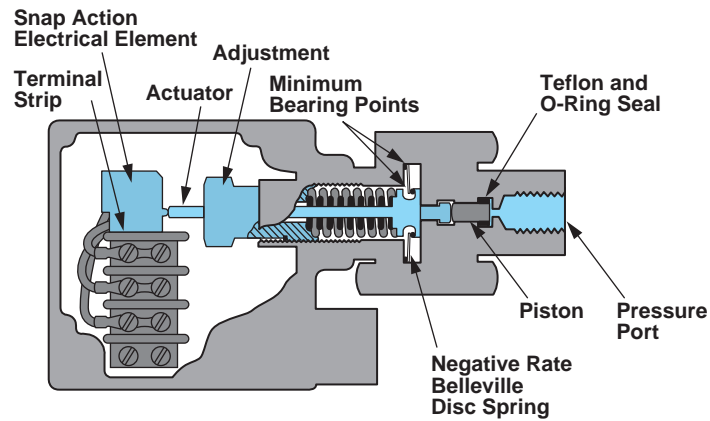
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 201P Pressure Switch/External Adjustment

Versatile Nega-Rate® Belleville disc spring pressure switch for a wide range of applications. Series 201P (piston sensor) for hydraulic applications up to 10000 psig system pressure. Externally adjustable for convenient set point changes.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range		Deadband† (approximate)		Maximum Recommended System Pressure	Proof Pressure
	Increasing	Decreasing	Min.	Max.		
2	20 to 220	14 to 202	6	18	3000	4500
3	200 to 1500	150 to 1275	50	225	7500	10000
6	500 to 3000	375 to 2700	125	300	7500	10000
8	1000 to 10000	800 to 9000	200	1000	10000*	15000**

All values given in psig.

†The deadband increases as the adjustable set point is increased.

*Diminished safety factor equal to approximately 2:1.

**Diminished safety factor equal to approximately 1.3:1.

Standard Specifications

Electrical

Snap action electrical switch recognized by Underwriters' Laboratories, Inc. and CSA International

Electrical Connection

1/2 NPT female conduit connection with terminal block

Pressure Connection

Wetted Material 1
1/4 NPT Female

Temperature Range*

Ambient: -40°F to +180°F
(-40°C to +82°C)

Media: -40°F to +300°F
(-40°C to +149°C)

*Temperature limits change with O-Ring selection

Adjustment

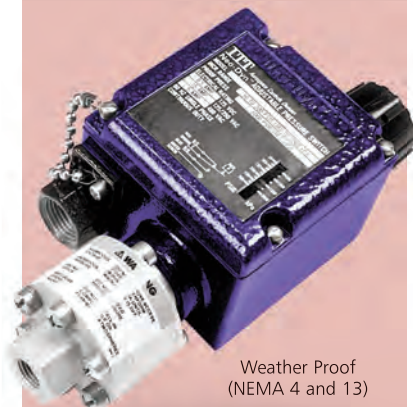
External screwdriver slot adjustment and range scale

Shipping Weight

Approximately 3 pounds



Order Miscellaneous Option "D"



Weather Proof (NEMA 4 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

1 Aluminum port and piston, Teflon seal and Buna-N O-Ring

Adjustable Range

2 14 psig dec. to 220 psig inc. (1.0 bar dec. to 15.2 bar inc.)
 3 150 psig dec. to 1500 psig inc. (10.3 bar dec. to 103.4 bar inc.)
 6 375 psig dec. to 3000 psig inc. (25.9 bar dec. to 206.9 bar inc.)
 8 800 psig dec. to 10000 psig inc. (55.2 bar dec. to 689.5 bar inc.)

Electrical Form

C 15 amp at 125 or 250 VAC; 1/8 hp at 125 VAC; 1/4 hp at 250 VAC;
 .5 amp resistive, .04 amp inductive 125 VDC
 Z 15 amp at 125 or 250 VAC; 1/4 hp at 125 VAC; 1/2 hp at 250 VAC; 1 amp resistive,
 .5 amp inductive 125 VDC

Enclosure

3 Meets or exceeds the requirements of NEMA Type 3, 3R, 3S, 4, 4X and 13

Miscellaneous

A Epoxy paint exterior — extra protection for severe environments
 B Viton O-Ring
 C EPR O-Ring
 D SIL approval and marking, per IEC61508 (includes FMEA report)
 E 7/16" - 20 SAE port
 K External adjustment knob
 L Neon indicator light — 115 VAC
 M Gold electrical contacts for extremely low current applications
 P 5-Pin Brad Harrison connector (Reduce AC electrical rating to 8 amps)
 X CSA Certified with CE Mark (Not available with L or P option)

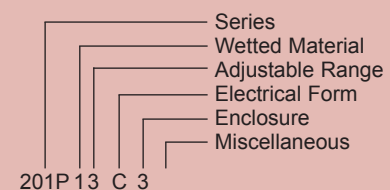
Special (Consult representative or factory)

- Non-catalog adjustable range and/or set point
- Media temperature capability from -65°F to +400°F
- Wide deadband
- 10 amps 125 VDC electrical rating

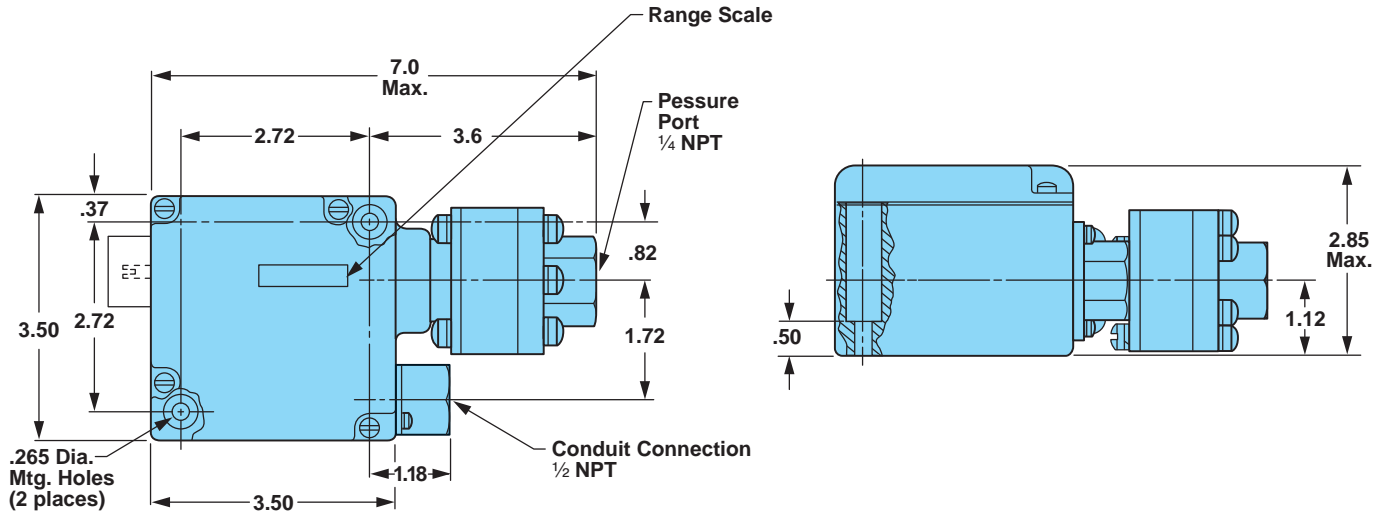
Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

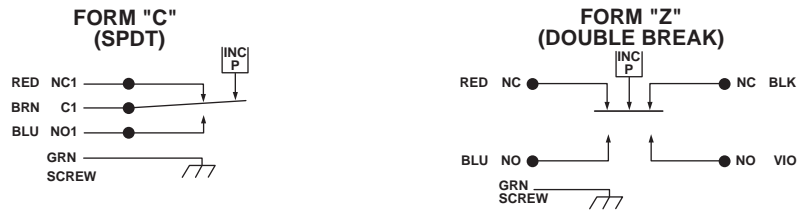
Example



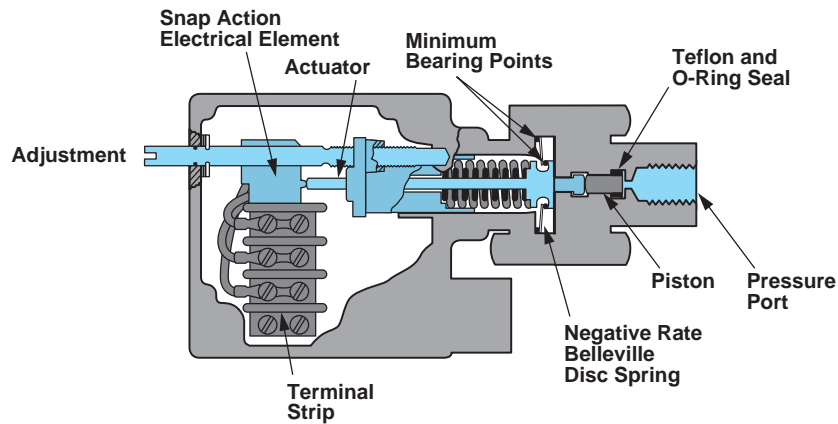
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 132P Pressure Switch/Internal Adjustment

Compact, adjustable pressure switch for pneumatic or low impulse hydraulic process applications. Efficient Nega-Rate® Belleville disc spring for set point stability and vibration resistance.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range		Deadband (approximate)	Maximum Recommended System Pressure	Proof Pressure
	Increasing	Decreasing			
8	3 to 30	1 to 28	2	1350	2000
9	20 to 80	15 to 75	5	1350	2000
0	80 to 130	67 to 117	13	1350	2000
1	50 to 250	30 to 230	20	4000*	6000*
2	200 to 400	175 to 375	25	4000*	6000*
4	375 to 725	330 to 680	45	4000*	6000*
6	700 to 1500	620 to 1420	80	4000*	6000*
7	1500 to 2300	1400 to 2200	100	4000*	6000*

All values given in psig.

* See Miscellaneous T for higher pressures.

Standard Specifications

Electrical

Snap action electrical switch recognized by Underwriters' Laboratories, Inc. and CSA International

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18 AWG, 18" long leads

Pressure Connection

1/4 NPT Female

Temperature Range*

Ambient: -40°F to +180°F
(-40°C to +82°C)

Media: -40°F to +250°F
(-40°C to +121°C)

* Temperature limits change with O-Ring selection

Adjustment

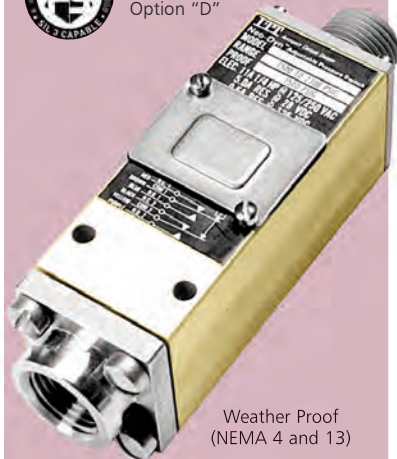
Internal, slotted adjustment nut with range scale

Shipping Weight

Approximately 20 ounces



Order Miscellaneous Option "D"



Weather Proof (NEMA 4 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

- 4 316 stainless steel port and diaphragm, Buna-N O-Ring
- 5 316 stainless steel port and diaphragm heliarc welded

Adjustable Range

- 8 1 psig dec. to 30 psig inc. (0.1 bar dec. to 2.1 bar inc.)
- 9 15 psig dec. to 80 psig inc. (1.0 bar dec. to 5.5 bar inc.)
- 0 67 psig dec. to 130 psig inc. (4.6 bar dec. to 9.0 bar inc.)
- 1 30 psig dec. to 250 psig inc. (2.1 bar dec. to 17.2 bar inc.)
- 2 175 psig dec. to 400 psig inc. (12.1 bar dec. to 27.6 bar inc.)
- 4 330 psig dec. to 725 psig inc. (22.8 bar dec. to 50.0 bar inc.)
- 6 620 psig dec. to 1500 psig inc. (42.7 bar dec. to 103.4 bar inc.)
- 7 1400 psig dec. to 2300 psig inc. (96.5 bar dec. to 158.6 bar inc.)

Electrical Form

- C 11 amp, 1/4 hp 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC
- CC 11 amp, 1/4 hp 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC

Enclosure

- 3 Meets or exceeds the requirements of NEMA Type 3, 3R, 3S, 4, 4X and 13

Miscellaneous

- A Epoxy paint exterior — extra protection for severe environments
- B Viton O-Ring
- C EPR O-Ring
- D SIL approval and marking, per IEC61508 (includes FMEA report)
- E 7/16" - 20 SAE Female Port
- G 1/2 NPT Female Port
- I 3/4 NPT Conduit Box with Terminal Strip
- J Annealed stainless steel port screws for H₂S environments — Consult factory for reduced system and proof pressure ratings
- M Gold electrical contacts for extremely low current applications
- O Cleaned for oxygen service
- R 72" Electrical free leads
- T 6300 psig system, 9450 psig proof, 410 stainless steel screws (Range 1 thru 7 only)
- X UL and CSA Approval and CE Marked

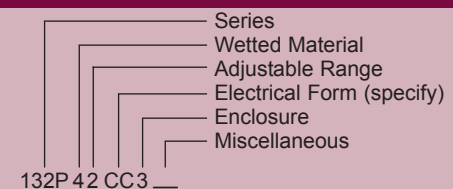
Special (Consult representative or factory)

- Non-catalog adjustable range and/or set point, deadband and proof pressure

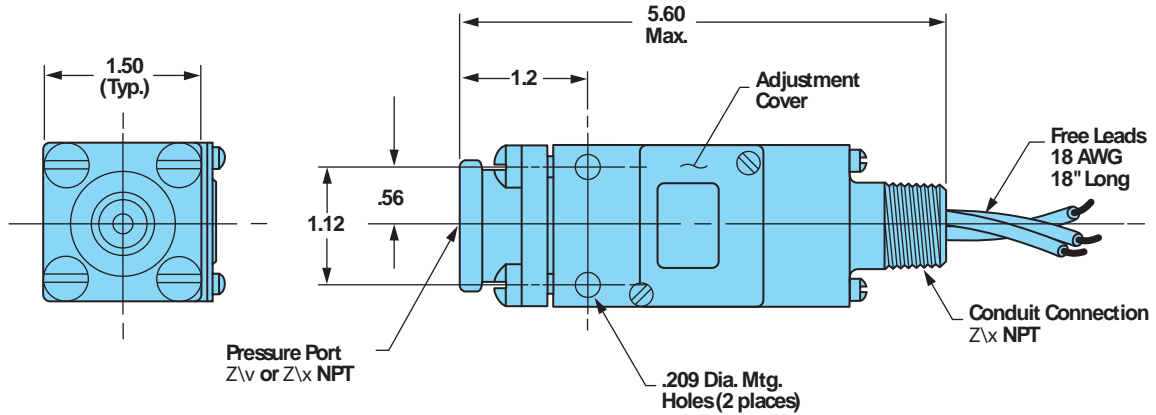
Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

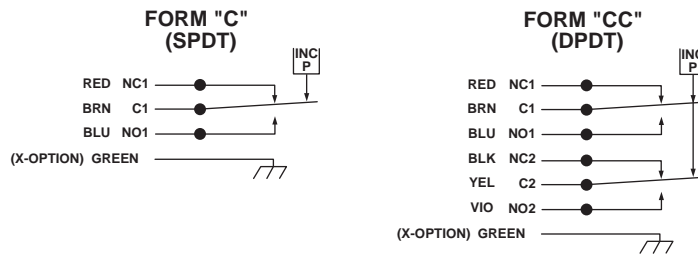
Example



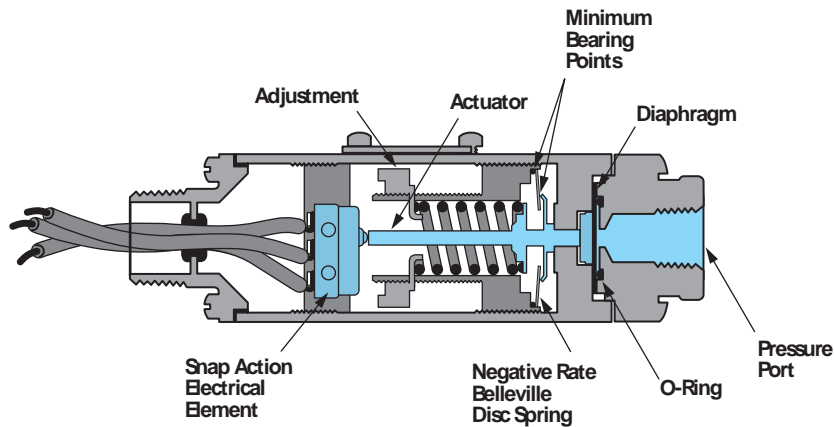
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 232P Pressure Switch/Internal Adjustment

Compact, adjustable pressure switch for high pressure hydraulic process applications. Efficient Nega-Rate® Belleville disc spring for set point stability and vibration resistance.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range		Deadband (approximate)	Maximum Recommended System Pressure	Proof Pressure
	Increasing	Decreasing			
1	50 to 275	25 to 250	25	5000	7500
2	200 to 1000	75 to 875	125	6500	7500
3	1000 to 3100	700 to 2800	300	6500	7500
4	2800 to 6000	2300 to 5500	500	10000	13500
5	5500 to 8500	4900 to 7900	600	10000	13500
6	7000 to 10000	6000 to 9000	1000	12500	15000

All values given in psig.

Standard Specifications

Electrical

Snap action electrical switch listed by Underwriters' Laboratories, Inc. and CSA International

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18 AWG, 18" long leads

Pressure Connection

1/4 NPT Female

Temperature Range*

Ambient:

-40°F to +180°F
(-40°C to +82°C)

Media:

-40°F to +250°F
(-40°C to +121°C)

* Temperature limits change with O-Ring selection

Adjustment

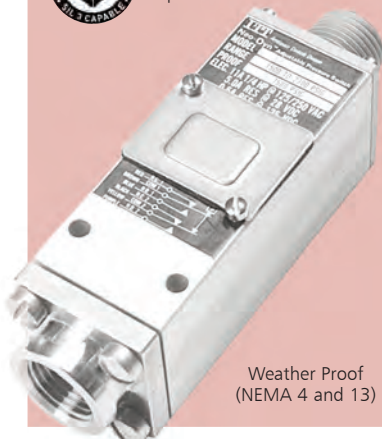
Internal, slotted adjustment nut with range scale

Shipping Weight

Approximately 20 ounces



Order Miscellaneous Option "D"



Weather Proof (NEMA 4 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

4 316 stainless steel port and piston, Buna-N O-Ring

Adjustable Range

1 25 psig dec. to 275 psig inc. (1.7 bar dec. to 19.0 bar inc.)
2 75 psig dec. to 1000 psig inc. (5.2 bar dec. to 69.0 bar inc.)
3 700 psig dec. to 3100 psig inc. (48.3 bar dec. to 213.7 bar inc.)
4 2300 psig dec. to 6000 psig inc. (158.6 bar dec. to 413.7 bar inc.)
5 4900 psig dec. to 8500 psig inc. (337.9 bar dec. to 586.1 bar inc.)
6 6000 psig dec. to 10000 psig inc. (413.7 bar dec. to 689.5 bar inc.)

Electrical Form

C 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC
CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC

Enclosure

3 Meets or exceeds the requirements of NEMA Type 3, 3R, 3S, 4, 4X and 13

Miscellaneous

A Epoxy paint exterior — extra protection for severe environments
B Viton O-Ring
C EPR O-Ring
D SIL approval and marking, per IEC61508 (includes FMEA report)
E 7/16" - 20 SAE Port
G 1/2 NPT Female Port
I 3/4 NPT conduit box with terminal strip
J Annealed stainless steel port screws for H₂S environments — Consult factory (Not available with range 4,5 & 6)
M Gold electrical contacts for extremely low current applications (1 Amp at 125 VAC; 1 Amp Res, 0.5 Amp Ind. at 28 VDC)
R 72" Electrical free leads
X CE Mark

Special (Consult representative or factory)

- Non-catalog adjustable range and/or set point, deadband and proof pressure

Ordering Procedure

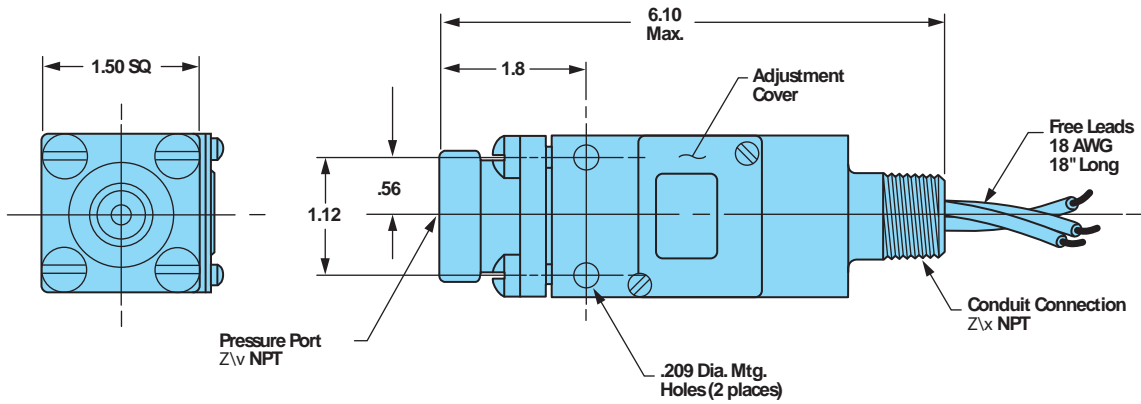
- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

Example

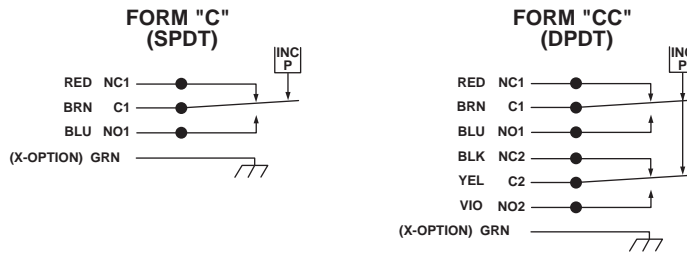
Series
 Wetted Material
 Adjustable Range
 Electrical Form (specify)
 Enclosure
 Miscellaneous

232P 42 CC 3 _

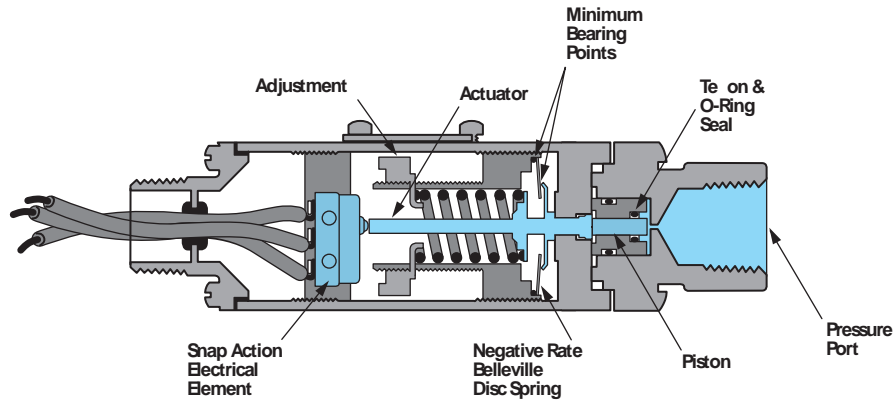
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 130P Pressure Switch/Tamper Resistant

Compact, versatile pressure switch for low to mid-range pressure applications. Features efficient Nega-Rate® Belleville disc spring for stable set points, vibration resistance and field adjustability through the pressure port. Once adjustments are made and switch is installed, it becomes tamper proof.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range		Deadband (approximate)	Maximum Recommended System Pressure	Proof Pressure
	Increasing	Decreasing			
1	2 to 12	1 to 11	1	600	1000
2	10 to 30	7 to 27	3	600	1000
3	30 to 50	25 to 45	5	600	1000
4	50 to 70	44 to 64	6	600	1000
5	70 to 120	60 to 110	10	600	1000
6	120 to 170	105 to 155	15	600	1000

All values given in psig.

Standard Specifications

Electrical

Snap action electrical switch recognized by Underwriters' Laboratories, Inc. and CSA International

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18 AWG, 18" long leads

Pressure Connection

1/4 NPT Male

Temperature Range*

Ambient: -40°F to +180°F
(-40°C to +82°C)

Media: -40°F to +300°F
(-40°C to +149°C)

*Temperature limits change with O-Ring selection

Adjustment

1/8" allen wrench through port

Shipping Weight

Approximately 13 ounces



Order Miscellaneous Option "D"



Weather Proof (NEMA 4 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

- 1 Aluminum port, Teflon coated polyimide diaphragm, Buna-N O-Ring
- 4 316 stainless steel port, Teflon coated polyimide diaphragm, Buna-N O-Ring

Adjustable Range

- 1 1 psig dec. to 12 psig inc. (0.1 bar dec. to 0.8 bar inc.)
- 2 7 psig dec. to 30 psig inc. (0.5 bar dec. to 2.1 bar inc.)
- 3 25 psig dec. to 50 psig inc. (1.7 bar dec. to 3.4 bar inc.)
- 4 44 psig dec. to 70 psig inc. (3.0 bar dec. to 4.8 bar inc.)
- 5 60 psig dec. to 120 psig inc. (4.1 bar dec. to 8.3 bar inc.)
- 6 105 psig dec. to 170 psig inc. (7.2 bar dec. to 11.7 bar inc.)

Electrical Form

- C 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC
- CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC

Enclosure

- 3 Meets or exceeds the requirements of NEMA Type 3, 3R, 3S, 4, 4X and 13

Miscellaneous

- A Epoxy paint exterior — extra protection for severe environments
- B Viton O-Ring
- C EPR O-Ring
- D SIL approval and marking, per IEC61508 (includes FMEA report)
- I 1/2 NPT Conduit box with terminal strip
- M Gold electrical contacts for extremely low current applications
- R 72" Electrical free leads
- S Stainless steel diaphragm — (Wetted Material 4 only)
- X UL and CSA approved and CE Mark

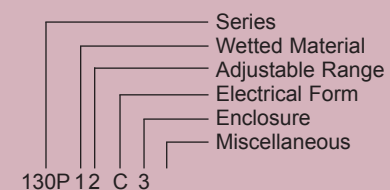
Special (Consult representative or factory)

- Non-catalog adjustable range and/or set point, deadband and proof pressure

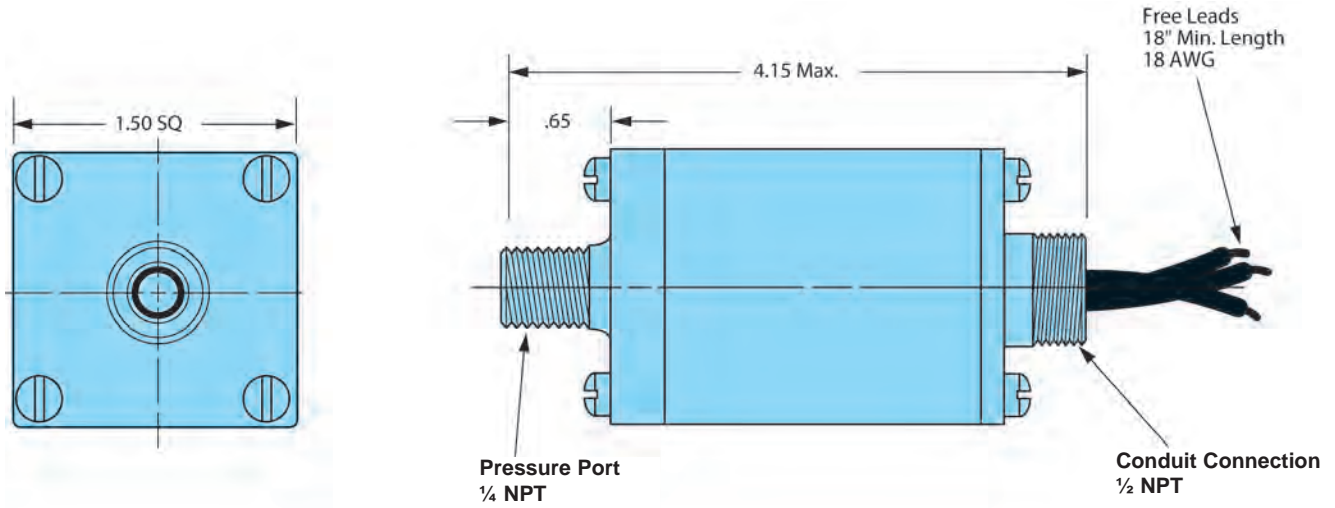
Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

Example



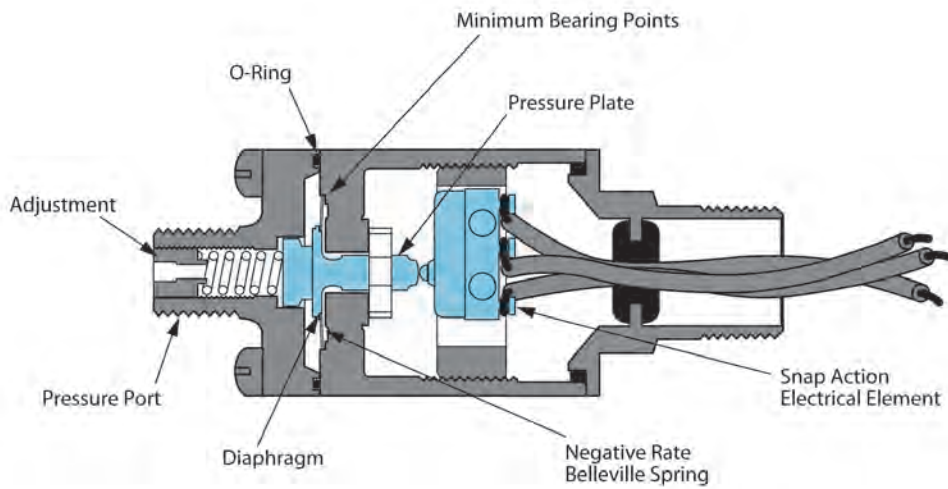
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 131P Pressure Switch/Internal Adjustment

Compact, adjustable pressure switch for pneumatic or low impulse hydraulic process applications. Using our efficient Nega-Rate® Belleville disc spring, we offer superior set point stability and vibration resistance. The 131P series pressure switch also has a selectable deadband feature which can be preset to fit most any application.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range		Selectable Deadband at a Specified Set Point	Default Deadband (approx.)	Maximum Recommended System Pressure	Proof Pressure
	Increasing	Decreasing				
2	*	1 to 24	1.5 to 2	1.9	1000	2000
3	*	17 to 42	3 to 6	4.5	1000	2000
4	*	1 to 50	6 to 11	8	1000	2000
5	*	45 to 100	7 to 11	8	1000	2000
6	*	90 to 150	7 to 17	12	1000	2000
7	*	140 to 200	11 to 21	16	1000	2000

All values given in psig unless otherwise noted.

* Add selected deadband to decreasing pressure range.

Standard Specifications

Electrical Listings

Snap action electrical switch recognized by Underwriters' Laboratories, Inc. and CSA International

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18 AWG, 18" long leads

Pressure Connection

1/4 NPT Female and 1/2 NPT Male

Temperature Range*

Ambient: -40°F to +180°F
(-40°C to +82°C)

Media: -40°F to +300°F
(-40°C to +149°C)

* Temperature limits change with O-Ring selection

Adjustment

Internal, slotted adjustment wheel

Shipping Weight

Approximately 20 ounces



Order Miscellaneous Option "D"



Weather Proof (NEMA 4X and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

- 1 Aluminum port, polyimide diaphragm, Buna-N O-Ring
- 4 316 stainless steel port, polyimide diaphragm, Buna-N O-Ring

Adjustable Range

- 2 1 psig dec. to 26 psig inc. (.069 bar dec. to 1.79 bar inc.)
- 3 17 psig dec. to 46 psig inc. (1.17 bar dec. to 3.17 bar inc.)
- 4 1 psig dec. to 58 psig inc. (.069 bar dec. to 4.00 bar inc.)
- 5 45 psig dec. to 108 psig inc. (3.10 bar dec. to 7.44 bar inc.)
- 6 90 psig dec. to 162 psig inc. (6.21 bar dec. to 11.1 bar inc.)
- 7 140 psig dec. to 216 psig inc. (9.65 bar dec. to 14.9 bar inc.)

Electrical Form

- C 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC
- CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC

Enclosure

- 3 Meets or exceeds the requirements of NEMA Type 3, 3R, 3S, 4, 4X and 13

Miscellaneous

- A Epoxy paint exterior — extra protection for severe environments
- B Viton O-Ring
- C EPR O-Ring
- D SIL approval and marking, per IEC61508 (includes FMEA report)
- E 7/16" - 20 SAE Female Port
- G 1/2 NPT Female Port
- I 3/4 NPT Conduit box with terminal strip
- J Annealed stainless steel port screws for H₂S environments — Consult factory for reduced system and proof pressure ratings (Not available with X or Z option)
- M Gold electrical contacts for extremely low current applications
- R 72" Electrical free leads
- S Stainless steel diaphragm
- V 1/4 NPT male port
- X UL and CSA Approval and CE Mark (Not available with J option)
- Z Mounting bracket kit (Not available with J option)

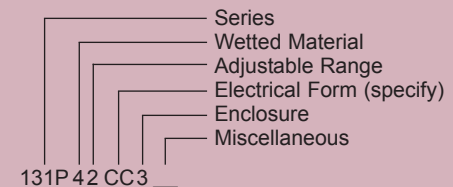
Special (Consult representative or factory)

- Non-catalog adjustable range and/or set point, deadband and proof pressure

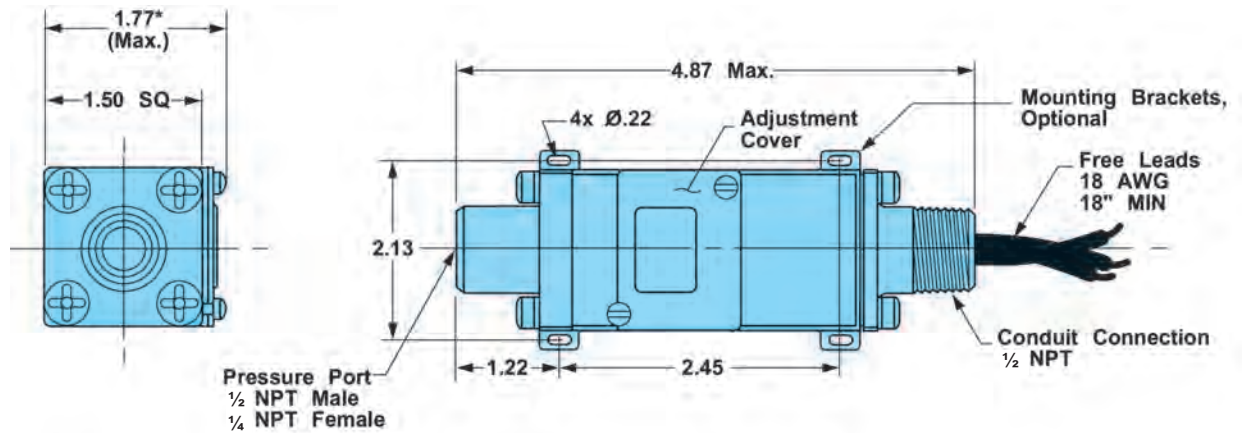
Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required
- When a selectable DB is desired, stipulate DB within allowed range

Example

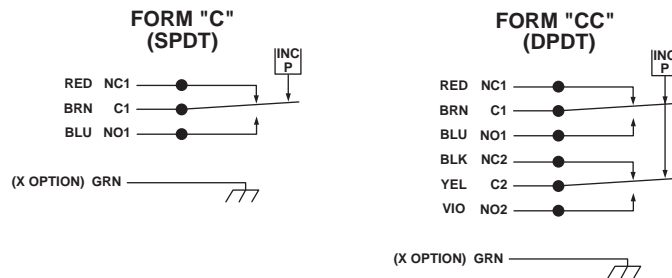


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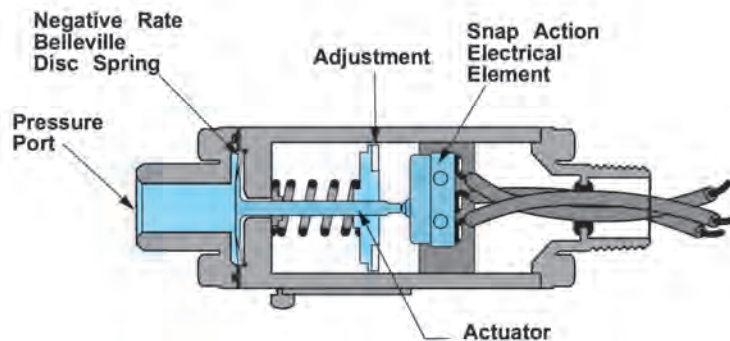


*1.90 Max. with Mounting Bracket

Electrical Form



Basic Principles of Design



Neo-Dyn® Series 231P Pressure Switch/Internal Adjustment

Compact, adjustable pressure switch for high pressure hydraulic process applications. Using our efficient Nega-Rate® Belleville disc spring, we offer superior set point stability and vibration resistance.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range		Deadband (approximate)	Maximum Recommended System Pressure	Proof Pressure
	Increasing	Decreasing			
3	*	250 to 710	90	4000	5000
4	*	600 to 1050	140	4000	5000
5	*	700 to 2700	300	6000	8000
6	*	2400 to 4400	450	6000	8000
7	*	4100 to 6500	500	8000	10000
8	*	5500 to 9000	1000	12,500	15,000

All values given in psig unless otherwise noted.

* Add selected deadband to decreasing pressure range.

Standard Specifications

Electrical Listings

Snap action electrical switch recognized by Underwriters' Laboratories, Inc. and CSA International

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18AWG, 18" long leads

Pressure Connection

1/4 NPT Female
1/2 NPT Male (N/A Range 8)

Temperature Range*

Ambient:
-40°F to +180°F
(-40°C to +82°C)
Media:
-40°F to +300°F
(-40°C to +149°C)

* Temperature limits change with O-Ring selection

Adjustment

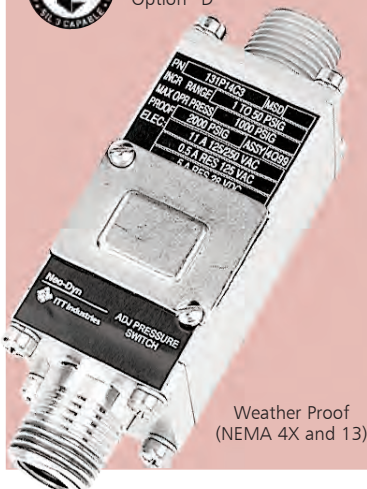
Internal, slotted adjustment nut

Shipping Weight

Approximately 20 ounces



Order Miscellaneous Option "D"



Weather Proof (NEMA 4X and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

- 1 Aluminum port and piston, teflon seal, and Buna-N O-Ring (not available for Range 8)
- 4 316 stainless steel port and piston, teflon seal, and Buna-N O-Ring

Adjustable Range

- 3 250 psig dec. to 800 psig inc. (17.3 bar dec. to 55.1 bar inc.)
- 4 600 psig dec. to 1190 psig inc. (41.4 bar dec. to 82.0 bar inc.)
- 5 700 psig dec. to 3000 psig inc. (48.3 bar dec. to 207 bar inc.)
- 6 2400 psig dec. to 4850 psig inc. (165 bar dec. to 334 bar inc.)
- 7 4100 psig dec. to 7000 psig inc. (283 bar dec. to 483 bar inc.)
- 8 5500 psig dec. to 10,000 psig inc. (379 bar dec. to 689 bar inc.)

Electrical Form

- C 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC
- CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC

Enclosure

- 3 Meets or exceeds the requirements of NEMA Type 3, 3R, 3S, 4, 4X and 13

Miscellaneous

- A Epoxy paint exterior — extra protection for severe environments
- B Viton O-Ring
- C EPR O-Ring
- D SIL approval and marking, per IEC61508 (includes FMEA report)
- I 3/4 NPT conduit box with terminal strip
- J Annealed stainless steel port screws for H₂S environments — Consult factory for reduced system and proof pressure ratings (Not available with X option)
- M Gold electrical contacts for extremely low current applications
- R 72" Electrical free leads
- Z Mounting bracket kit
- X CE Mark

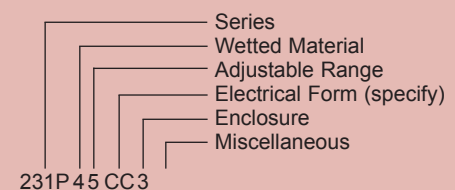
Special (Consult representative or factory)

- Non-catalog adjustable range and/or set point, deadband and proof pressure

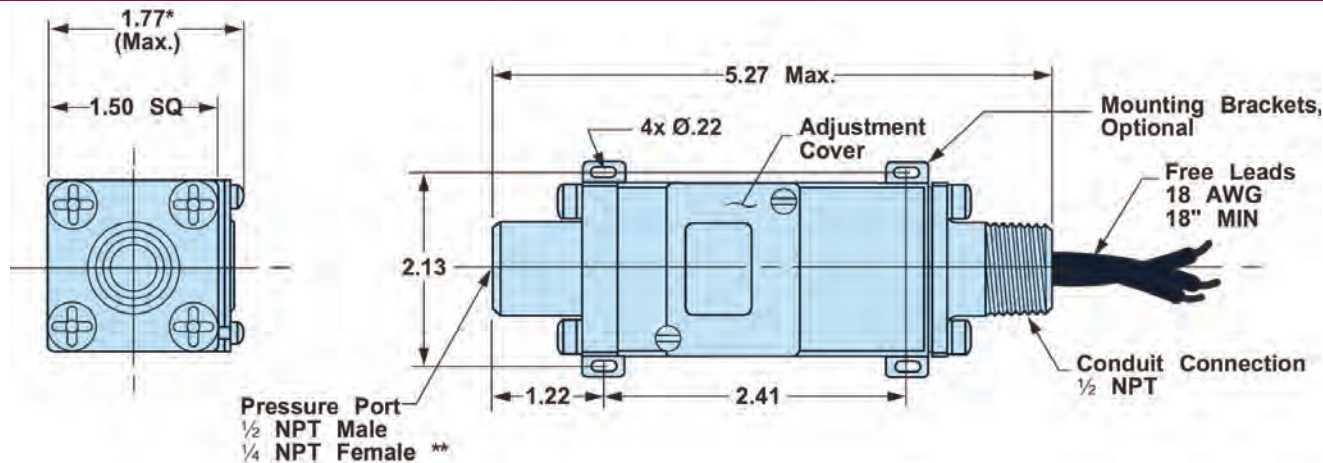
Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

Example

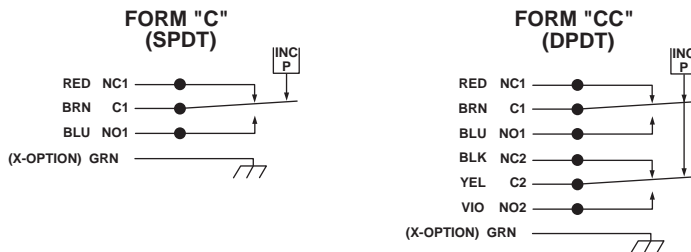


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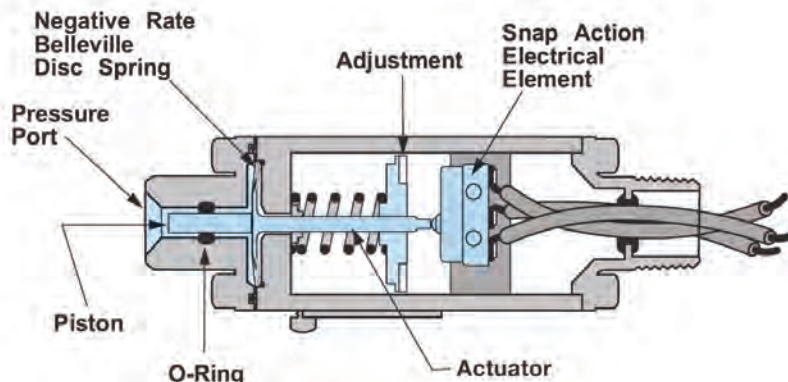


*1.90 Max. with Mounting Bracket
**No 1/4 NPT for Range 8

Electrical Form



Basic Principles of Design



Neo-Dyn® Series 105P/105PP Pressure Switch/Miniature Tamper Proof

All purpose miniature tamper proof switch, extremely light weight and durable construction. Has efficient Nega-Rate® Belleville disc spring sensing mechanism. Small size improves vibration and shock resistance.

Operating Pressure Data

Series	Fixed Set Point Range		Deadband (minimum)	Maximum Recommended System Pressure	Proof Pressure
	Increasing	Decreasing			
105P	5 to 600	2 to 540	3 or 10% *	1500	3000
105P (5 wetted material)	15 to 130	10 to 110	5 or 15% *	250	500
105P (5 wetted material)	30 to 100	22 to 75	25%	1500	3000
105P (5 wetted material)	101 to 600	76 to 510	15%	1500	3000
105PP	601 to 2000	511 to 1700	15%	3000	5000

All values given in psig.

* Whichever is greater

Standard Specifications

Deadband (Differential)

The deadband can be selected anywhere from the minimum indicated to a maximum of 45% of the set point.

Electrical Connection

PVC insulated 18 AWG leads 18" long

Pressure Connection

1/4 NPT Male

Temperature Range*

Ambient: -40°F to +180°F
(-40°C to +82°C)

Media: -40°F to +300°F
(-40°C to +149°C)

*Temperature limits change with O-Ring selection

Shipping Weight

Approximately 3 ounces



General Purpose
(NEMA 1 and 2)

Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

- 1 Aluminum port, polyimide diaphragm and Buna-N O-Ring
- 4 316 stainless steel port, polyimide diaphragm and Buna-N O-Ring
- 5 316 stainless steel port and diaphragm heliarc welded (N/A on 105PP)

Electrical Form

C Enclosure 2 and 5 7 amp at 125/250 VAC; 7 amp resistive, 4 amp inductive at 28 VDC

CC Enclosure 2 only 7 amp at 125/250 VAC; 7 amp resistive, 4 amp inductive at 28 VDC

Enclosure

- 2 Meets or exceeds requirements of NEMA Type 1 and 2
- 5 Hermetically sealed electrical assembly [Suitable for all Division 2 hazardous locations] (Wetted Material 1 and 4 only)

Miscellaneous

- B** Viton O-Ring
- C** EPR O-Ring
- M** Gold electrical contacts for extremely low current applications
- R** 72" Electrical free leads

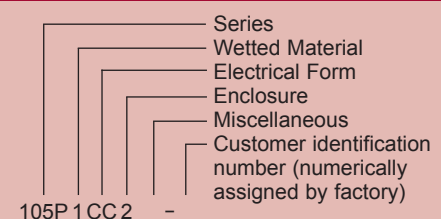
Special (Consult representative or factory)

- Pressure port per SAE AS4395E04
- Electrical connection per MS33678-10SL-3P
- Non-catalog set point, deadband and/or proof pressure
- Media temperature capability from -65°F to +400°F

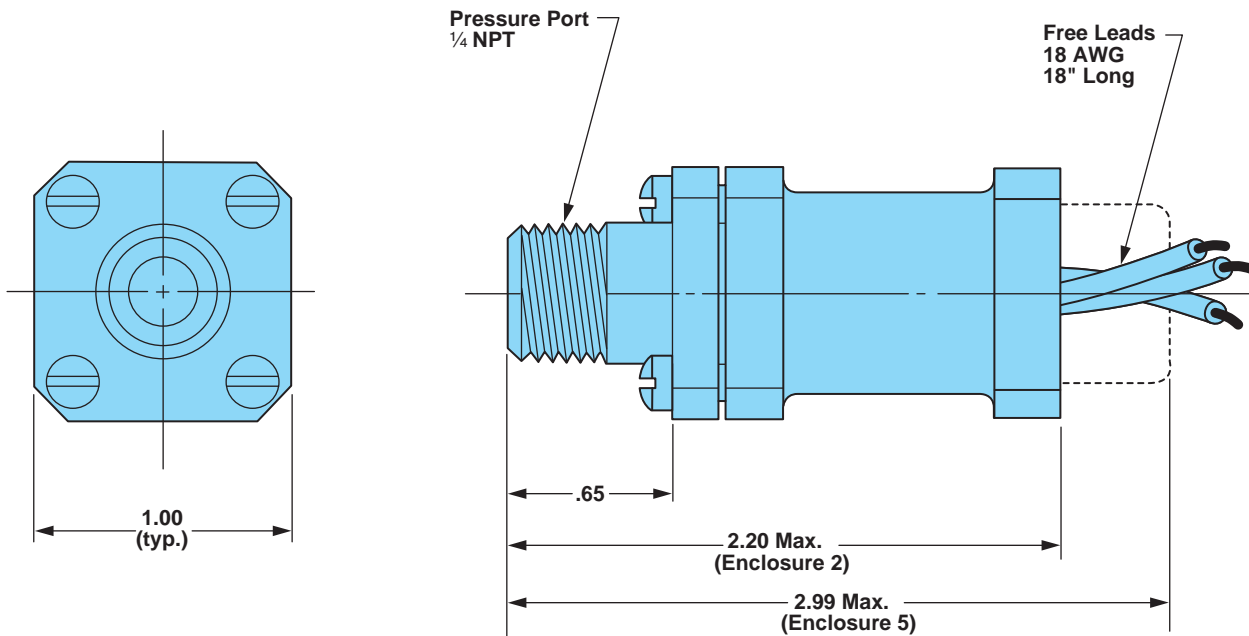
Ordering Procedure

- Specify set point, increasing or decreasing
- Specify deadband if pertinent and if not, specify as 'open'
- Specify system pressure
- Specify proof pressure
- Specify media
- Insert available 'option' number or letter designation as required

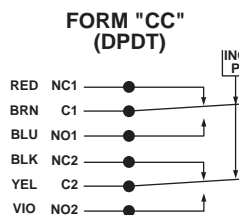
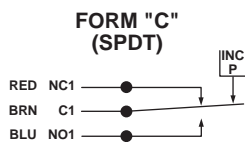
Example



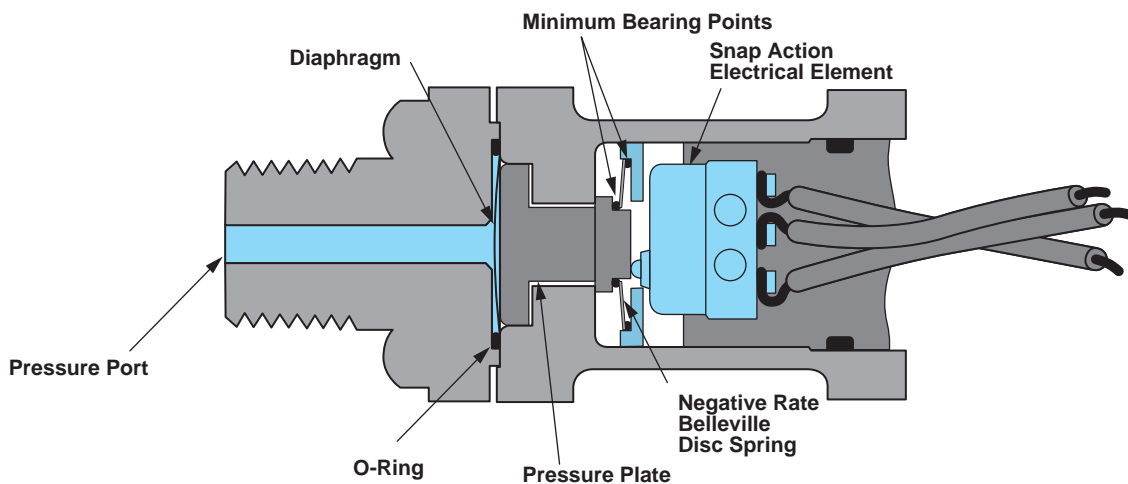
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 115P/115PP Pressure Switch/Tamper Proof

Compact, versatile pressure switch with built to order set points. This easy to install switch features the efficient Nega-Rate® Belleville disc spring for the set and forget application.

Operating Pressure Data

Series	Fixed Set Point Range		Maximum Recommended System Pressure	Proof Pressure
	Increasing	Decreasing		
115P	2 to 70	1.5 to 64	Up to 600	Up to 1000
115PP	71 to 250	65 to 220	Up to 600	Up to 1000

All values given in psig.

Standard Specifications

Deadband (Differential)

The deadband can be selected anywhere from .5 psig or 8% (whichever is greater) to 45% of the set point

Electrical

Snap action electrical switch recognized by Underwriters' Laboratories, Inc. and CSA International

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18 AWG leads 18" long

Pressure Connection

1/4 NPT Male

Temperature Range*

Ambient: -40°F to +180°F
(-40°C to +82°C)

Media: -40°F to +300°F
(-40°C to +149°C)

*Temperature limits change with O-Ring selection

Shipping Weight

Approximately 6 ounces



Order Miscellaneous Option "D"



Weather Proof
(NEMA 4 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Set Points

115P between 1.5 psig dec. and 70 psig inc. (.10 bar dec. to 4.8 bar inc.)
115PP between 65 psig dec. and 250 psig inc. (4.5 bar dec. to 17 bar inc.)

Wetted Material

1 Aluminum port, Teflon coated polyimide diaphragm and Buna-N O-Ring
4 316 Stainless steel port, Teflon coated polyimide diaphragm and Buna-N O-Ring

Electrical Form

C 5 amp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC
CC 5 amp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC

Enclosure

3 Meets or exceeds the requirements of NEMA Type 3, 3R, 3S, 4, 4X and 13

Miscellaneous

A Epoxy paint exterior — extra protection for severe environments
B Viton O-Ring
C EPR O-Ring
D SIL approval and marking, per IEC61508 (includes FMEA report)
M Gold electrical contacts for extremely low current applications
R 72" Electrical free leads
S Stainless steel diaphragm (115P, Wetted Material 4 only. Not available on 115PP)
W Stainless steel screws — exterior (automatically furnished with Miscellaneous Option A and Wetted Material 4)

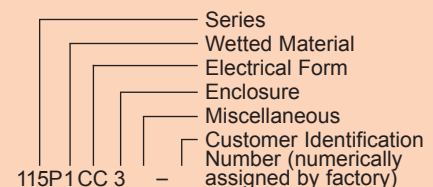
Special (Consult representative or factory)

- Pressure port per SAE AS4355E04
- Electrical connection per MS33678-10SL-3P
- Non-catalog set point, deadband and/or proof pressure
- 11 amp 125/250 VAC electrical rating
- Media temperature capability from -65°F to +350°F

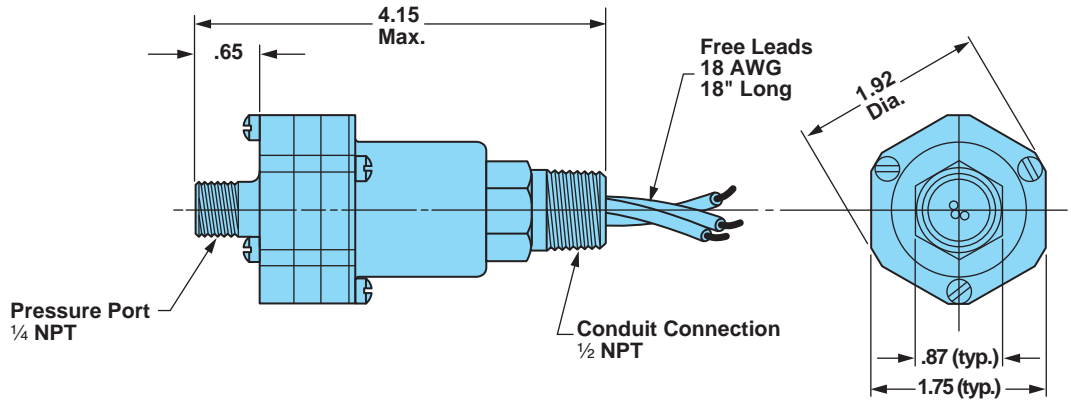
Ordering Procedure

- Specify set point, increasing or decreasing
- Specify deadband if pertinent and if not, specify as 'open'
- Specify system pressure
- Specify proof pressure
- Specify media
- Insert available option as required

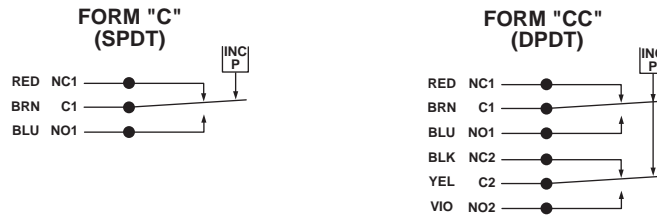
Example



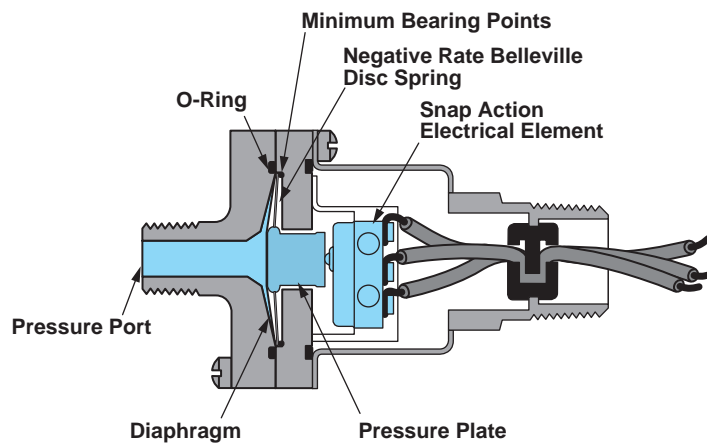
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 125P Pressure Switch/Tamper Proof

Designed for high pressure pneumatic or low impulse hydraulic applications requiring a narrow deadband. Has diaphragm sensor with efficient Nega-Rate® Belleville disc spring for excellent accuracy and repeatability.

Operating Pressure Data

Series	Fixed Set Point Range		Maximum Recommended System Pressure	Proof Pressure
	Increasing	Decreasing		
125P	40 to 3050	20 to 2800	5000	7500

All values given in psig.

Standard Specifications

Deadband (Differential)

The deadband can be selected anywhere from 20 psig (1.38 bar) or 8% (whichever is greater) to 45% of the set point

Electrical

Snap action electrical switch recognized by Underwriters' Laboratories, Inc. and CSA International

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18 AWG leads 18" long

Pressure Connection

1/4 NPT Female

Temperature Range*

Ambient: -40°F to +180°F
(-40°C to +82°C)

Media: -40°F to +300°F
(-40°C to +149°C)

*Temperature limits change with O-Ring selection

Shipping Weight

Approximately 10 ounces



Order Miscellaneous Option "D"



Weather Proof (NEMA 4 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Set Points

125P between 20 psig dec. and 3050 psig inc. (1.4 bar dec. and 210 bar inc.)

Wetted Material

- 1** Aluminum port, Teflon coated polyimide diaphragm and Buna-N O-Ring
- 4** 316 Stainless steel port, Teflon coated polyimide diaphragm and Buna-N O-Ring

Electrical Form

- C** 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; 5 amp resistive at 125 VDC
- CC** 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; 5 amp resistive at 125 VDC

Enclosure

- 3** Meets or exceeds the requirements of NEMA Type 3, 3R, 3S, 4, 4X and 13

Miscellaneous

- A** Epoxy paint exterior — extra protection for severe environments
- B** Viton O-Ring
- C** EPR O-Ring
- D** SIL approval and marking, per IEC61508 (includes FMEA report)
- M** Gold electrical contacts for extremely low current applications
- R** 72" Electrical free leads
- W** Stainless steel screws — exterior
- X** CSA approved and CE Mark

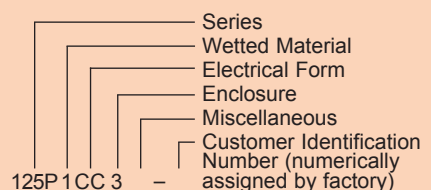
Special (Consult representative or factory)

- Pressure port per SAE AS4355E04
- Non-catalog set point, deadband and/or proof pressure
- Media temperature capability from -65°F to +350°F

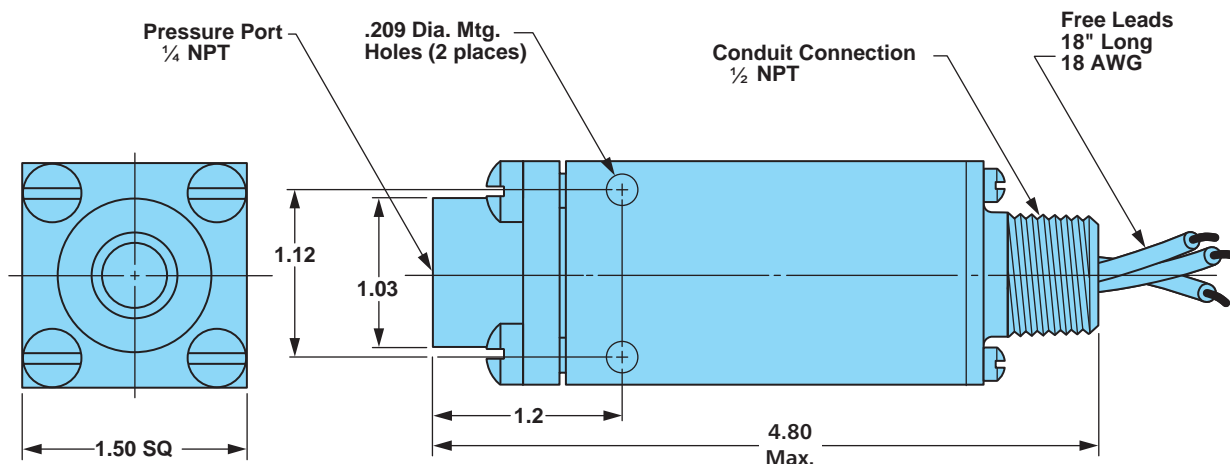
Ordering Procedure

- Specify set point, increasing or decreasing
- Specify deadband if pertinent
- Specify media
- Insert available option number or letter as required

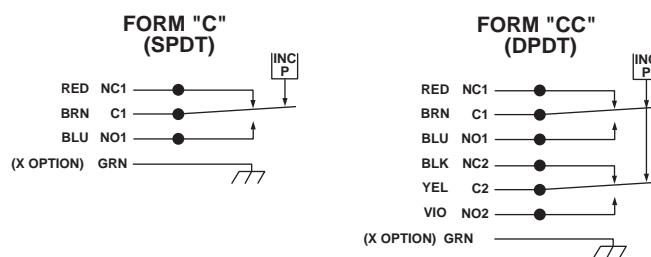
Example



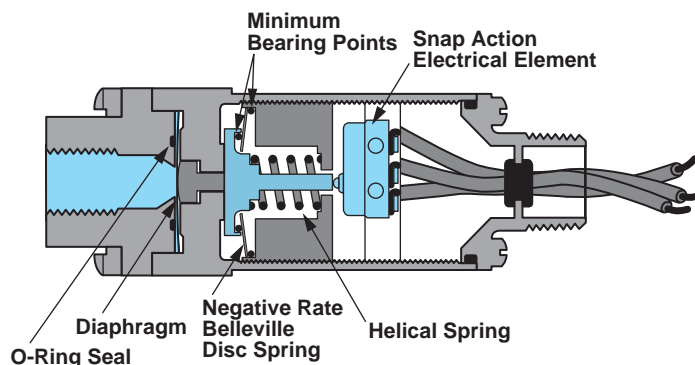
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 225P Pressure Switch/Tamper Proof

A sealed piston sensor with a efficient Nega-Rate® Belleville disc spring makes this switch well suited for high impulse hydraulic applications.

Operating Pressure Data

Series	Fixed Set Point Range		Deadband (minimums)	Maximum Recommended System Pressure		Proof Pressure	
	Increasing	Decreasing		Hydraulic	Pneumatic	Hydraulic	Pneumatic
225P	45 to 450	15 to 405	30 or 10%	5000	3000	7500	7500
225P	450 to 3000	250 to 2700	160 or 10%	5000	3000	7500	7500
225PP	3001 to 7500	2701 to 6750	10%	10,000*	5000	15,000**	7500

All values given in psig.

*Diminished safety factor equal to approximately 2:1

**Diminished safety factor equal to approximately 1.3:1

Standard Specifications

Deadband (Differential)

The deadband can be selected anywhere from the minimum tabulated to a maximum of 45% of the set point

Electrical

Snap action electrical switch recognized by Underwriters' Laboratories, Inc. and CSA International

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18 AWG, 18" long leads

Pressure Connection

1/4 NPT Female

Temperature Range*

Ambient: -40°F to +180°F
(-40°C to +82°C)

Media: -40°F to +300°F
(-40°C to +149°C)

*Temperature limits change with O-Ring selection

Shipping Weight

Approximately 10 ounces



Order Miscellaneous Option "D"



Weather Proof (NEMA 4 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Set Points

225P between 15 psig dec. and 450 psig inc. (1.0 bar dec. and 31 bar inc.)

225P between 250 psig dec. and 3000 psig inc. (17 bar dec. and 207 bar inc.)

225PP between 2701 psig dec. and 7500 psig inc. (186 bar dec. and 517 bar inc.)

Wetted Material

1 Aluminum port and piston, Teflon seal and Buna-N O-Ring

Electrical Form

C 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC

CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC

Enclosure

3 Meets or exceeds the requirements of NEMA Type 3, 3R, 3S, 4, 4X and 13

Miscellaneous

A Epoxy paint exterior — extra protection for severe environments

B Viton O-Ring

C EPR O-Ring

D SIL approval and marking, per IEC61508 (includes FMEA report)

M Gold electrical contacts for extremely low current applications

R 72" Electrical free leads

W Stainless steel screws — exterior

X CSA Certified and CE Mark

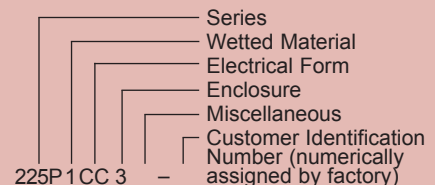
Special (Consult representative or factory)

- Pressure port per MS33649E4
- Non-catalog set point, deadband and/or proof pressure
- Stainless steel Aminco port with 9/16" - 18 UNF-3B THD
- Media temperature capability from -65°F to +350°F

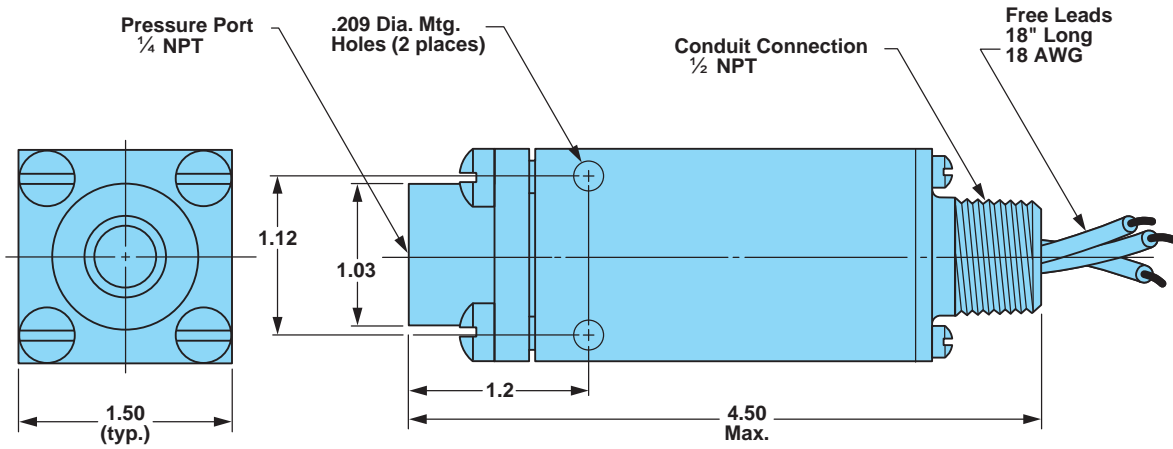
Ordering Procedure

- Specify set point, increasing or decreasing
- Specify deadband if pertinent and if not, specify as 'open'
- Specify media
- Insert available option number or letter as required

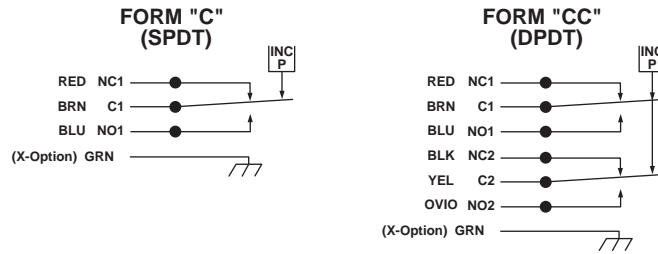
Example



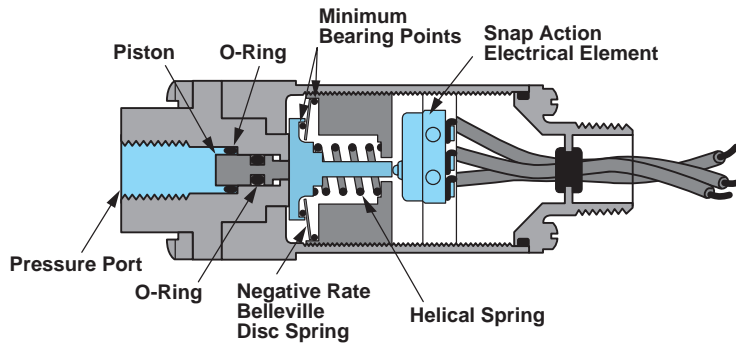
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn[®] Series 100P Pressure Switch/Internal Adjustment

Versatile Nega-Rate[®] Belleville spring pressure switch for use in division 2 hazardous areas. Applications include pneumatic and low impulse hydraulics up to 3000 psig system pressures. Various wetted material selections make this switch ideal for any type of process application.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range		Deadband (approximate)	Maximum System Pressure	Proof Pressure
	Increasing	Decreasing			
1	5 to 75	2.3 to 72.3	2.7	600	1000
2	15 to 150	9 to 144	6	3000	5000
4	50 to 300	36 to 286	14	3000	5000
5	125 to 600	100 to 575	25	3000	5000
7	500 to 1500	440 to 1440	60	3000	5000
8	800 to 2800	675 to 2675	125	3000	5000

All values given in psig.

Standard Specifications

Electrical Connection

3/4 NPT female conduit connection with terminal block and ground screw

Pressure Connection

Wetted Material 1 - 1/4 NPT Female
Wetted Material 4, 5, 7 and 9
1/2 NPT Female

*Temperature Range (Ambient)

11 amp T4 -40°F to +165°F
(-40°C to +74°C)
5 amp T5 -40°F to +180°F
(-40°C to +82°C)
5 amp T6 -40°F to +172°F
(-40°C to +78°C)

M Option:

1 amp T6 -40°F to +180°F
(-40°C to +82°C)

Media: -40°F to +300°F
(-40°C to +149°C)

Media temperature limits change with O-Ring selection.

Adjustment

Concealed wrench flat adjustment with range scale

Shipping Weight

Approximately 3 pounds



Order Miscellaneous Option "D"



Explosion Proof
Division 2
(NEMA 4X, 7, 9 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

- 1 Aluminum port, Teflon coated polyimide diaphragm, Buna-N O-Ring
- 4 316 stainless steel port, Teflon coated polyimide diaphragm, Buna-N O-Ring
- 5 316 stainless steel port and diaphragm, heliarc welded
- 7 Hastelloy C port and diaphragm, heliarc welded (Except Range 1)
- 9 Monel port and inconel diaphragm, heliarc welded (Except Range 1)

Adjustable Range

- 1 2.3 psig dec. to 75 psig inc. (0.2 bar dec. to 5.2 bar inc.)
- 2 9 psig dec. to 150 psig inc. (0.6 bar dec. to 10.3 bar inc.)
- 4 36 psig dec. to 300 psig inc. (2.5 bar dec. to 20.7 bar inc.)
- 5 100 psig dec. to 600 psig inc. (6.9 bar dec. to 41.4 bar inc.)
- 7 440 psig dec. to 1500 psig inc. (30.3 bar dec. to 103.4 bar inc.)
- 8 675 psig dec. to 2800 psig inc. (46.5 bar dec. to 193.1 bar inc.)

Electrical Form

- C 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC
.5 amp resistive at 125 VDC
- CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC
.5 amp resistive at 125 VDC

Enclosure

- 5 Explosion proof, hermetically-sealed electrical assembly for Division 2 Hazardous Locations, **Underwriters Laboratories, Inc.** listed (File E56677), **CSA International** certified (File LR34146)

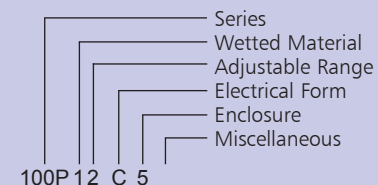
Miscellaneous

- A Epoxy paint exterior — extra protection for severe environments
- B Viton O-Ring
- C EPR O-Ring
- D SIL approval and marking, per IEC61508 (includes FMEA report)
- B 7/16" - 20 SAE Female Port (wetted material 1 only)
- F Fire fuse — for fire-tested equipment (wetted material 4 & 5 only)
- M Gold electrical contacts for extremely low current applications
(1 Amp at 125 VAC; 1 Amp Res, 0.5 Amp Ind. at 28 VDC)
- O Oxygen clean
- S Stainless steel diaphragm (wetted material 4 only)
- W Stainless steel screws — exterior (Standard with Wetted Materials 4, 5, 7 and 9)
- Y 2" NPT Female port for viscous medias. Port Material is carbon steel (Wetted Material "3")
— Order as 100P3xxxY

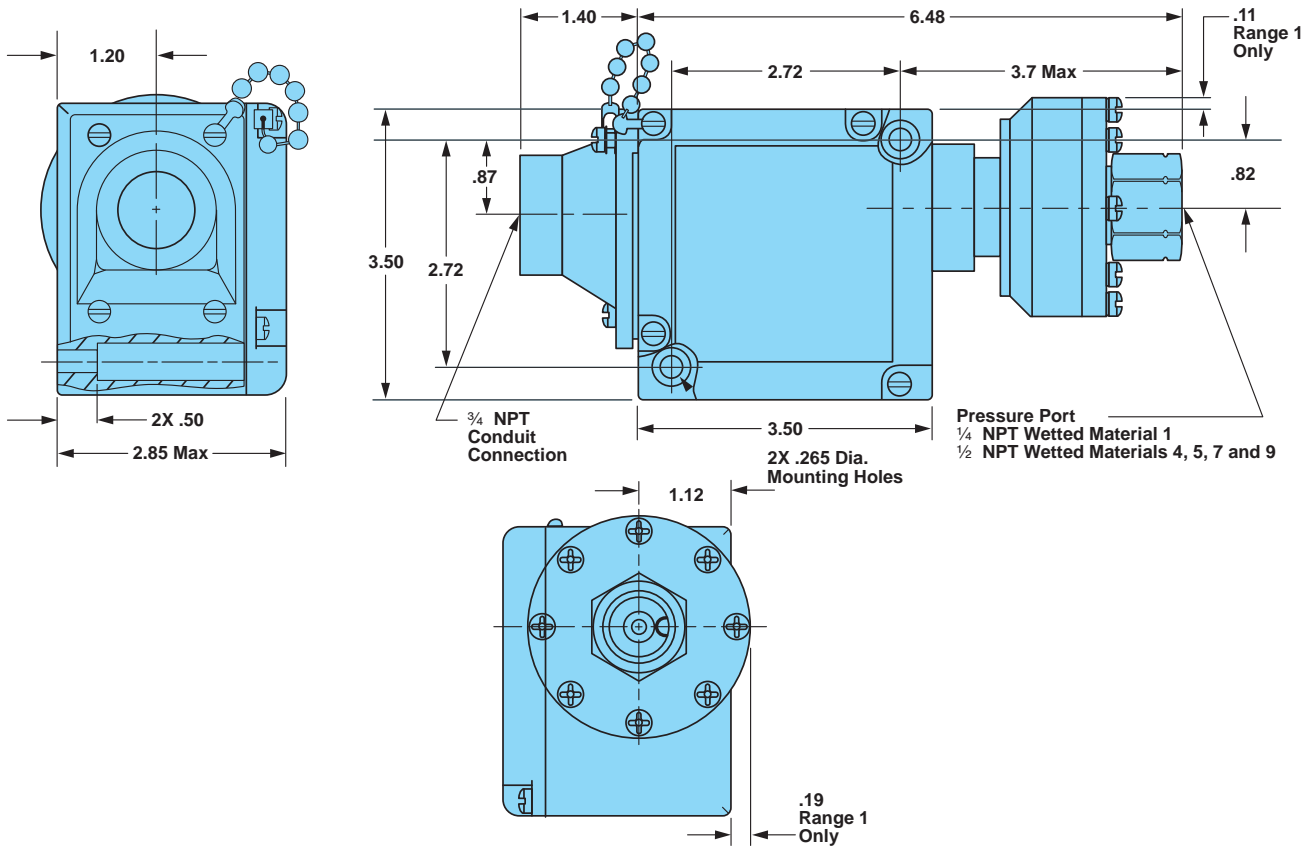
Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

Example



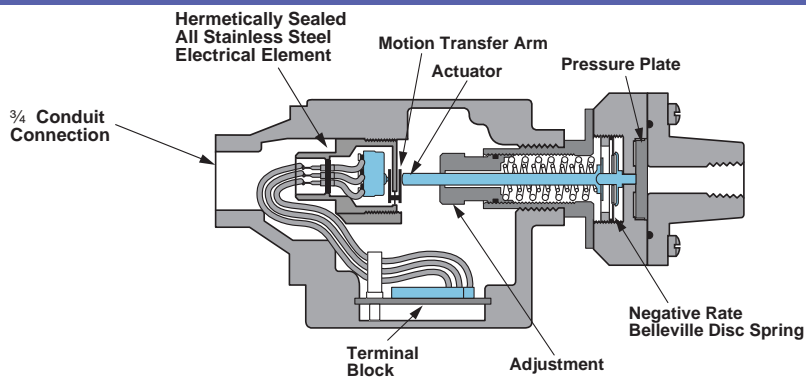
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 100P Pressure Switch/Internal Adjustment

Versatile Nega-Rate® Belleville disc spring pressure switch for use in hazardous areas. Applications include pneumatic and low impulse hydraulics up to 3000 psig system pressures. Various wetted material selections make this switch ideal for your specific requirement.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range		Deadband (approximate)	Maximum Recommended System Pressure	Proof Pressure
	Increasing	Decreasing			
1	5 to 75	2 to 72	3	600	1000
2	15 to 150	9 to 144	6	3000	5000
4	50 to 300	36 to 286	14	3000	5000
5	125 to 600	100 to 575	25	3000	5000
7	500 to 1500	440 to 1440	60	3000	5000
8	800 to 2800	675 to 2675	125	3000	5000

All values given in psig.

Standard Specifications

Electrical

Snap action electrical switch listed by Underwriters Laboratories, Inc., SIRA and CSA International

Electrical Connection

3/4 NPT female conduit connection with terminal block

Pressure Connection

Wetted Material 1
1/4 NPT Female

Wetted Material 4, 5, 7 and 9
1/2 NPT Female

Temperature Range

Ambient: -40°F to +180°F
(-40°C to +82°C)
Media: -40°F to +300°F
(-40°C to +149°C)

Adjustment

Tool free internal adjustment with range scale

Shipping Weight

Approximately 6 pounds



Order Miscellaneous Option "D"



Explosion Proof
(NEMA 4X, 7, 9 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

- 1 Aluminum port, Teflon coated polyimide diaphragm, Buna-N O-Ring
- 4 316 stainless steel port, Teflon coated polyimide diaphragm, Buna-N O-Ring
- 5 316 stainless steel port and diaphragm, heliarc welded
- 7 Hastelloy C port and diaphragm, heliarc welded (Except Range 1)
- 9 Monel port and inconel diaphragm, heliarc welded (Except Range 1)

Adjustable Range

- 1 2 psig dec. to 75 psig inc. (0.2 bar dec. to 5.2 bar inc.)
- 2 9 psig dec. to 150 psig inc. (0.6 bar dec. to 10.3 bar inc.)
- 4 36 psig dec. to 300 psig inc. (2.5 bar dec. to 20.7 bar inc.)
- 5 100 psig dec. to 600 psig inc. (6.9 bar dec. to 41.4 bar inc.)
- 7 440 psig dec. to 1500 psig inc. (30.3 bar dec. to 103.4 bar inc.)
- 8 675 psig dec. to 2800 psig inc. (46.5 bar dec. to 193.1 bar inc.)

Electrical Form

- C 15 amp 125, 250 or 480 VAC; 2 amp 600 VAC; 1/8 hp 125 VAC; 1/4 hp 250 VAC; .5 amp resistive, .04 amp inductive 125 VDC
- CC 11 amp and 1/4 hp 125 or 250 VAC; 5 amp resistive, 3 amp inductive 28 VDC; .5 amp resistive 125 VDC
- Z 15 amp 125, 250 or 480 VAC; 1/4 hp 125 VAC; 1/2 hp 250 VAC; 1 amp resistive, .5 amp inductive 125 VDC

Enclosure

- 7 Explosion proof, **CE MARK**, **Underwriters Laboratories, Inc.** listed (File E56677), **CSA International** certified (File LR34146), and **SIRA** approved (File 10ATEX1018X) for Division 1 and 2; Class I, Groups C and D; Class II, Groups E, F and G; Ex d IIB Hazardous Locations; NEMA type 7 and 9, and IP65.

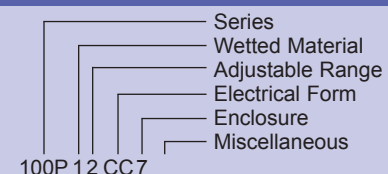
Miscellaneous

- A Epoxy paint exterior — extra protection for severe environments
- B Viton O-Ring
- C EPR O-Ring
- D SIL approval and marking, per IEC61508 (includes FMEA report)
- E 7/16" - 20 SAE Female Port (wetted material 1 only)
- F Fire fuse — for fire-tested equipment (wetted material 4 & 5 only)
- M Gold electrical contacts for extremely low current applications (1 Amp at 125 VAC; 1 Amp Res, 0.5 Amp Ind. at 28 VDC)
- S Stainless steel diaphragm (wetted material 4 only)
- W Stainless steel screws — exterior (Standard with Wetted Materials 4, 5, 7 and 9)

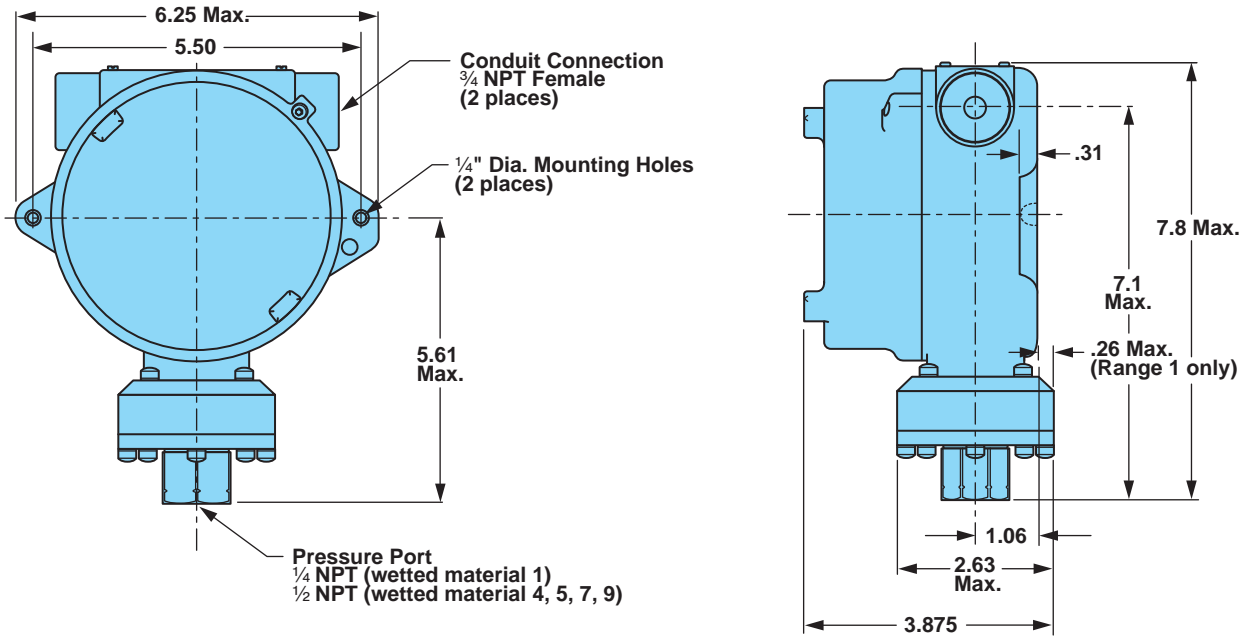
Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

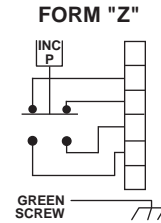
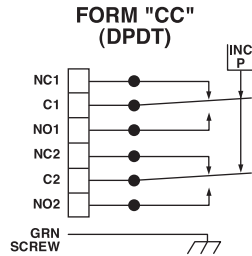
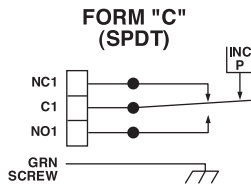
Example



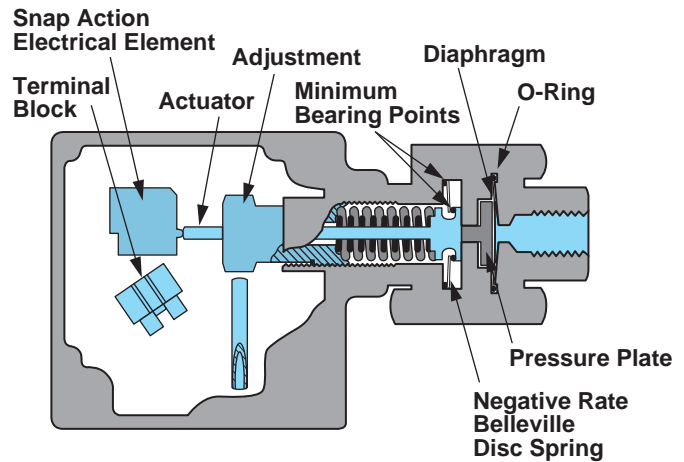
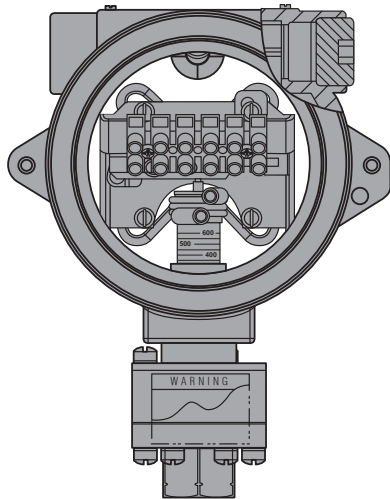
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 100P Pressure Switch/Internal Adjustment

Versatile Nega-Rate® Belleville disc spring pressure switch for use in hazardous areas. Applications include pneumatic and low impulse hydraulics up to 3000 psig system pressures. Various wetted material selections make this switch ideal for your specific requirement.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range		Deadband (approximate)	Maximum Recommended System Pressure	Proof Pressure
	Increasing	Decreasing			
1	5 to 75	2 to 72	3	600	1000
2	15 to 150	9 to 144	6	3000	5000
4	50 to 300	36 to 286	14	3000	5000
5	125 to 600	100 to 575	25	3000	5000
7	500 to 1500	440 to 1440	60	3000	5000
8	800 to 2800	675 to 2675	125	3000	5000

All values given in psig.

Standard Specifications

Electrical

Snap action electrical switch listed by Underwriters Laboratories, Inc., SIRA and CSA International

Electrical Connection

3/4 NPT female conduit connection with terminal block

Pressure Connection

Wetted Material 1
1/4 NPT Female

Wetted Material 4, 5, 7 and 9
1/2 NPT Female

Temperature Range

Ambient: -40°F to +180°F
(-40°C to +82°C)

Media: -40°F to +300°F
(-40°C to +149°C)

Adjustment

Tool free internal adjustment with range scale

Shipping Weight

Approximately 6 pounds



Order Miscellaneous Option "D"



Explosion Proof
(NEMA 4X, 7, 9 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

- 1 Aluminum port, Teflon coated polyimide diaphragm, Buna-N O-Ring
- 4 316 stainless steel port, Teflon coated polyimide diaphragm, Buna-N O-Ring
- 5 316 stainless steel port and diaphragm, heliarc welded
- 7 Hastelloy C port and diaphragm, heliarc welded (Except Range 1)
- 9 Monel port and inconel diaphragm, heliarc welded (Except Range 1)

Adjustable Range

- 1 2 psig dec. to 75 psig inc. (0.2 bar dec. to 5.2 bar inc.)
- 2 9 psig dec. to 150 psig inc. (0.6 bar dec. to 10.3 bar inc.)
- 4 36 psig dec. to 300 psig inc. (2.5 bar dec. to 20.7 bar inc.)
- 5 100 psig dec. to 600 psig inc. (6.9 bar dec. to 41.4 bar inc.)
- 7 440 psig dec. to 1500 psig inc. (30.3 bar dec. to 103.4 bar inc.)
- 8 675 psig dec. to 2800 psig inc. (46.5 bar dec. to 193.1 bar inc.)

Electrical Form

- C 15 amp 125, 250 or 480 VAC; 2 amp 600 VAC; 1/8 hp 125 VAC; 1/4 hp 250 VAC; .5 amp resistive, .04 amp inductive 125 VDC
- CC 11 amp and 1/4 hp 125 or 250 VAC; 5 amp resistive, 3 amp inductive 28 VDC; .5 amp resistive 125 VDC
- Z 15 amp 125, 250 or 480 VAC; 1/4 hp 125 VAC; 1/2 hp 250 VAC; 1 amp resistive, .5 amp inductive 125 VDC

Enclosure

- 7 Explosion proof, **CE MARK**, Underwriters Laboratories, Inc. listed (File E56677), **CSA International** certified (File LR34146), and **SIRA** approved (File 10ATEX1018X) for Division 1 and 2; Class I, Groups C and D; Class II, Groups E, F and G; Ex d IIB Hazardous Locations; NEMA type 7 and 9, and IP65.

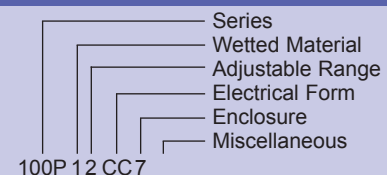
Miscellaneous

- A Epoxy paint exterior — extra protection for severe environments
- B Viton O-Ring
- C EPR O-Ring
- D SIL approval and marking, per IEC61508 (includes FMEA report)
- E 7/16" - 20 SAE Female Port (wetted material 1 only)
- F Fire fuse — for fire-tested equipment (wetted material 4 & 5 only)
- M Gold electrical contacts for extremely low current applications (1 Amp at 125 VAC; 1 Amp Res, 0.5 Amp Ind. at 28 VDC)
- S Stainless steel diaphragm (wetted material 4 only)
- W Stainless steel screws — exterior (Standard with Wetted Materials 4, 5, 7 and 9)

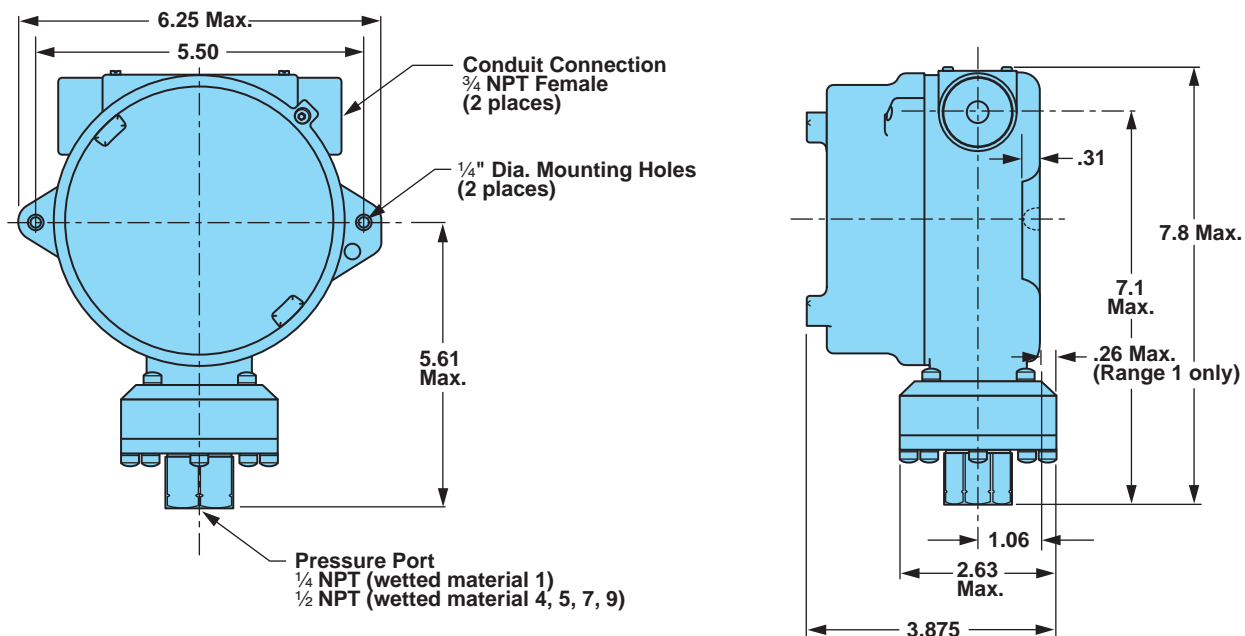
Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

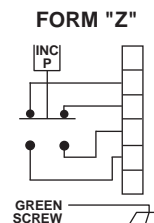
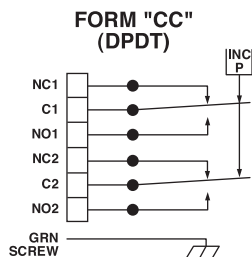
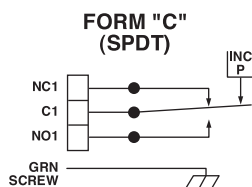
Example



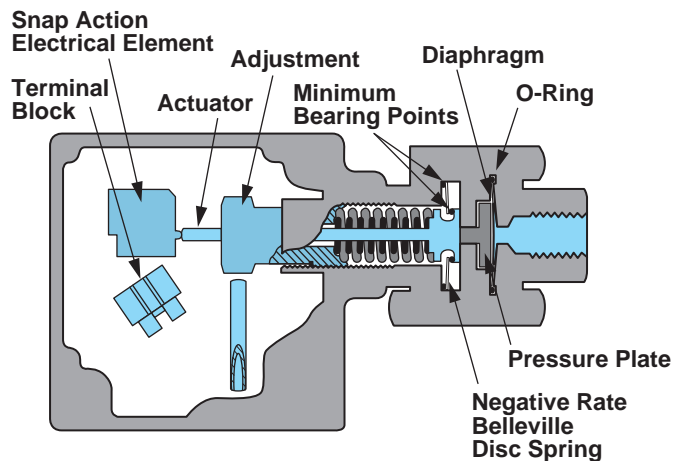
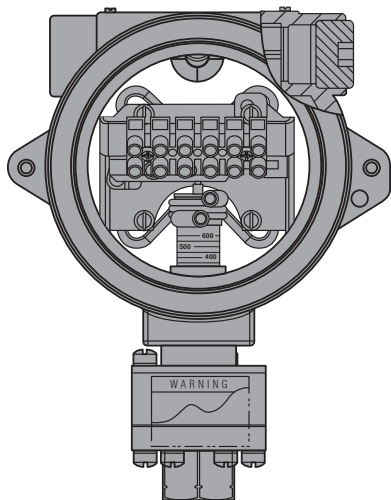
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 110P Pressure Switch/Internal Adjustment

Sensitive Nega-Rate® Belleville spring adjustable pressure switch for low pressure applications. Unit has been designed for Division 2 explosion proof environments and is weather proof, making it suitable for all of your Division 2 applications.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range		Deadband (approximate)	Maximum Recommended System Pressure	Proof Pressure
	Increasing	Decreasing			
2	10" H ₂ O to 100" H ₂ O	7" H ₂ O to 97" H ₂ O	3" H ₂ O	300	500
4	3 to 15	2.75 to 14.75	.25*	300	500

All values given in psig (except as noted).

*Deadband increases to .4 psi (approx.) in "CC5" configuration.

Standard Specifications

Electrical

Snap action electrical switch assembly listed by Underwriters Laboratories, Inc., FM Approval and CSA International

Electrical Connection

3/4 NPT female conduit connection with terminal block

Pressure Connection

Wetted Material 1
1/4 NPT Female

Wetted Material 4
1/2 NPT Female

Temperature Range

Ambient:

11 amp T4 -40°F to +165°F
 (-40°C to +74°C)

5 amp T5 -40°F to +180°F
 (-40°C to +82°C)

5 amp T6 -40°F to +172°F
 (-40°C to +78°C)

M Option:

1 amp T6 -40°F to +180°F
 (-40°C to +82°C)

Media:

-40°F to +300°F
(-40°C to +149°C)

Adjustment

Concealed wrench flat adjustment with range scale

Shipping Weight

Approximately 3 pounds



Order Miscellaneous Option "D"



Explosion Proof (Division 2)

Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

- 1 Aluminum port, Teflon coated polyimide diaphragm and Buna-N O-Ring
- 4 316 stainless steel port, Teflon coated polyimide diaphragm and Buna-N O-Ring

Adjustable Range

- 2 7" H₂O dec. to 100" H₂O inc. (17 millibar dec. to 249 millibar inc.)
- 4 2.75 psig dec. to 15 psig inc. (0.2 bar dec. to 1.0 bar inc.)

Electrical Form

- C 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC
- CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC

Enclosure

- 5 Explosion proof, hermetically-sealed electrical assembly for Division 2 Hazardous Locations, Underwriters Laboratories, Inc. listed (File E56677), CSA International certified (File LR34146)

Miscellaneous

- A Epoxy paint exterior — extra protection for severe environments
- B Viton O-Ring
- C EPR O-Ring
- D SIL approval and marking, per IEC61508 (includes FMEA report)
- F Fire fuse — for fire-tested equipment (Wetted Material 4 only; Not Available with G)
- G 1/2 NPT male port (Wetted Material 4 only)
- M Gold electrical contacts for extremely low current applications
- S Stainless steel diaphragm (Wetted Material 4 only)
- W Stainless steel screws — exterior (Standard with Wetted Material 4)

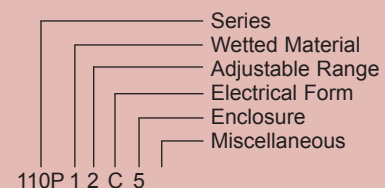
Special (Consult representative or factory)

- Non-catalog adjustable range and/or set point, deadband and proof pressure
- Chemical seals installed

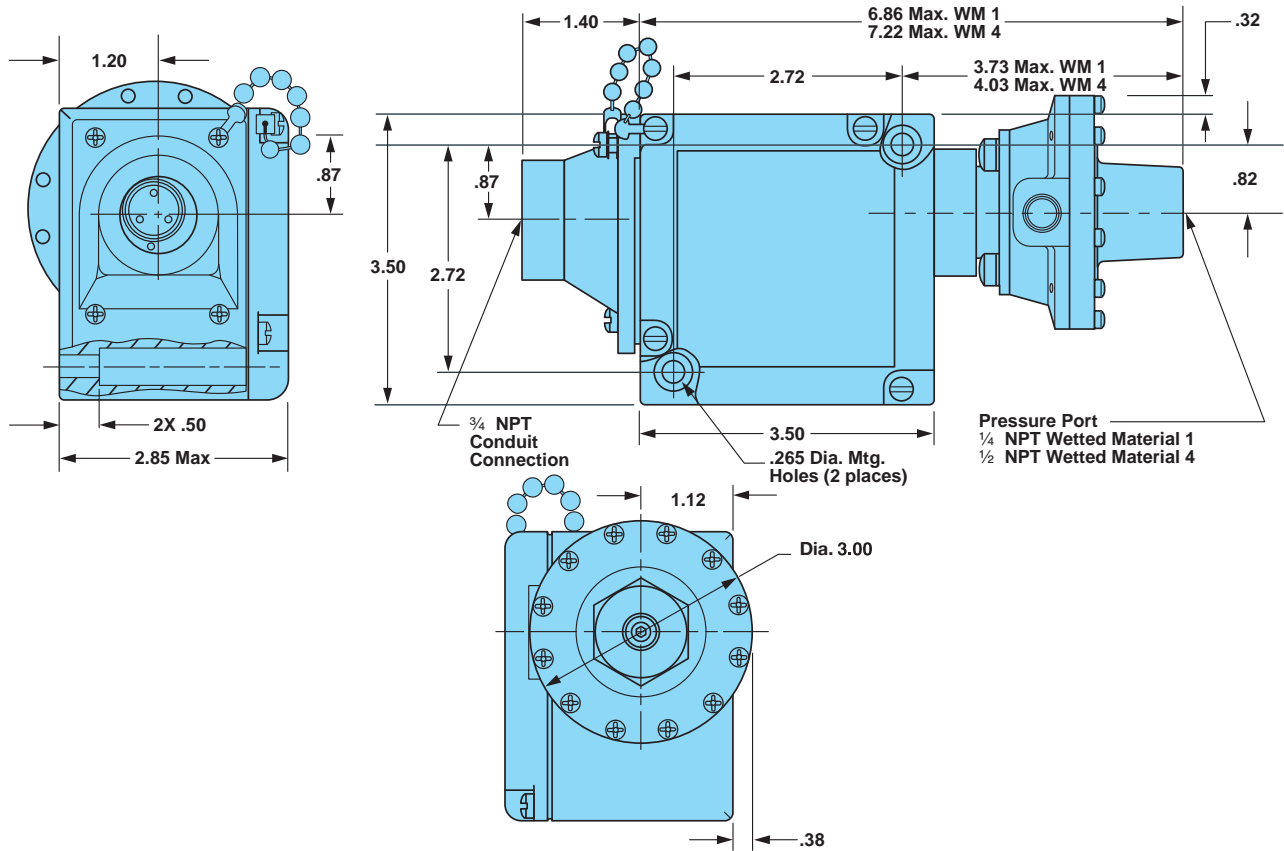
Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

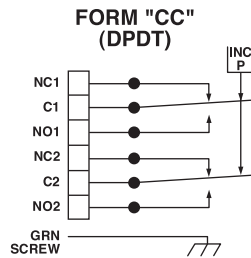
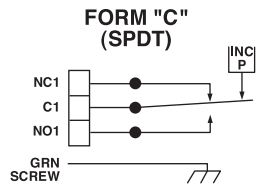
Example



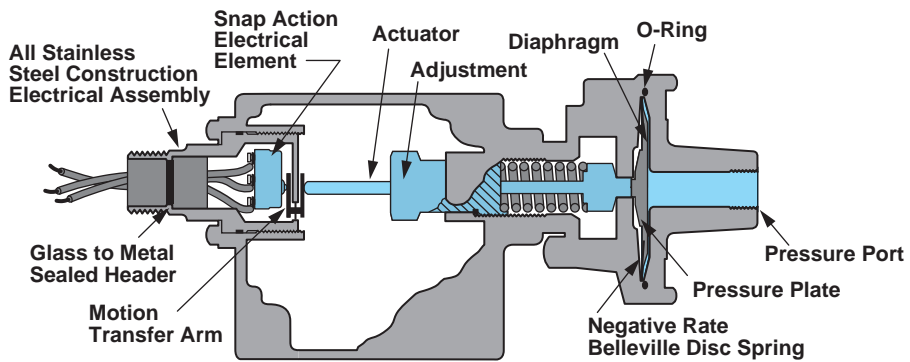
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 110P Pressure Switch/Internal Adjustment

Sensitive Nega-Rate® Belleville spring adjustable pressure switch for low pressure applications.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range		Deadband (approximate)	Maximum Recommended System Pressure	Proof Pressure
	Increasing	Decreasing			
2	10" H ₂ O to 100" H ₂ O	7" H ₂ O to 97" H ₂ O	3" H ₂ O	300	500
4	3 to 15	2.75 to 14.75	.25*	300	500

All values given in psig.

*Deadband increases to .4 psi (approx.) in "CC6" configuration.

Standard Specifications

Electrical

Snap action electrical switch assemblies, Part Numbers 057-0770 & 057-0772 (Form C) and 057-0771 & 057-0773 (Form CC), are listed by Underwriters' Laboratories, Inc., FM Approvals, CSA International and NCC (INMETRO). See the miscellaneous option N for additional listings.

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18 AWG, 18" long leads

Pressure Connection

Wetted Material 1
1/4 NPT Female

Wetted Material 4
1/2 NPT Female

Temperature Range*

Ambient: -40°F to +180°F
(-40°C to +82°C)

Media: -40°F to +300°F
(-40°C to +149°C)

*Temperature limits change with O-Ring selection. See Electrical Assembly specification sheet for Temperature Class Ratings.

Adjustment

Concealed wrench flat adjustment with range scale

Shipping Weight

Approximately 3 pounds



Order Miscellaneous Option "D"



Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

- 1 Aluminum port, Teflon coated polyimide diaphragm and Buna-N O-Ring
- 4 316 stainless steel port, Teflon coated polyimide diaphragm and Buna-N O-Ring

Adjustable Range

- 2 7" H₂O dec. to 100" H₂O inc. (17 millibar dec. to 249 millibar inc.)
- 4 2.75 psig dec. to 15 psig inc. (0.2 bar dec. to 1.0 bar inc.)

Electrical Form

- C 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive 28 VDC; .5 amp resistive at 125 VDC
- CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive 28 VDC; .5 amp resistive at 125 VDC

Enclosure

- 6 Includes an explosion proof, hermetically-sealed electrical assembly. EX d IIC. Division 1 and 2, Class I, Groups A, B, C, and D; Class II, Groups E, F, and G. NEMA 4X, 7, and 9; IP66. Leads are factory sealed and Pressure Switches are Dual Seal Certified.

Miscellaneous

- A Epoxy paint exterior — extra protection for severe environments
- B Viton O-Ring
- C EPR O-Ring
- D SIL approval and marking, per IEC61508 (includes FMEA report)
- F Fire fuse — for fire-tested equipment (wetted material 4 only: not available with option G)
- G 1/2 NPT male port (wetted material 4 only)
- I 3/4 NPT conduit box with terminal strip (Groups C & D only, not available with N option)
- M Gold electrical contacts for extremely low current applications (1 Amp at 125 VAC; 1 Amp Res, 0.5 Amp Ind. at 28 VDC)
- N ATEX and IECEx with CE Mark
- R 72" Electrical free leads
- S Stainless steel diaphragm (wetted material 4 only)
- W Stainless steel screws — exterior (standard with wetted material 4)

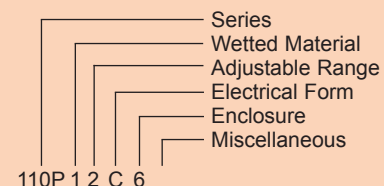
Special (Consult representative or factory)

- Non-catalog adjustable range and/or set point, deadband and proof pressure
- Chemical seals installed

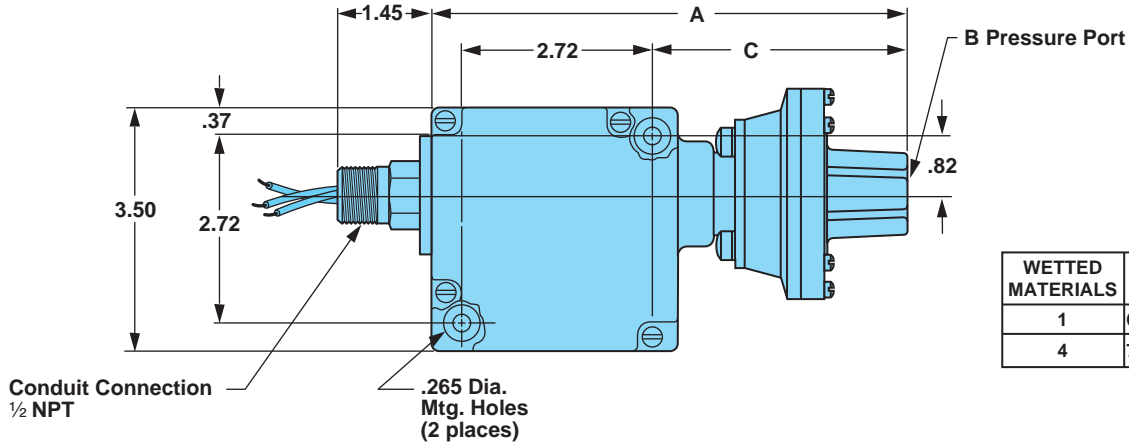
Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

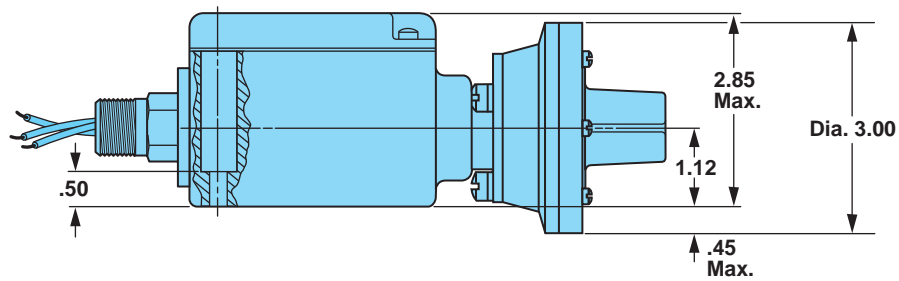
Example



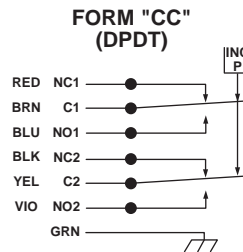
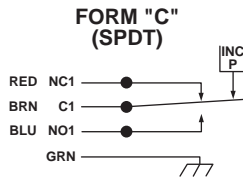
Envelope Dimensions



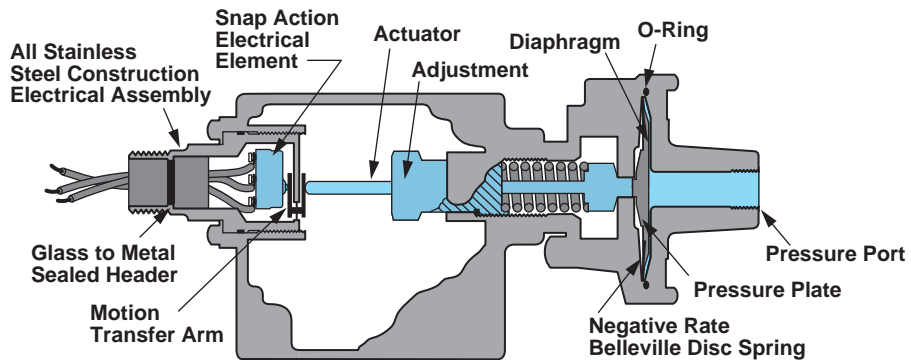
WETTED MATERIALS	A	B	C
1	6.75 Max.	¼ NPT	3.7 Max.
4	7.15 Max.	½ NPT	4.1 Max.



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 142P8 Ultra Low Vacuum/Pressure Switch

Ultra low pressure and vacuum to pressure crossover switch. Unique construction using efficient Nega-Rate® Belleville disc spring for stable set points and high proof pressure. Explosion proof enclosure and wide range of wetted materials makes this switch especially well suited for hazardous or corrosive atmospheres.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range	Deadband* (approximate)	Maximum Recommended System Pressure	Proof Pressure
	Increasing			
0	1" to 10" H ₂ O	.75" H ₂ O	30" H ₂ O Vacuum to 30" H ₂ O Pressure	30" H ₂ O Vacuum to +5 psig
1	2" to 40" H ₂ O	1" H ₂ O	30" H ₂ O Vacuum to +5 psig	30" H ₂ O Vacuum to +15 psig
2	0" to 40" H ₂ O Vacuum to 0" to 40" H ₂ O Pressure	1" H ₂ O	Full Vacuum to +15 psig	Full Vacuum to 100 psig

*Deadband 50% wider with "CC" (DPDT) Electrical Forms.

Standard Specifications

Electrical

Snap action electrical switch assemblies, Part Numbers 057-0770 & 057-0772 (Form C) and 057-0771 & 057-0773 (Form CC), are listed by Underwriters' Laboratories, Inc., FM Approvals, CSA International and NCC (INMETRO). See the miscellaneous option N for additional listings.

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18 AWG, 18" long leads

Pressure Connection

1/2 NPT Female

Temperature Range*

Ambient: -40°F to +180°F
(-40°C to +82°C)

Media: -50°F to +250°F
(-46°C to +121°C)

*Temperature limits change with O-Ring selection. See Electrical Assembly specification sheet for Temperature Class Ratings.

Adjustment

Concealed wrench flat adjustment with range scale

Shipping Weight

Approximately 3.5 pounds



Order Miscellaneous Option "D"



Explosion Proof
Hermetically Sealed
(NEMA 4X, 7, 9 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Adjustable Range

- 0 .25" H₂O (.62 mbar) dec. to 10" (24.9 mbar) H₂O inc.
- 1 1" H₂O (2.49 mbar) dec. to 40" (99.6 mbar) H₂O inc.
- 2 40" H₂O (99.6 mbar) inc. vac. to 40" (99.6 mbar) H₂O inc. pressure

Electrical Form

- C 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC
- CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC

Enclosure

- 6 Includes an explosion proof, hermetically-sealed electrical assembly. EX d IIC. Division 1 and 2, Class I, Groups A, B, C, and D; Class II, Groups E, F, and G. NEMA 4X, 7, and 9; IP66. Leads are factory sealed and Pressure Switches are Dual Seal Certified.

Miscellaneous

- A Epoxy paint exterior — extra protection for severe environments
- D SIL approval and marking, per IEC61508 (includes FMEA report)
- I 3/4 NPT conduit box with terminal strip (Groups C & D only, not available with N option)
- M Gold electrical contacts for extremely low current applications (1 Amp at 125 VAC; 1 Amp Res, 0.5 Amp Ind. at 28 VDC)
- N ATEX and IECEx
- R 72" Electrical free leads

Port Material

- 4 316 Stainless Steel
- 7 Hastelloy C

Diaphragm

- 1 Polyimide
- 4 316 Stainless Steel
- 6 Tantalum
- 7 Hastelloy C

O-Rings

- 2 Kalrez
- 3 Viton
- 5 EPR
- 8 Buna-N

Special (Consult representative or factory)

- Non-catalog adjustable range and/or set point, deadband and proof pressure
- Media temperature capabilities from -65°F to +400°F

Ordering Procedure

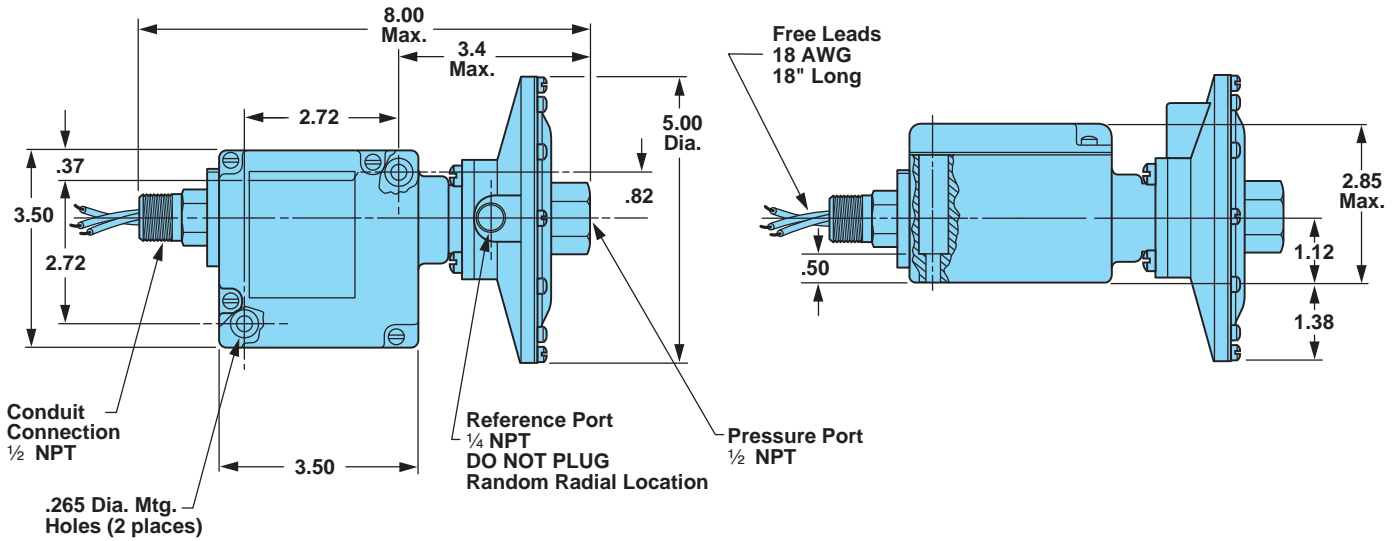
- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

Example

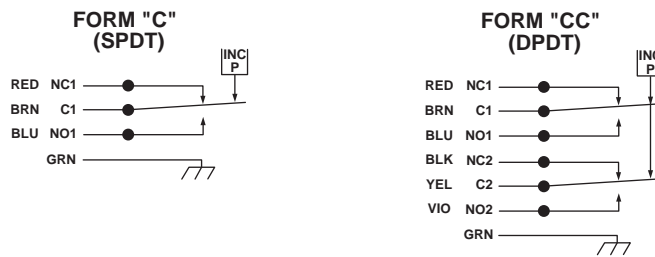


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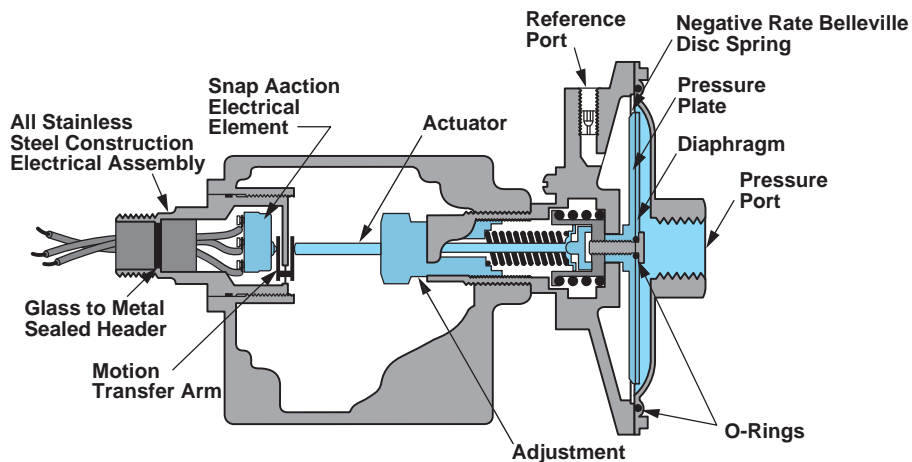
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 200P Pressure Switch/Internal Adjustment

Versatile Nega-Rate® Belleville disc spring pressure switch for use in hazardous areas. Series 200P (piston sensor) for hydraulic applications up to 10000 psig system pressure.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range		Deadband† (approximate)				Maximum Recommended System Pressure	Proof Pressure
	Increasing	Decreasing	Min.	Bar	Max.	Bar		
2	20 to 220	14 to 202	6	0.41	18	1.24	3000	4500
3	200 to 1500	150 to 1275	50	3.45	225	15.51	7500	10000
6	500 to 3000	375 to 2700	125	8.62	300	20.68	7500	10000
8	1000 to 10000	800 to 9000	200	13.79	1000	68.95	10000*	15000**

All values given in psig.

†The deadband increases as the adjustable set point is increased.

*Diminished safety factor equal to approximately 2:1.

**Diminished safety factor equal to approximately 1.3:1.

Standard Specifications

Electrical

Snap action electrical switch assemblies, Part Numbers 057-0770 & 057-0772 (Form C) and 057-0771 & 057-0773 (Form CC), are listed by Underwriters' Laboratories, Inc., FM Approvals, CSA International and NCC (INMETRO). See the miscellaneous option N for additional listings.

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18 AWG, 18" long leads

Pressure Connection

Wetted Material 1
1/4 NPT Female

Temperature Range*

Ambient: -40°F to +180°F
(-40°C to +82°C)
Media: -40°F to +300°F
(-40°C to +149°C)

*Temperature limits change with O-Ring selection. See Electrical Assembly specification sheet for Temperature Class Ratings.

Adjustment

Concealed wrench flat adjustment with range scale

Shipping Weight

Approximately 3 pounds



Order Miscellaneous Option "D"



Explosion Proof
Hermetically Sealed
(NEMA 4X, 7, 9 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

1 Aluminum port and piston, Teflon seal and Buna-N O-Ring

Adjustable Range

2 14 psig dec. to 220 psig inc. (1.0 bar dec. to 15.2 bar inc.)
3 150 psig dec. to 1500 psig inc. (10.3 bar dec. to 103.4 bar inc.)
6 375 psig dec. to 3000 psig inc. (25.9 bar dec. to 206.9 bar inc.)
8 800 psig dec. to 10000 psig inc. (55.2 bar dec. to 689.5 bar inc.)

Electrical Form

C 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC
CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC

Enclosure

6 Includes an explosion proof, hermetically-sealed electrical assembly. EX d IIC. Division 1 and 2, Class I, Groups A, B, C, and D; Class II, Groups E, F, and G. NEMA 4X, 7, and 9; IP66. Leads are factory sealed and Pressure Switches are Dual Seal Certified.

Miscellaneous

A Epoxy paint exterior — extra protection for severe environments
B Viton O-Ring
C EPR O-Ring
D SIL approval and marking, per IEC61508 (includes FMEA report)
E 7/16" - 20 SAE Female Port
I 3/4 NPT conduit box with terminal strip (Groups C & D only, not available with N option)
M Gold electrical contacts for extremely low current applications (1 Amp at 125 VAC; 1 Amp Res, 0.5 Amp Ind. at 28 VDC)
N ATEX and IECEx with CE Mark
R 72" Electrical free leads
W Stainless steel screws — exterior

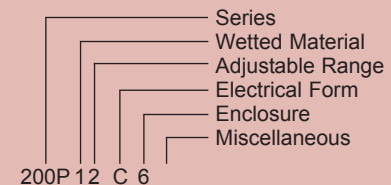
Special (Consult representative or factory)

- Non-catalog adjustable range and/or set point, deadband and proof pressure
- Media temperature capability from -65°F to +400°F

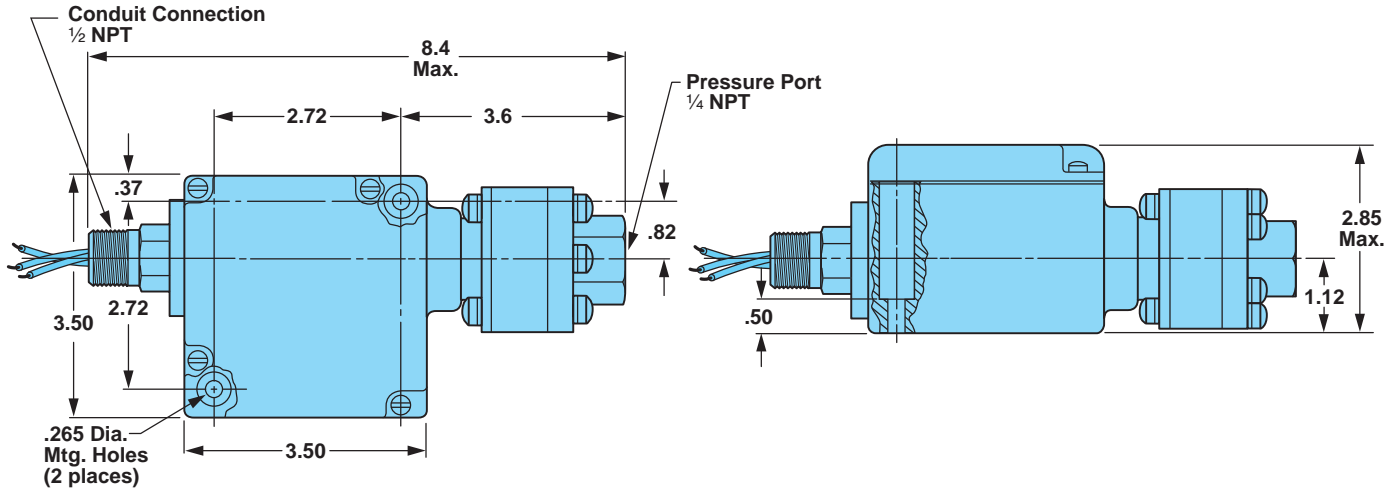
Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

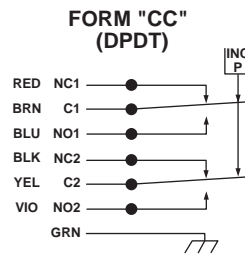
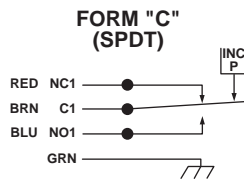
Example



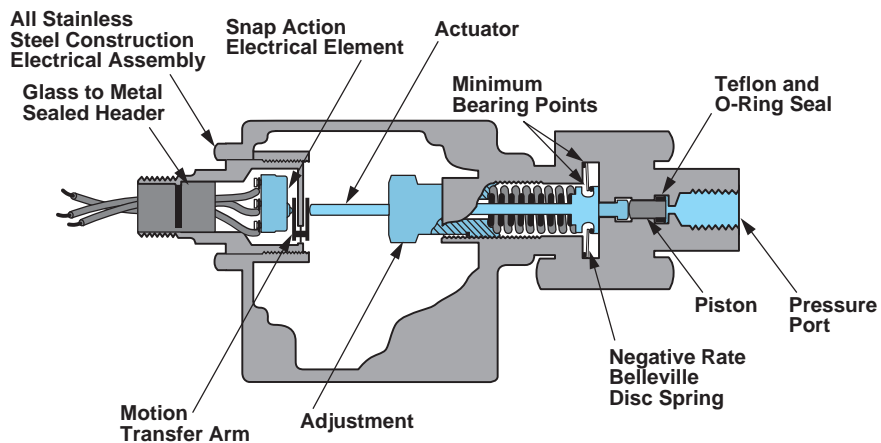
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 112P8 Flanged Pressure Switch/Diaphragm Sensor

Flanged pressure switch for installations that formerly required a chemical seal with fill fluids. Reliable Nega-Rate® Belleville disc spring sensing mechanism. Redundant seals with venting between seals for alarm or indication. 316 stainless steel body and hermetically sealed, explosion-proof electrical assembly well suited for hazardous or corrosive atmospheres.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range		Deadband (approximate)	Maximum Recommended System Pressure*		Proof Pressure			
	Increasing	Decreasing		150# Flange	300# Flange	150# Flange		300# Flange	
				Steel	Stainless	Steel	Stainless	Steel	Stainless
2	3 to 30	1.5 to 28.5	2	210	555	375	425	950	1100
4	20 to 80	15 to 75	5	210	555	375	425	950	1100
5	80 to 180	60 to 160	20	210	555	375	425	950	1100
6	140 to 240	115 to 225	25	210	555	375	425	950	1100
7	225 to 325	190 to 290	35	—	555	—	—	950	1100

All values given in psig.

*System pressure ratings are based on flanges of the lowest strength steel and 316 stainless at 250°F. Consult ANSI B 16.5 for increased ratings at lower temperatures.

Standard Specifications

Electrical

Snap action electrical switch assemblies, Part Numbers 057-0770 & 057-0772 (Form C) and 057-0771 & 057-0773 (Form CC), are listed by Underwriters' Laboratories, Inc., FM Approvals, CSA International and NCC (INMETRO). See the miscellaneous option N for additional listings.

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18 AWG, 18" long leads

Pressure Connection

1 inch, 1/16 raised face flange per ANSI B 16.5 - 1998
Class 150 (150#)
Class 300 (300#)

Note: Customer responsible for gasket selection and installation. (Refer to Installation and Operating Instructions supplied with switch)

Temperature Range*

Ambient: -40°F to +180°F
(-40°C to +82°C)
Media: -40°F to +250°F
(-40°C to +121°C)

*Limited by gasket material selected

Adjustment

Internal, slotted adjustment with range scale

Shipping Weight

Approximately 4.5 pounds



Explosion Proof
Hermetically Sealed
(NEMA 4X, 7, 9 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Adjustable Range

- 2 1.5 psig dec. to 30 psig inc. (0.1 bar dec. to 2.1 bar inc.)
- 4 15 psig dec. to 80 psig inc. (1.0 bar dec. to 5.5 bar inc.)
- 5 60 psig dec. to 180 psig inc. (4.1 bar dec. to 12.4 bar inc.)
- 6 115 psig dec. to 240 psig inc. (7.9 bar dec. to 16.5 bar inc.)
- 7 190 psig dec. to 325 psig inc. (13.1 bar dec. to 22.4 bar inc.) (300# Flange only)

Electrical Form

- C 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC
- CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC

Enclosure

- 6 Includes an explosion proof, hermetically-sealed electrical assembly. EX d IIC. Division 1 and 2, Class I, Groups A, B, C, and D; Class II, Groups E, F, and G. NEMA 4X, 7, and 9; IP66. Leads are factory sealed and Pressure Switches are Dual Seal Certified.

Miscellaneous

- A Epoxy paint exterior — extra protection for severe environments
- I 3/4 NPT conduit box with terminal strip (Groups C & D only, not available with N option)
- M Gold electrical contacts for extremely low current applications
- N ATEX Approval
- R 72" Electrical free leads

Flange Size/Material

- 1 150# Steel
- 2 300# Steel
- 3 150# Stainless Steel
- 4 300# Stainless Steel

Diaphragm

- 4 316 Stainless Steel
- 6 Tantalum
- 7 Hastelloy C
- 9 Inconel

Internal O-Rings

- 2 Kalrez
- 3 Viton
- 5 EPR
- 8 Buna-N

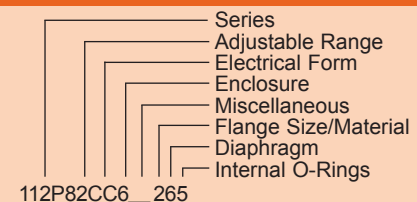
Special (Consult representative or factory)

- Non-catalog adjustable range and/or set point and deadband

Ordering Procedure

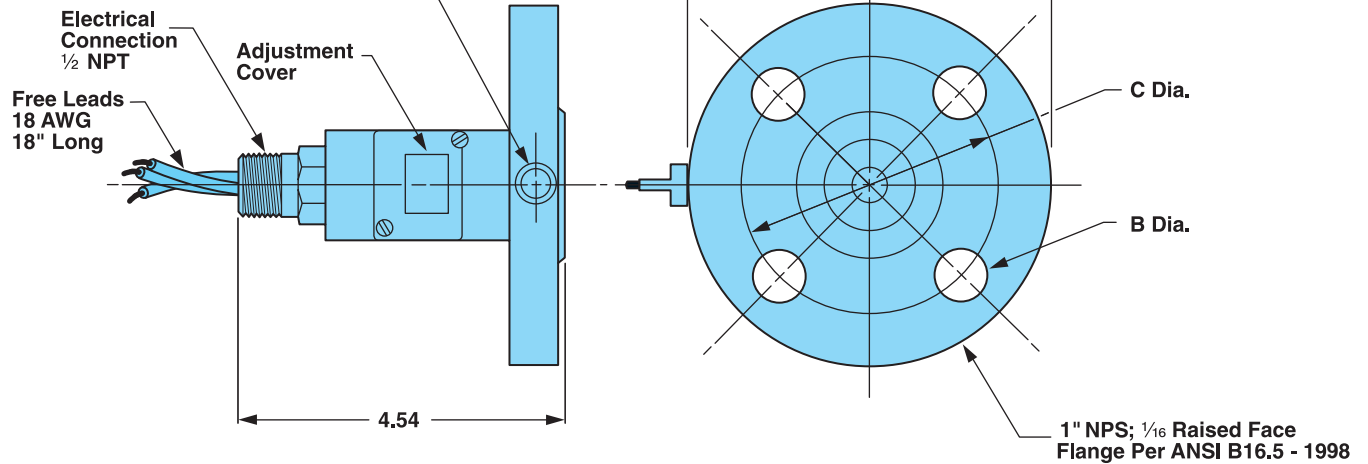
- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

Example



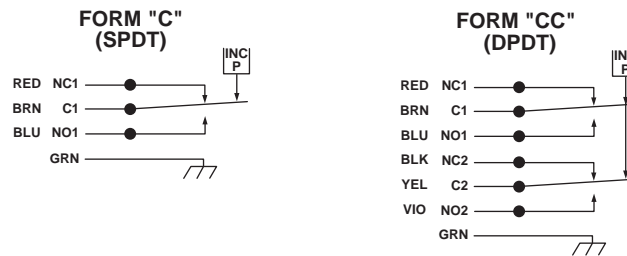
Envelope Dimensions

Diaphragm Leakage Port with indicator
- below 20 psig system pressure use
gauge or pressure switch for detection.
Random radial location. 1/4 NPT

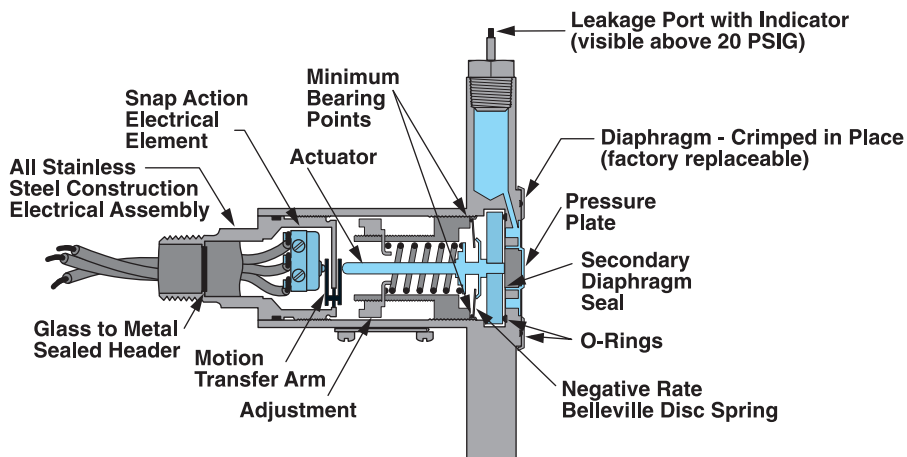


FLANGE	A	B	C
CLASS 150	4.25	.62	3.12
CLASS 300	4.88	.75	3.50

Electrical Form



Basic Principles of Design



Neo-Dyn® Series 122P8 Pressure Switch/Internal Adjustment

Compact, adjustable pressure switch for low to mid-range process applications. Efficient Nega-Rate® Belleville disc spring for set point stability and vibration resistance. Wide selection of wetted materials, 316 stainless steel body and interior, plus hermetically sealed explosion-proof electrical make this switch ideal for chemical process applications.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range		Deadband (approximate)	Maximum Recommended System Pressure	Proof Pressure
	Increasing	Decreasing			
2	3 to 30	1 to 28	2	1350	2000
4	20 to 80	15 to 75	5	1350	2000
0	80 to 130	67 to 117	13	1350	2000
5	50 to 250	30 to 230	20	4000*	6000*
6	200 to 400	175 to 375	25	4000*	6000*
7	375 to 725	330 to 680	45	4000*	6000*
8	700 to 1500	620 to 1420	80	4000*	6000*
9	1500 to 2300	1400 to 2200	100	4000*	6000*

All values given in psig.

* See Miscellaneous T higher pressures

Standard Specifications

Electrical

Snap action electrical switch assemblies, Part Numbers 057-0770 & 057-0772 (Form C) and 057-0771 & 057-0773 (Form CC), are listed by Underwriters' Laboratories, Inc., FM Approvals, CSA International and NCC (INMETRO). See the miscellaneous option N for additional listings.

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18 AWG, 18" long leads

Pressure Connection

1/2 NPT Female

Temperature Range*

Ambient: -40°F to +180°F
(-40°C to +82°C)

Media: -40°F to +250°F
(-40°C to +121°C)

*Temperature limits change with O-Ring selection. See Electrical Assembly specification sheet for Temperature Class Ratings.

Adjustment

Internal, slotted adjustment nut with range scale

Shipping Weight

Approximately 2 pounds



Order Miscellaneous Option "D"



Ordering Sequence — Select desired option for each category

OPTIONS

Adjustable Range

2	1 psig dec. to 30 psig inc.	(0.1 bar dec. to 2.1 bar inc.)
4	15 psig dec. to 80 psig inc.	(1.0 bar dec. to 5.5 bar inc.)
0	67 psig dec. to 130 psig inc.	(4.6 bar dec. to 9.0 bar inc.)
5	30 psig dec. to 250 psig inc.	(2.1 bar dec. to 17.2 bar inc.)
6	175 psig dec. to 400 psig inc.	(12.1 bar dec. to 27.6 bar inc.)
7	330 psig dec. to 725 psig inc.	(22.8 bar dec. to 50.0 bar inc.)
8	620 psig dec. to 1500 psig inc.	(42.7 bar dec. to 103.4 bar inc.)
9	1400 psig dec. to 2300 psig inc.	(96.5 bar dec. to 158.6 bar inc.)

Electrical Form

C	11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC
CC	11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC

Enclosure

6 Includes an explosion proof, hermetically-sealed electrical assembly. EX d IIC, Division 1 and 2, Class I, Groups A, B, C, and D; Class II, Groups E, F, and G. NEMA 4X, 7, and 9; IP66. Leads are factory sealed and Pressure Switches are Dual Seal Certified.

Miscellaneous

D	SIL approval and marking, per IEC61508 (includes FMEA report)
I	3/4 NPT conduit box with terminal strip (Groups C & D only, not available with N option)
M	Gold electrical contacts for extremely low current applications (1 Amp at 125 VAC; 1 Amp Res, 0.5 Amp Ind. at 28 VDC)
N	ATEX and IECEx with CE Mark
R	72" Electrical free leads
T	6300 psig system, 9450 psig proof, 410 stainless steel screws (Range 5, 6, 7, 8 & 9 only)

Port Material

4	316 Stainless Steel	8	Monel
5	316 Stainless Steel — welded diaphragm (add 40)	9	Monel — welded Inconel diaphragm (add 90)
7	Hastelloy C — welded Hastelloy diaphragm (add 70)		

Diaphragm

1	Polyimide	7	Hastelloy C
4	316 Stainless Steel	9	Inconel

Internal O-Rings

0	Welded (Port Material 5, 7 & 9 only)	5	EPR
2	Kalrez	8	Buna-N
3	Viton		

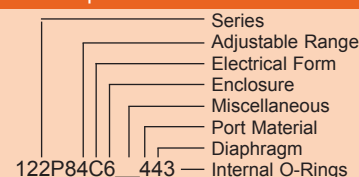
Special (Consult representative or factory)

- Non-catalog adjustable range and/or set point and deadband

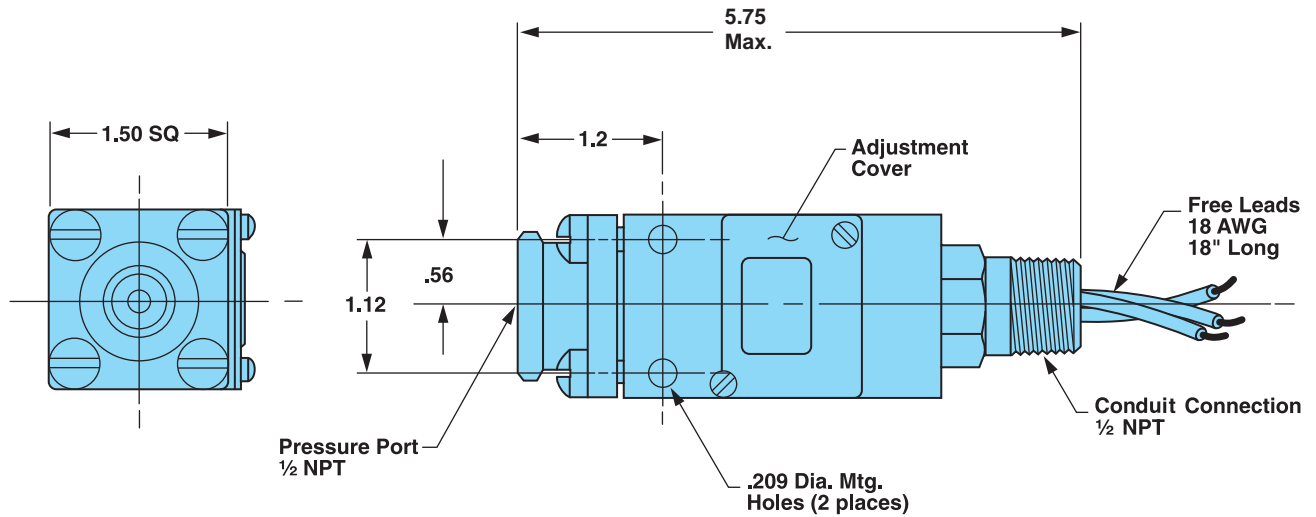
Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

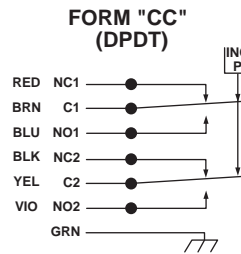
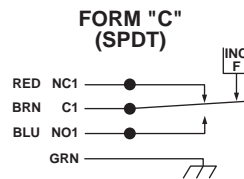
Example



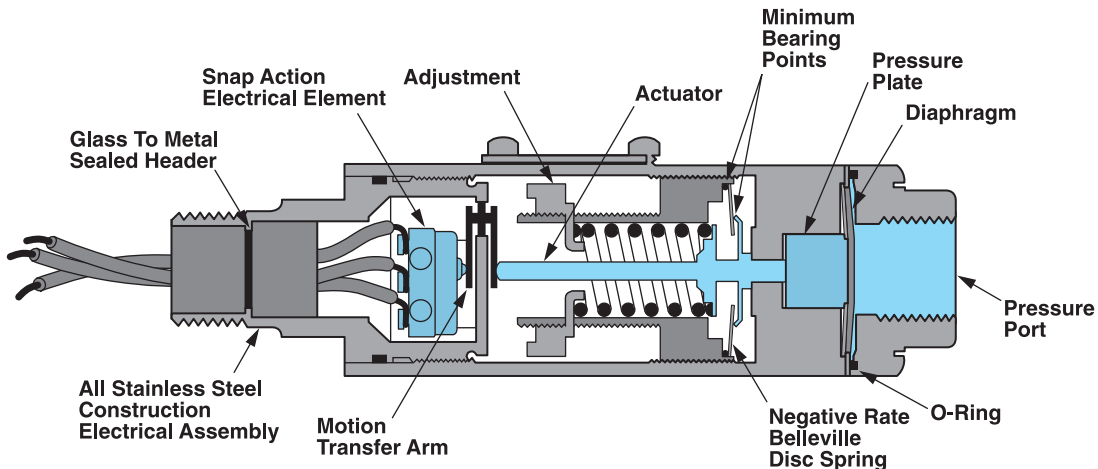
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 123P Pressure Switch/Internal Adjustment

Compact, adjustable pressure switch for low to mid-range process applications. Efficient Nega-Rate® Belleville disc spring for set point stability and vibration resistance. 316 stainless steel exterior and interior plus hermetically sealed, explosion-proof electrical for atmospheric protection. The flush mount (welded diaphragm) process connection makes this switch ideal for viscous process applications.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range		Deadband (approximate)	Maximum Recommended System Pressure	Proof Pressure
	Increasing	Decreasing			
2	3 to 30	1 to 28	2	1350	2000
4	20 to 80	15 to 75	5	1350	2000
5	50 to 250	30 to 230	20	3000	5000
6	200 to 400	175 to 375	25	3000	5000
7	375 to 725	330 to 680	45	3000	5000
8	700 to 1500	620 to 1420	80	3000	5000
9	1500 to 2300	1400 to 2200	100	3000	5000

All values given in psig.

Standard Specifications

Electrical

Snap action electrical switch assemblies, Part Numbers 057-0770 & 057-0772 (Form C) and 057-0771 & 057-0773 (Form CC), are listed by Underwriters' Laboratories, Inc., FM Approvals, CSA International and NCC (INMETRO). See the miscellaneous option N for additional listings.

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18 AWG, 18" long leads

Pressure Connection

1 1/2 NPT Male

Temperature Range

Ambient: -40°F to +180°F
(-40°C to +82°C)

Media: -40°F to +250°F
(-40°C to +121°C)

Adjustment

Internal, slotted adjustment nut with range scale

Shipping Weight

Approximately 2.5 pounds



Explosion Proof
Hermetically Sealed
(NEMA 4X, 7, 9 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

5 316 stainless steel port and diaphragm heliarc welded

Adjustable Range

2 1 psig dec. to 30 psig inc. (0.1 bar dec. to 2.1 bar inc.)
4 15 psig dec. to 80 psig inc. (1.0 bar dec. to 5.5 bar inc.)
5 30 psig dec. to 250 psig inc. (2.1 bar dec. to 17.2 bar inc.)
6 175 psig dec. to 400 psig inc. (12.1 bar dec. to 27.6 bar inc.)
7 330 psig dec. to 725 psig inc. (22.8 bar dec. to 50.0 bar inc.)
8 620 psig dec. to 1500 psig inc. (42.7 bar dec. to 103.4 bar inc.)
9 1500 psig dec. to 2300 psig inc. (96.5 bar dec. to 158.6 bar inc.)

Electrical Form

C 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC
CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC

Enclosure

6 Includes an explosion proof, hermetically-sealed electrical assembly. EX d IIC. Division 1 and 2, Class I, Groups A, B, C, and D; Class II, Groups E, F, and G. NEMA 4X, 7, and 9; IP66. Leads are factory sealed and Pressure Switches are Dual Seal Certified.

Miscellaneous

A Epoxy paint exterior — extra protection for severe environments
I 3/4 NPT conduit box with terminal strip (Groups C & D only, not available with N option)
M Gold electrical contacts for extremely low current applications
N ATEX and IECEx with CE Mark
R 72" Electrical free leads

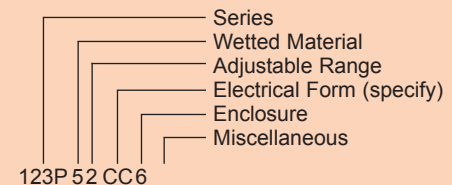
Special (Consult representative or factory)

- Non-catalog adjustable range and/or set point, deadband and proof pressure

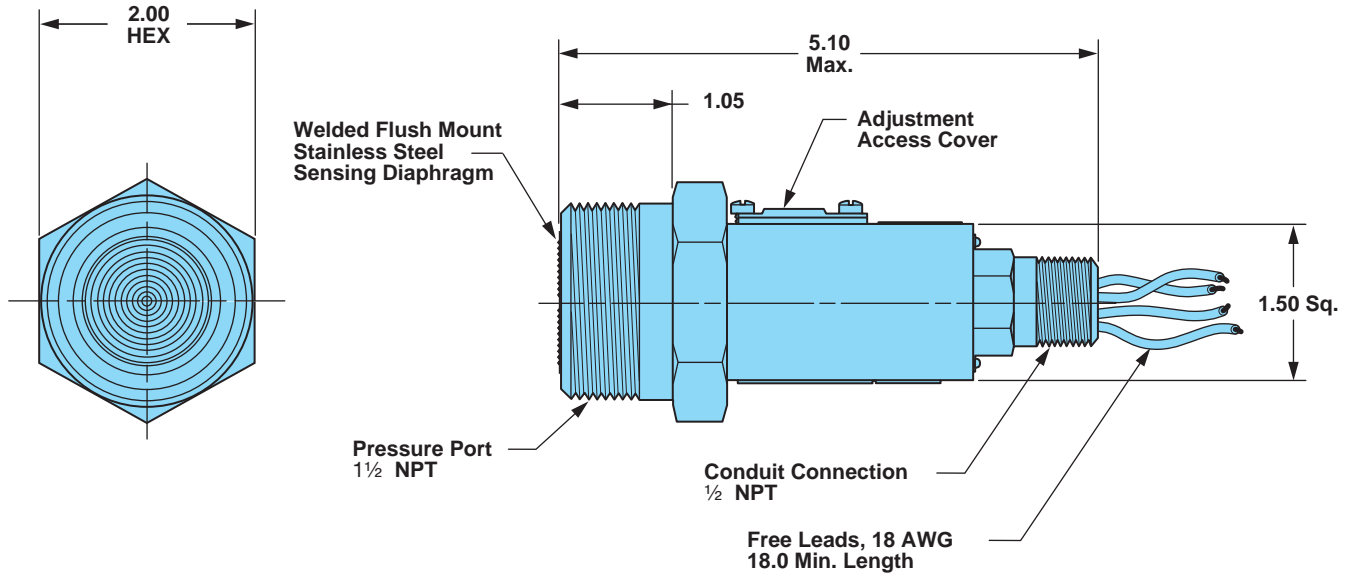
Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

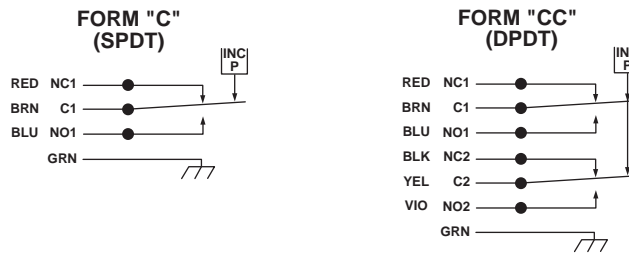
Example



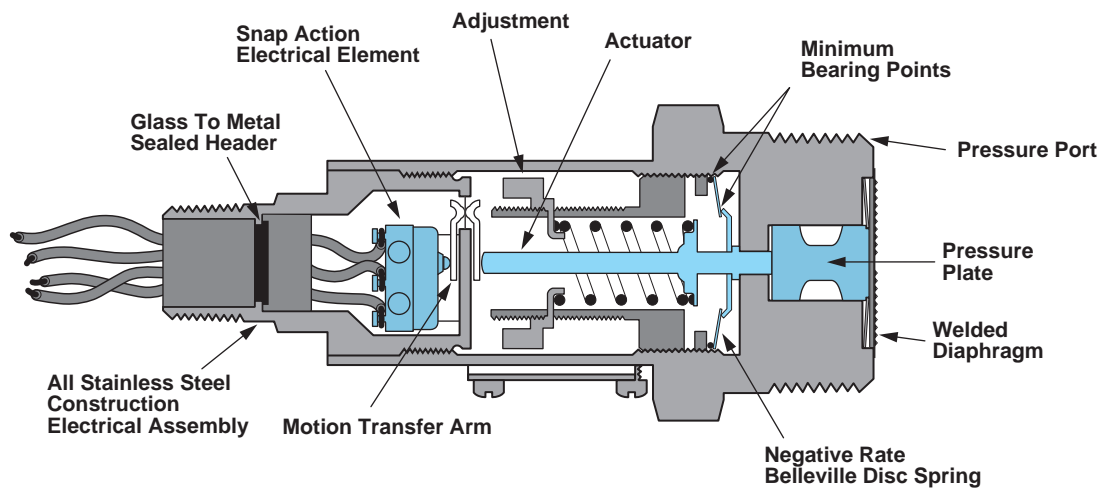
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 132P Pressure Switch/Internal Adjustment

Compact adjustable pressure switch for low to mid-range process applications. Efficient Nega-Rate® Belleville disc spring for set point stability and vibration resistance. Stainless steel wetted materials and hermetically sealed, explosion-proof electricals make this switch ideally suited for hazardous and corrosive media or environments.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range		Deadband (approximate)	Maximum Recommended System Pressure	Proof Pressure
	Increasing	Decreasing			
8	3 to 30	1 to 28	2	1350	2000
9	20 to 80	15 to 75	5	1350	2000
0	80 to 130	67 to 117	13	1350	2000
1	50 to 250	30 to 230	20	4000*	6000*
2	200 to 400	175 to 375	25	4000*	6000*
4	375 to 725	330 to 680	45	4000*	6000*
6	700 to 1500	620 to 1420	80	4000*	6000*
7	1500 to 2300	1400 to 2200	100	4000*	6000*

All values given in psig.

* See Miscellaneous T for higher pressures.

Standard Specifications

Electrical

Snap action electrical switch assemblies, Part Numbers 057-0770 & 057-0772 (Form C) and 057-0771 & 057-0773 (Form CC), are listed by Underwriters' Laboratories, Inc., FM Approvals, CSA International and NCC (INMETRO). See the miscellaneous option N for additional listings.

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18 AWG, 18" long leads

Pressure Connection

1/4 NPT Female

Temperature Range*

Ambient: -40°F to +180°F
(-40°C to +82°C)

Media: -40°F to +250°F
(-40°C to +121°C)

* Temperature limits change with O-Ring selection. See Electrical Assembly specification sheet for Temperature Class Ratings.

Adjustment

Internal, slotted adjustment nut with range scale

Shipping Weight

Approximately 20 ounces



Order Miscellaneous Option "D"



Explosion Proof
Hermetically Sealed
(NEMA 4X, 7, 9 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

- 4 316 stainless steel port and diaphragm, Buna-N O-Ring
- 5 316 stainless steel port and diaphragm heliarc welded

Adjustable Range

- 8 1 psig dec. to 30 psig inc. (0.1 bar dec. to 2.1 bar inc.)
- 9 15 psig dec. to 80 psig inc. (1.0 bar dec. to 5.5 bar inc.)
- 0 67 psig dec. to 130 psig inc. (4.6 bar dec. to 9.0 bar inc.)
- 1 30 psig dec. to 250 psig inc. (2.1 bar dec. to 17.2 bar inc.)
- 2 175 psig dec. to 400 psig inc. (12.1 bar dec. to 27.6 bar inc.)
- 4 330 psig dec. to 725 psig inc. (22.8 bar dec. to 50.0 bar inc.)
- 6 620 psig dec. to 1500 psig inc. (42.7 bar dec. to 103.4 bar inc.)
- 7 1400 psig dec. to 2300 psig inc. (96.5 bar dec. to 158.6 bar inc.)

Electrical Form

- C 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC
- CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC

Enclosure

- 6 Includes an explosion proof, hermetically-sealed electrical assembly. EX d IIC, Division 1 and 2, Class I, Groups A, B, C, and D; Class II, Groups E, F, and G. NEMA 4X, 7, and 9; IP66. Leads are factory sealed and Pressure Switches are Dual Seal Certified.

Miscellaneous

- A Epoxy paint exterior — extra protection for severe environments
- B Viton O-Ring
- C EPR O-Ring
- D SIL approval and marking, per IEC61508 (includes FMEA report)
- E 7/16" - 20 SAE Female Port
- G 1/2 NPT Female Port
- H Stainless steel body
- I 3/4 NPT conduit box with terminal strip (Groups C & D only, not available with N option)
- J Annealed stainless steel port screws for H₂S environments — Consult factory for reduced system and proof pressure ratings
- M Gold electrical contacts for extremely low current applications (1 Amp at 125 VAC; 1 Amp Res, 0.5 Amp Ind. at 28 VDC)
- N ATEX and IECEx with CE Mark
- O Cleaned for Oxygen Service
- R 72" Electrical free leads
- T 6300 psig system, 9450 psig proof, 410 stainless steel screws (Range 1 thru 7 only)

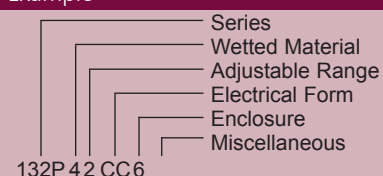
Special (Consult representative or factory)

- Non-catalog adjustable range and/or set point, deadband and proof pressure

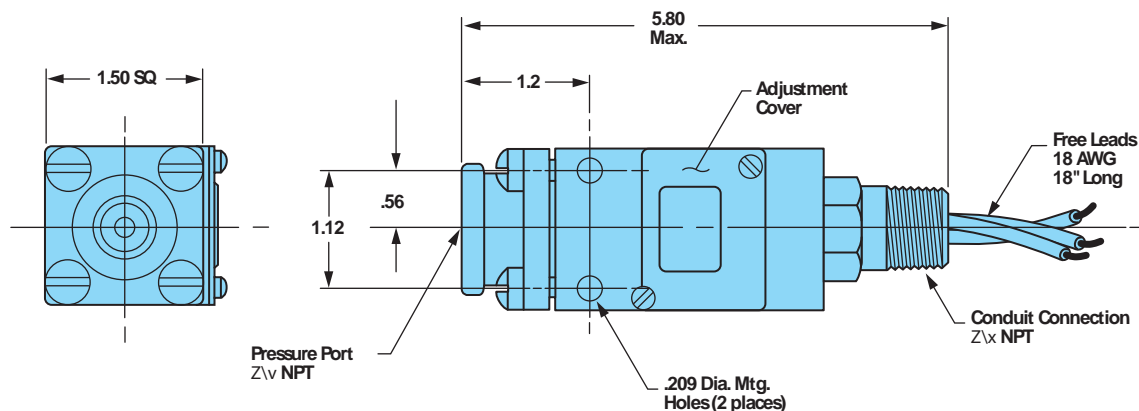
Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

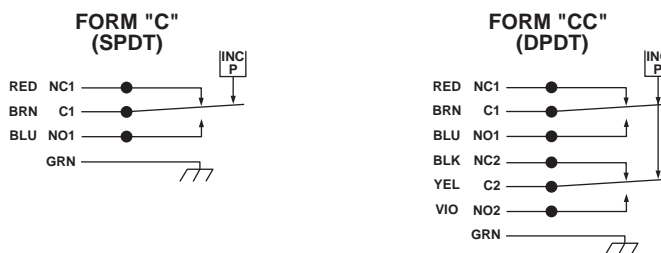
Example



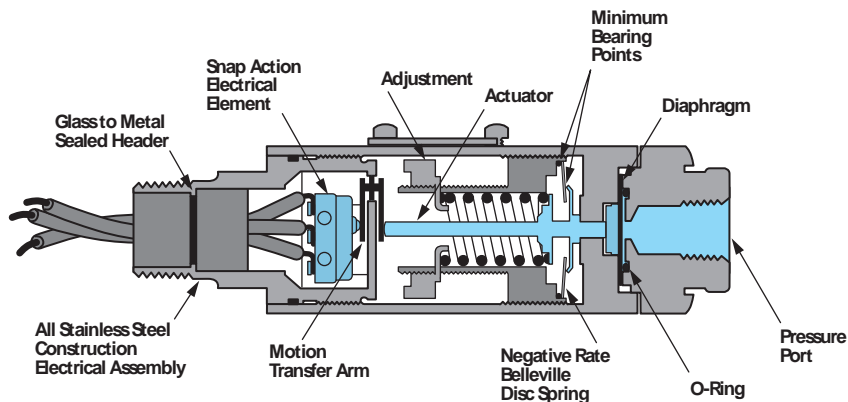
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 232P Pressure Switch/Internal Adjustment

Compact, adjustable pressure switch for high pressure hydraulic process applications. Efficient Nega-Rate® Belleville disc spring for set point stability and vibration resistance. Stainless steel wetted materials and hermetically sealed, explosion-proof electricals make this switch ideally suited for hazardous and corrosive media or environments.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range		Deadband (approximate)	Maximum Recommended System Pressure	Proof Pressure
	Increasing	Decreasing			
1	50 to 275	25 to 250	25	5000	7500
2	200 to 1000	75 to 875	125	6500	7500
3	1000 to 3100	700 to 2800	300	6500	7500
4	2800 to 6000	2300 to 5500	500	10000	13500
5	5500 to 8500	4900 to 7900	600	10000	13500
6	7000 to 10000	6000 to 9000	1000	12500	15000

All values given in psig.

Standard Specifications

Electrical

Snap action electrical switch assemblies, Part Numbers 057-0770 & 057-0772 (Form C) and 057-0771 & 057-0773 (Form CC), are listed by Underwriters' Laboratories, Inc., FM Approvals, CSA International and NCC (INMETRO). See the miscellaneous option N for additional listings.

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18 AWG, 18" long leads

Pressure Connection

1/4 NPT Female

Temperature Range*

Ambient: -40°F to +180°F
(-40°C to +82°C)

Media: -40°F to +250°F
(-40°C to +121°C)

* Temperature limits change with O-Ring selection. See Electrical Assembly specification sheet for Temperature Class Ratings

Adjustment

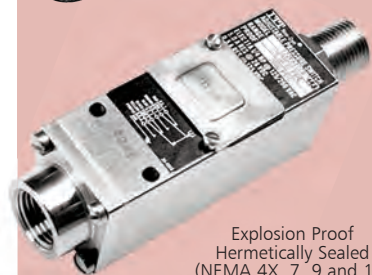
Internal, slotted adjustment nut with range scale

Shipping Weight

Approximately 20 ounces



Order Miscellaneous Option "D"



Explosion Proof
Hermetically Sealed
(NEMA 4X, 7, 9 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

4 316 stainless steel port and piston, Buna-N O-Ring

Adjustable Range

1 25 psig dec. to 275 psig inc. (1.7 bar dec. to 19.0 bar inc.)
 2 75 psig dec. to 1000 psig inc. (5.2 bar dec. to 69.0 bar inc.)
 3 700 psig dec. to 3100 psig inc. (48.3 bar dec. to 213.7 bar inc.)
 4 2300 psig dec. to 6000 psig inc. (158.6 bar dec. to 413.7 bar inc.)
 5 4900 psig dec. to 8500 psig inc. (337.9 bar dec. to 586.1 bar inc.)
 6 6000 psig dec. to 10000 psig inc. (413.7 bar dec. to 689.5 bar inc.)

Electrical Form

C 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC;
.5 amp resistive at 125 VDC
 CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC;
.5 amp resistive at 125 VDC

Enclosure

6 Includes an explosion proof, hermetically-sealed electrical assembly. EX d IIC. Division 1 and 2, Class I, Groups A, B, C, and D; Class II, Groups E, F, and G. NEMA 4X, 7, and 9; IP66. Leads are factory sealed and Pressure Switches are Dual Seal Certified.

Miscellaneous

A Epoxy paint exterior — extra protection for severe environments
 B Viton O-Ring
 C EPR O-Ring
 D SIL approval and marking, per IEC61508 (includes FMEA report)
 E 7/16" - 20 SAE Female Port
 G 1/2 NPT Female Port
 H 316 stainless steel body
 I 3/4 NPT conduit box with terminal strip (Groups C & D only, not available with N option)
 J Annealed stainless steel port screws for H₂S environments — Consult factory (Not available with range 4,5 & 6)
 M Gold electrical contacts for extremely low current applications (1 Amp at 125 VAC; 1 Amp Res, 0.5 Amp Ind. at 28 VDC)
 N ATEX and IECEx with CE Mark
 R 72" Electrical free leads

Special (Consult representative or factory)

• Non-catalog adjustable range and/or set point, deadband and proof pressure

Ordering Procedure

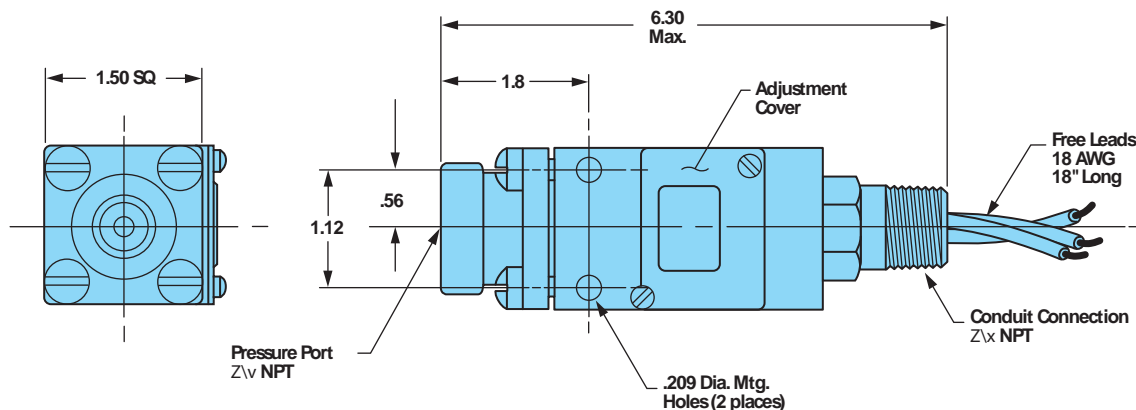
- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

Example

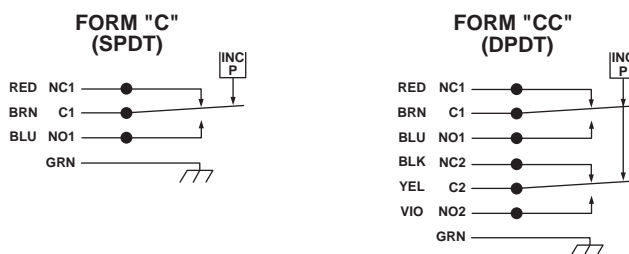
Series
 Wetted Material
 Adjustable Range
 Electrical Form (specify)
 Enclosure
 Miscellaneous

232P 42 CC 6 _ _

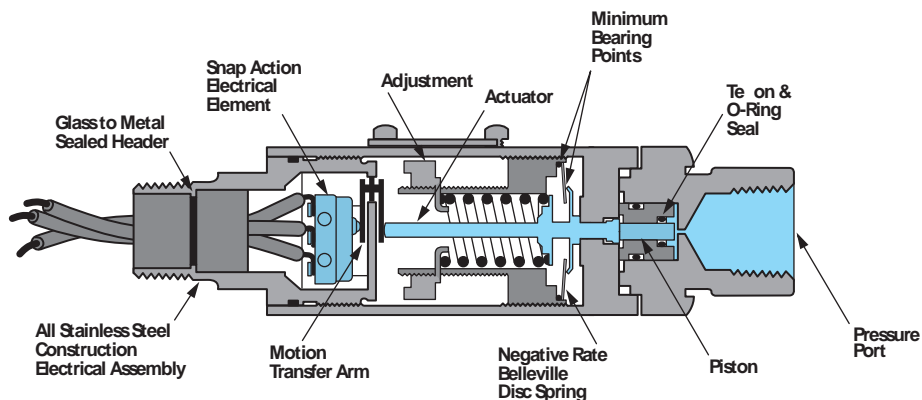
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 130P Pressure Switch/Tamper Resistant

Compact, versatile pressure switch well suited for hazardous or corrosive atmospheres. For low to mid-range pressure applications. Features efficient Nega-Rate® Belleville disc spring for superior set point stability and is field adjustable using 1/8" allen wrench through the port. Once adjustments are made and the switch is installed, it becomes tamper proof.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range		Deadband (approximate)	Maximum Recommended System Pressure	Proof Pressure
	Increasing	Decreasing			
1	2 to 12	1 to 11	1	600	1000
2	10 to 30	7 to 27	3	600	1000
3	30 to 50	25 to 45	5	600	1000
4	50 to 70	44 to 64	6	600	1000
5	70 to 120	60 to 110	10	600	1000
6	120 to 170	105 to 155	15	600	1000

All values given in psig.

Standard Specifications

Electrical

Snap action electrical switch assemblies, Part Numbers 057-0770 & 057-0772 (Form C) and 057-0771 & 057-0773 (Form CC), are listed by Underwriters' Laboratories, Inc., FM Approvals, CSA International and NCC (INMETRO). See the miscellaneous option N for additional listings.

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18 AWG, 18" long leads

Pressure Connection

1/4 NPT Male

Temperature Range*

Ambient: -40°F to +180°F
(-40°C to +82°C)

Media: -40°F to +300°F
(-40°C to +149°C)

*Temperature limits change with O-Ring selection. See Electrical Assembly specification sheet for Temperature Class Ratings.

Adjustment

1/8" allen wrench through port

Shipping Weight

Approximately 16 ounces



Order Miscellaneous Option "D"



Explosion Proof
Hermetically Sealed
(NEMA 4X, 7, 9 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

- 1 Aluminum port, Teflon coated polyimide diaphragm, Buna-N O-Ring
- 4 316 stainless steel port, Teflon coated polyimide diaphragm, Buna-N O-Ring

Adjustable Range

- 1 1 psig dec. to 12 psig inc. (0.1 bar dec. to 0.8 bar inc.)
- 2 7 psig dec. to 30 psig inc. (0.5 bar dec. to 2.1 bar inc.)
- 3 25 psig dec. to 50 psig inc. (1.7 bar dec. to 3.4 bar inc.)
- 4 44 psig dec. to 70 psig inc. (3.0 bar dec. to 4.8 bar inc.)
- 5 60 psig dec. to 120 psig inc. (4.1 bar dec. to 8.3 bar inc.)
- 6 105 psig dec. to 170 psig inc. (7.2 bar dec. to 11.7 bar inc.)

Electrical Form

- C 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC
- CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC

Enclosure

- 6 Includes an explosion proof, hermetically-sealed electrical assembly. EX d IIC. Division 1 and 2, Class I, Groups A, B, C, and D; Class II, Groups E, F, and G. NEMA 4X, 7, and 9; IP66. Leads are factory sealed and Pressure Switches are Dual Seal Certified.

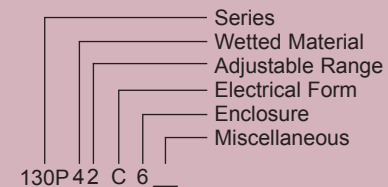
Miscellaneous

- A Epoxy paint exterior — extra protection for severe environments
- B Viton O-Ring
- C EPR O-Ring
- D SIL approval and marking, per IEC61508 (includes FMEA report)
- H 316 Stainless steel body
- I 3/4 NPT conduit box with terminal strip (Groups C & D only, not available with N option)
- M Gold electrical contacts for extremely low current applications (1 Amp at 125 VAC; 1 Amp Res, 0.5 Amp Ind. at 28 VDC)
- N ATEX and IECEx with CE Mark
- R 72" Electrical free leads
- S Stainless steel diaphragm — (Wetted Material 4 only)

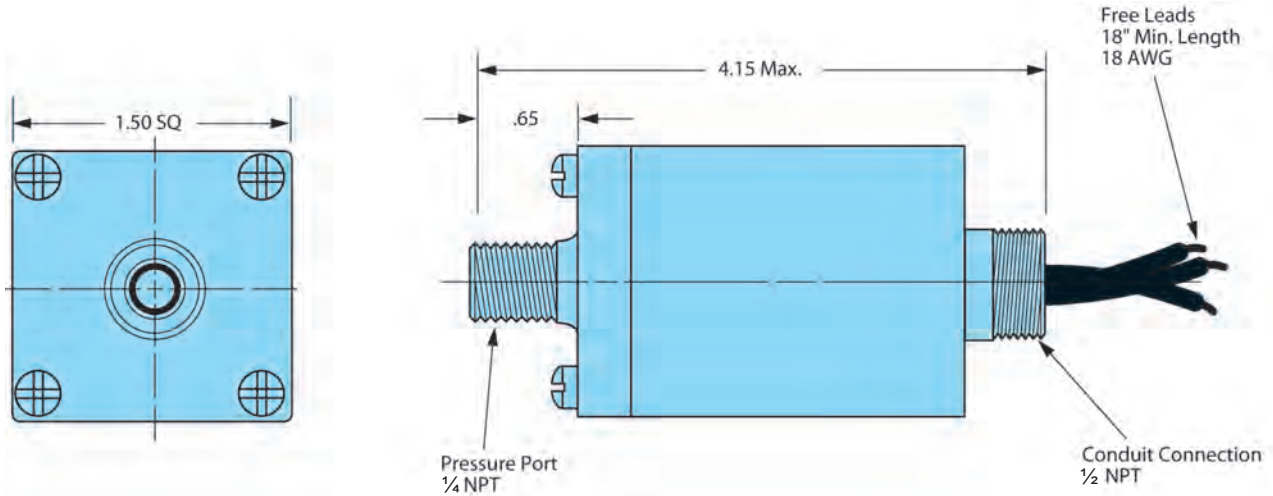
Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

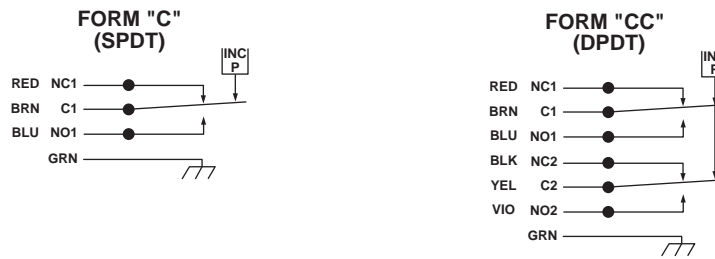
Example



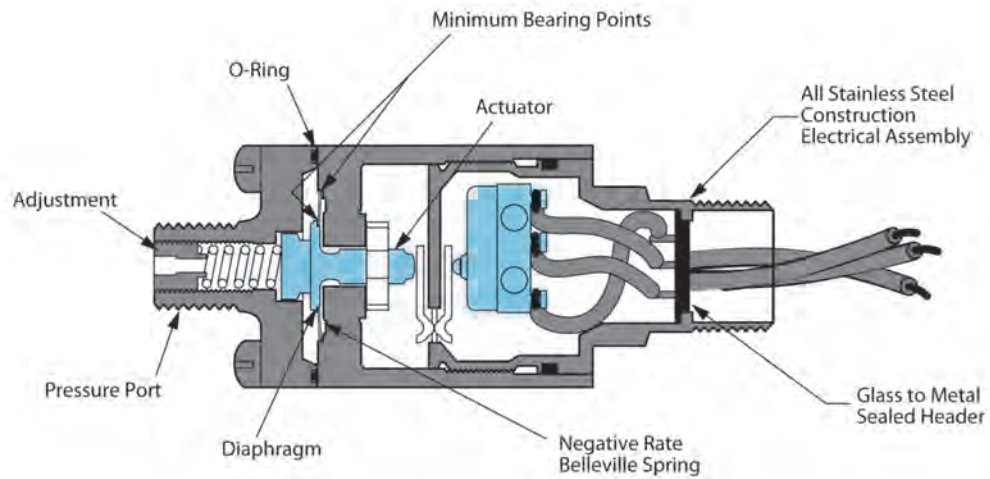
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 131P Pressure Switch/Internal Adjustment

Compact, adjustable pressure switch for pneumatic and low impulse hydraulic process applications. Using our efficient Nega-Rate® Belleville disc spring, we offer superior set point stability and vibration resistance. The 131P series pressure switch also has a selectable deadband feature which can be preset to fit most any application.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range		Selectable Deadband at a Specified Set Point	Default Deadband (approx.)	Maximum Recommended System Pressure	Proof Pressure
	Increasing	Decreasing				
2	*	1 to 24	1 to 1.5	1.4	1000	2000
3	*	17 to 42	3 to 5	4	1000	2000
4	*	1 to 50	7 to 11	9	1000	2000
5	*	45 to 100	7 to 11	9	1000	2000
6	*	90 to 150	9 to 17	13	1000	2000
7	*	140 to 200	11 to 21	16	1000	2000

All values given in psig unless otherwise noted.

* Add selected deadband to decreasing pressure range.

Standard Specifications

Electrical Listings

Snap action electrical switch assemblies, Part Numbers 057-0770 & 057-0772 (Form C) and 057-0771 & 057-0773 (Form CC), are listed by Underwriters' Laboratories, Inc., FM Approvals, CSA International and NCC (INMETRO). See the miscellaneous option N for additional listings.

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18 AWG, 18" long leads

Pressure Connection

1/4 NPT Female and 1/2 NPT Male

Temperature Range*

Ambient: -40°F to +180°F
(-40°C to +82°C)
Media: -40°F to +300°F
(-40°C to +149°C)

* Temperature limits change with O-Ring selection. See Electrical Assembly specification sheet for Temperature Class Ratings.

Adjustment

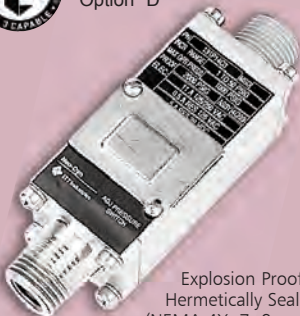
Internal, slotted adjustment wheel

Shipping Weight

Approximately 20 ounces



Order Miscellaneous Option "D"



Explosion Proof
Hermetically Sealed
(NEMA 4X, 7, 9 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

- 1 Aluminum port, polyimide diaphragm, Buna-N O-Ring
- 4 316 stainless steel port, polyimide diaphragm, Buna-N O-Ring

Adjustable Range

- 2 1 psig dec. to 25 psig inc. (.069 bar dec. to 1.72 bar inc.)
- 3 17 psig dec. to 46 psig inc. (1.17 bar dec. to 3.17 bar inc.)
- 4 1 psig dec. to 59 psig inc. (.069 bar dec. to 4.07 bar inc.)
- 5 45 psig dec. to 109 psig inc. (3.10 bar dec. to 7.51 bar inc.)
- 6 90 psig dec. to 163 psig inc. (6.21 bar dec. to 11.2 bar inc.)
- 7 140 psig dec. to 216 psig inc. (9.65 bar dec. to 14.9 bar inc.)

Electrical Form

- C 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC
- CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC

Enclosure

- 6 Includes an explosion proof, hermetically-sealed electrical assembly. EX d IIC. Division 1 and 2, Class I, Groups A, B, C, and D; Class II, Groups E, F, and G. NEMA 4X, 7, and 9; IP66. Leads are factory sealed and Pressure Switches are Dual Seal Certified.

Miscellaneous

- A Epoxy paint exterior — extra protection for severe environments
- B Viton O-Ring
- C EPR O-Ring
- D SIL approval and marking, per IEC61508 (includes FMEA report)
- E 7/16" - 20 SAE Female Port
- G 1/2 NPT Female Port
- H 316 stainless steel body (Wetted Material 4 only)
- I 3/4 NPT conduit box with terminal strip (Groups C & D only, not available with N option)
- J Annealed stainless steel port screws for H₂S environments — Consult factory for reduced system and proof pressure ratings (Not available with Z option)
- M Gold electrical contacts for extremely low current applications (1 Amp at 125 VAC; 1 Amp Res, 0.5 Amp Ind. at 28 VDC)
- N ATEX and IECEx with CE Mark
- R 72" Electrical free leads
- S Stainless steel diaphragm
- V 1/4 NPT male port
- Z Mounting bracket kit (Not available with J option)

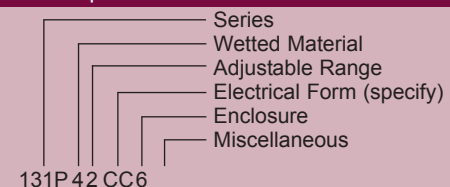
Special (Consult representative or factory)

- Non-catalog adjustable range and/or set point, deadband and proof pressure

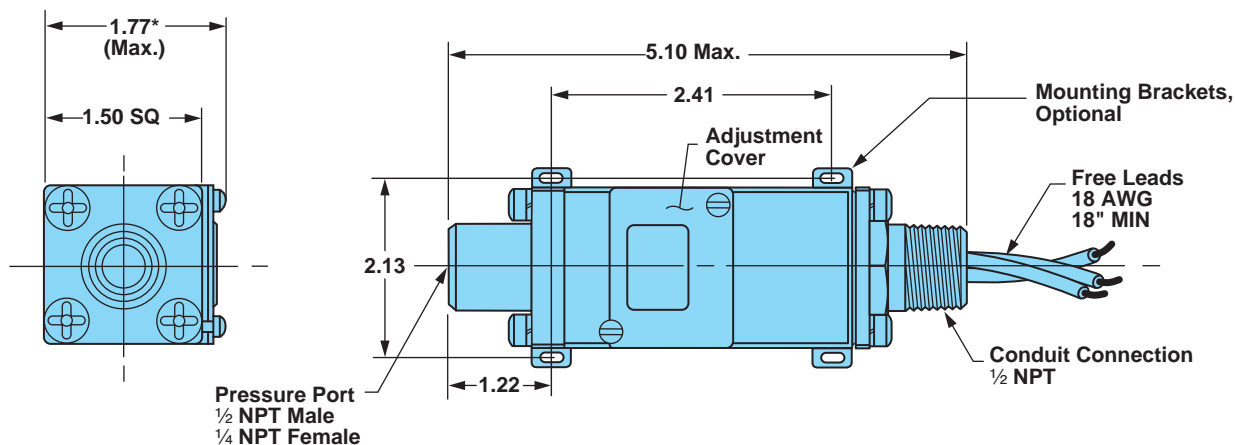
Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required
- When a selectable DB is desired, stipulate DB within allowed range

Example

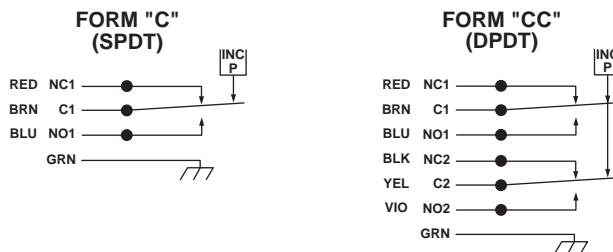


Envelope Dimensions

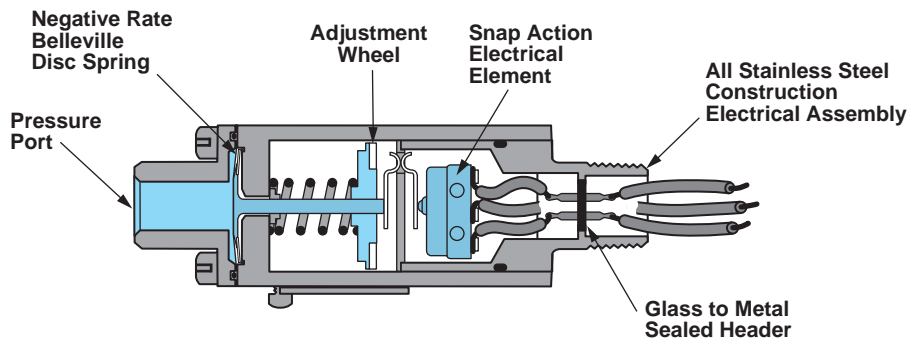


*1.90 Max. with Mounting Bracket

Electrical Form



Basic Principles of Design



Neo-Dyn® Series 231P Pressure Switch/Internal Adjustment

Compact, adjustable pressure switch for high pressure hydraulic process applications. Our combined piston sensor and efficient Nega-Rate® Belleville disc spring offers superior set point stability and vibration resistance.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range		Deadband (approximate)	Maximum Recommended System Pressure	Proof Pressure
	Increasing	Decreasing			
3	*	250 to 710	90	4000	5000
4	*	600 to 1050	140	4000	5000
5	*	700 to 2700	300	6000	8000
6	*	2400 to 4400	450	6000	8000
7	*	4100 to 6500	500	8000	10000
8	*	5500 to 9000	1000	12,500	15,000

All values given in psig unless otherwise noted.
* Add selected deadband to decreasing pressure range.

Standard Specifications

Electrical Listings

Snap action electrical switch assemblies, Part Numbers 057-0770 & 057-0772 (Form C) and 057-0771 & 057-0773 (Form CC), are listed by Underwriters' Laboratories, Inc., FM Approvals, CSA International and NCC (INMETRO). See the miscellaneous option N for additional listings.

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18 AWG, 18" long leads

Pressure Connection

1/4 NPT Female and 1/2 NPT Male (N/A Range 8)

Temperature Range*

Ambient: -40°F to +180°F
(-40°C to +82°C)
Media: -40°F to +300°F
(-40°C to +149°C)

* Temperature limits change with O-Ring selection. See Electrical Assembly specification sheet for Temperature Class Ratings.

Adjustment

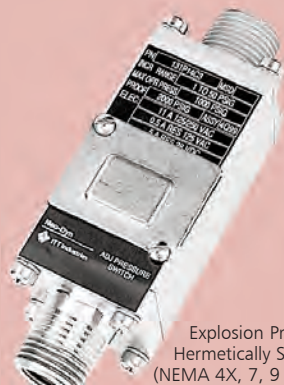
Internal, slotted adjustment nut

Shipping Weight

Approximately 20 ounces



Order Miscellaneous Option "D"



Explosion Proof
Hermetically Sealed
(NEMA 4X, 7, 9 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

- 1 Aluminum port and piston, teflon seal, and Buna-N O-Ring (Not available for range 8)
- 4 316 stainless steel port and piston, teflon seal, and Buna-N O-Ring

Adjustable Range

- 3 250 psig dec. to 800 psig inc. (17.3 bar dec. to 55.1 bar inc.)
- 4 600 psig dec. to 1190 psig inc. (41.4 bar dec. to 82.0 bar inc.)
- 5 700 psig dec. to 3000 psig inc. (48.3 bar dec. to 207 bar inc.)
- 6 2400 psig dec. to 4850 psig inc. (165 bar dec. to 334 bar inc.)
- 7 4100 psig dec. to 7000 psig inc. (283 bar dec. to 483 bar inc.)
- 8 5500 psig dec. to 10,000 psig inc. (379 bar dec. to 689 bar inc.)

Electrical Form

- C 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC
- CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC

Enclosure

- 6 Includes an explosion proof, hermetically-sealed electrical assembly. EX d IIC. Division 1 and 2, Class I, Groups A, B, C, and D; Class II, Groups E, F, and G. NEMA 4X, 7, and 9; IP66. Leads are factory sealed and Pressure Switches are Dual Seal Certified.

Miscellaneous

- A Epoxy paint exterior — extra protection for severe environments
- B Viton O-Ring
- C EPR O-Ring
- D SIL approval and marking, per IEC61508 (includes FMEA report)
- H 316 stainless steel body (Wetted Material 4 only)
- I 3/4 NPT Conduit box with terminal strip (Groups C & D only, not available with N option)
- J Annealed stainless steel port screws for H₂S environments — Consult factory for reduced system and proof pressure ratings
- M Gold electrical contacts for extremely low current applications
- N ATEX and IECEx with CE Mark
- R 72" Electrical free leads
- Z Mounting bracket kit

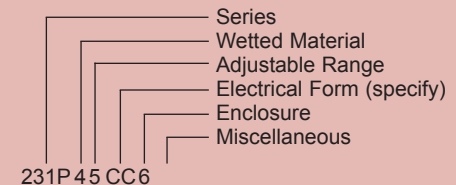
Special (Consult representative or factory)

- Non-catalog adjustable range and/or set point, deadband and proof pressure

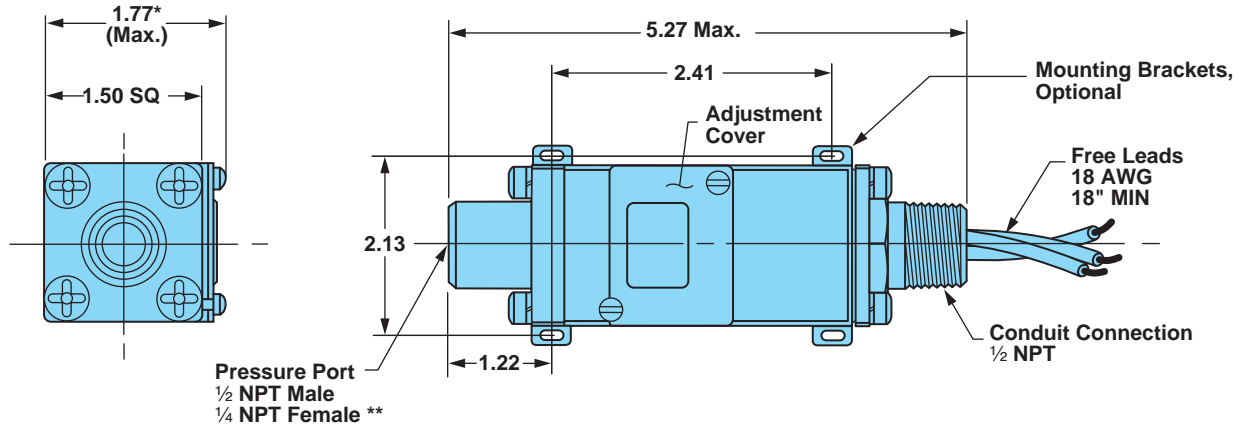
Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

Example

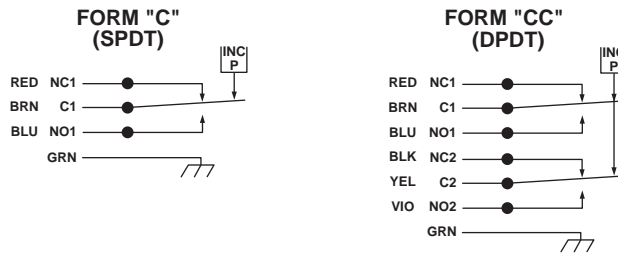


Envelope Dimensions

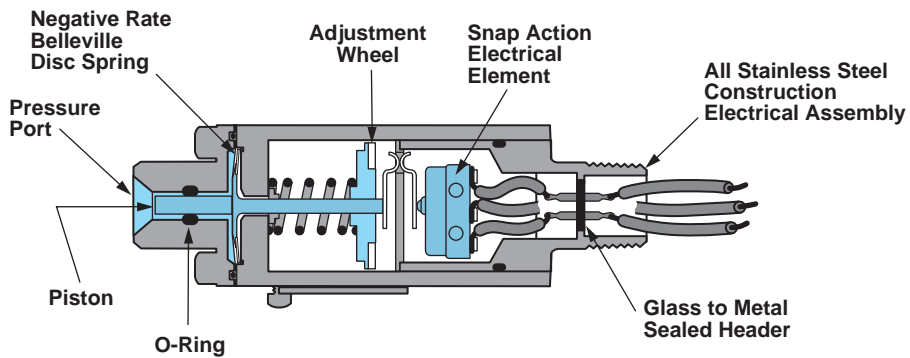


* 1.90 Max. with Mounting Bracket
** No 1/4 NPT for Range 8

Electrical Form



Basic Principles of Design



Neo-Dyn® Series 115P/115PP Pressure Switch/Tamper Proof

Compact, versatile pressure switch with built to order set points. This easy to install switch features the efficient Nega-Rate® Belleville disc spring for the set and forget application.

Operating Pressure Data

Series	Fixed Set Point Range		Maximum Recommended System Pressure	Proof Pressure
	Increasing	Decreasing		
115P	2 to 70	1.5 to 64	Up to 600	Up to 1000
115PP	71 to 250	65 to 220	Up to 600	Up to 1000

All values given in psig.

Standard Specifications

Deadband (Differential)

The deadband can be selected anywhere from 1.5 psig or 8% (whichever is greater) to 45% of the set point

Electrical

Snap action electrical switch assemblies, Part Numbers 057-0770 & 057-0772 (Form C) and 057-0771 & 057-0773 (Form CC), are listed by Underwriters' Laboratories, Inc., FM Approvals, CSA International and NCC (INMETRO). See the miscellaneous option N for additional listings.

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18 AWG, 18" long leads

Pressure Connection

1/4 NPT Male

Temperature Range*

Ambient: -40°F to +180°F
(-40°C to +82°C)

Media: -40°F to +300°F
(-40°C to +149°C)

*Temperature limits change with O-Ring selection. See Electrical Assembly specification sheet for Temperature Class Ratings.

Shipping Weight

Approximately 14 ounces



Order Miscellaneous Option "D"



Explosion Proof (NEMA 4X, 7, 9 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Set Points

115P between 1.5 psig dec. and 70 psig inc. (.10 bar dec. to 4.8 bar inc.)
115PP between 65 psig dec. and 250 psig inc. (4.5 bar dec. to 17 bar inc.)

Wetted Material

1 Aluminum port, Teflon coated polyimide diaphragm and Buna-N O-Ring
4 316 Stainless steel port, Teflon coated polyimide diaphragm and Buna-N O-Ring

Electrical Form

C 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC
CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC

Enclosure

6 Includes an explosion proof, hermetically-sealed electrical assembly. EX d IIC. Division 1 and 2, Class I, Groups A, B, C, and D; Class II, Groups E, F, and G. NEMA 4X, 7, and 9; IP66. Leads are factory sealed and Pressure Switches are Dual Seal Certified.

Miscellaneous

A Epoxy paint exterior — extra protection for severe environments
B Viton O-Ring — refer to Wetted Material
C EPR O-Ring — refer to Wetted Material
D SIL approval and marking, per IEC61508 (includes FMEA report)
H 316 stainless steel housing
I 3/4 NPT conduit box with terminal strip (Groups C & D only, not available with N option)
M Gold electrical contacts for extremely low current applications (1 Amp at 125 VAC; 1 Amp Res, 0.5 Amp Ind. at 28 VDC)
N ATEX and IECEx
R 72" Electrical free leads
S Stainless steel diaphragm (115P, Wetted Material 4 only. Not available on 115PP)
W Stainless steel screws (automatically furnished with Miscellaneous Option A and Wetted Material 4)

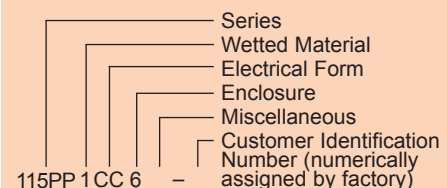
Special (Consult representative or factory)

- Pressure port per AS4395E04
- Electrical connection per MS33678-10SL-3P

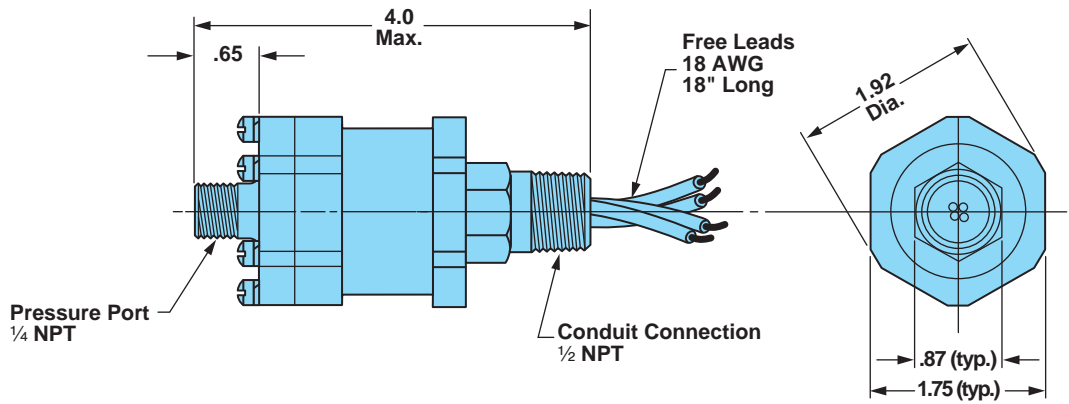
Ordering Procedure

- Specify set point, increasing or decreasing
- Specify deadband if pertinent
- Specify system pressure
- Specify proof pressure
- Specify media
- Insert available option as required

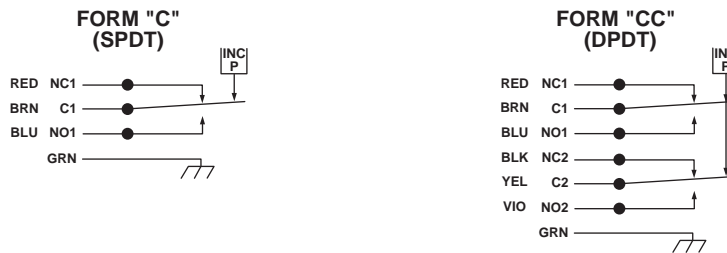
Example



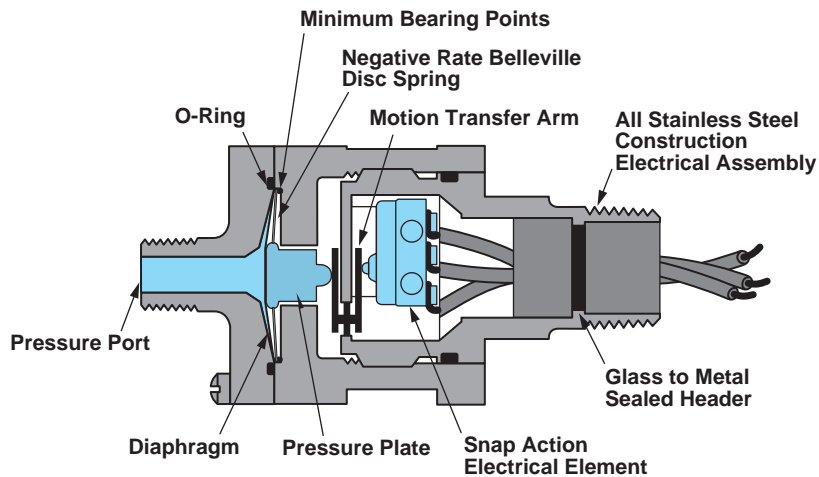
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 125P Pressure Switch/Tamper Proof

Designed for high pressure pneumatic or low impulse hydraulic applications requiring a narrow deadband and tamper-proof set point. Has diaphragm sensor with efficient Nega-Rate® Belleville disc spring for excellent accuracy and repeatability.

Operating Pressure Data

Series	Fixed Set Point Range		Maximum Recommended System Pressure	Proof Pressure
	Increasing	Decreasing		
125P	40 to 3050	20 to 2800	5000	7500

All values given in psig.

Standard Specifications

Electrical

Snap action electrical switch assemblies, Part Numbers 057-0770 & 057-0772 (Form C) and 057-0771 & 057-0773 (Form CC), are listed by Underwriters' Laboratories, Inc., FM Approvals, CSA International and NCC (INMETRO). See the miscellaneous option N for additional listings.

Deadband (Differential)

The deadband can be selected anywhere from 20 psig (1.38 bar) or 8% (whichever is greater) to 45% of the set point

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18 AWG, 18" long leads

Pressure Connection

1/4 NPT Female

Temperature Range*

Ambient: -40°F to +180°F
(-40°C to +82°C)

Media: -40°F to +300°F
(-40°C to +149°C)

*Temperature limits change with O-Ring selection. See Electrical Assembly specification sheet for Temperature Class Ratings.

Shipping Weight

Approximately 1 pound



Order Miscellaneous Option "D"



Ordering Sequence — Select desired option for each category

OPTIONS

125P between 20 psig dec. and 3050 psig inc. (1.4 bar dec. and 210 bar inc.)

Wetted Material

- 1** Aluminum port, Teflon coated polyimide diaphragm and Buna-N O-Ring
- 4** 316 Stainless steel port, Teflon coated polyimide diaphragm and Buna-N O-Ring

Electrical Form

- C** 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC
- CC** 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC

Enclosure

- 6** Includes an explosion proof, hermetically-sealed electrical assembly. EX d IIC. Division 1 and 2, Class I, Groups A, B, C, and D; Class II, Groups E, F, and G. NEMA 4X, 7, and 9; IP66. Leads are factory sealed and Pressure Switches are Dual Seal Certified.

Miscellaneous

- A** Epoxy paint exterior — extra protection for severe environments
- B** Viton O-Ring
- C** EPR O-Ring
- D** SIL approval and marking, per IEC61508 (includes FMEA report)
- I** 3/4 NPT conduit box with terminal strip (Groups C & D only, not available with N option)
- M** Gold electrical contacts for extremely low current applications
- N** ATEX and IECEx with CE Mark
- R** 72" Electrical free leads
- W** Stainless steel screws

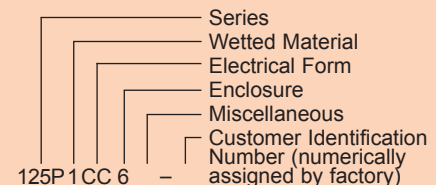
Special (Consult representative or factory)

- 7/16" - 20 SAE Female Port
- Electrical connection per MS33678-10SL-3P
- Non-catalog set point, deadband and/or proof pressure
- Media temperature capability from -65°F to +350°F

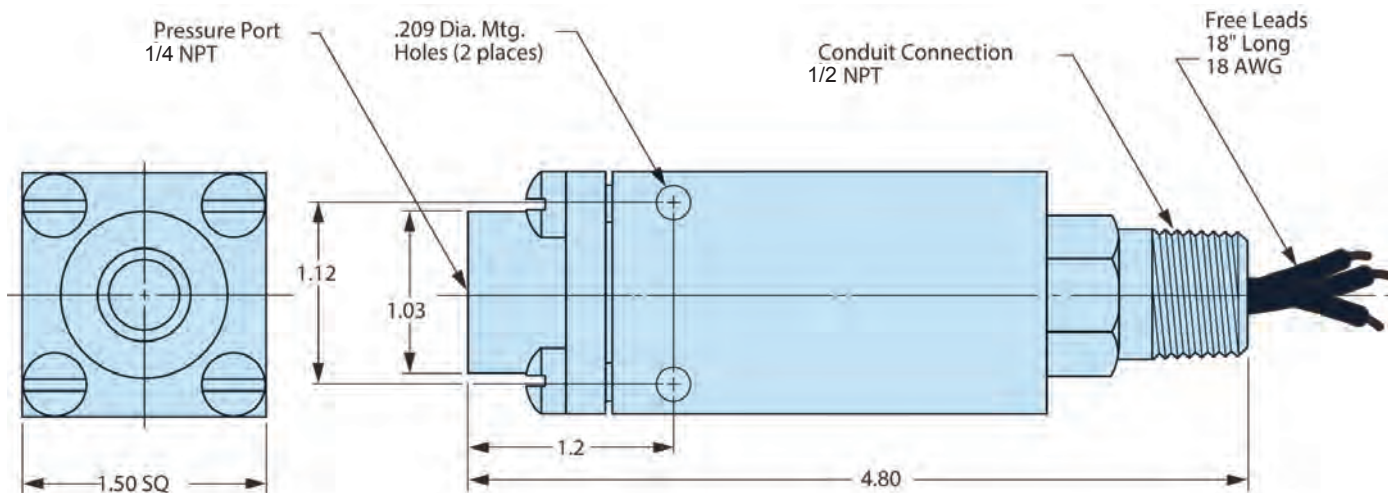
Ordering Procedure

- Specify set point, increasing or decreasing
- Specify deadband if pertinent
- Specify media
- Insert available option number or letter designation as required

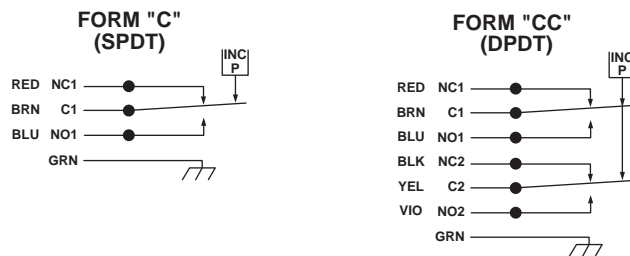
Example



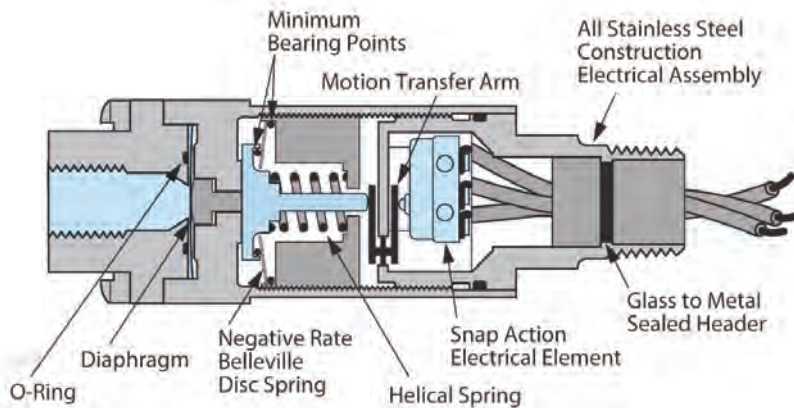
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 225P Pressure Switch/Tamper Proof

A sealed piston sensor with a efficient Nega-Rate® Belleville disc spring makes this switch well suited for high impulse hydraulic applications with tamper-proof set point.

Operating Pressure Data

Series	Fixed Set Point Range		Deadband (minimums)	Maximum Recommended System Pressure		Proof Pressure	
	Increasing	Decreasing		Hydraulic	Pneumatic	Hydraulic	Pneumatic
225P	45 to 450	15 to 405	30 or 10%	5000	3000	7500	7500
225P	450 to 3000	250 to 2700	160 or 10%	5000	3000	7500	7500
225PP	3001 to 7500	2701 to 6750	10%	10,000*	5000	15,000**	7500

All values given in psig.

*Diminished safety factor equal to approximately 2:1

**Diminished safety factor equal to approximately 1.3:1

Standard Specifications

Deadband (Differential)

The deadband can be selected anywhere from the minimum tabulated to a maximum of 45% of the set point

Electrical

Snap action electrical switch assemblies, Part Numbers 057-0770 & 057-0772 (Form C) and 057-0771 & 057-0773 (Form CC), are listed by Underwriters' Laboratories, Inc., FM Approvals, CSA International and NCC (INMETRO). See the miscellaneous option N for additional listings.

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18 AWG, 18" long leads

Pressure Connection

1/4 NPT Female

Temperature Range*

Ambient: -40°F to +180°F
(-40°C to +82°C)

Media: -40°F to +300°F
(-40°C to +149°C)

*Temperature limits change with O-Ring selection. See Electrical Assembly specification sheet for Temperature Class Ratings.

Shipping Weight

Approximately 1 pound



Order Miscellaneous Option "D"



Explosion Proof
Hermetically Sealed
(NEMA 4X, 7, 9 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Set Points

225P between 15 psig dec. and 450 psig inc. (1.0 bar dec. and 31 bar inc.)
225P between 250 psig dec. and 3000 psig inc. (17 bar dec. and 207 bar inc.)
225PP between 2701 psig dec. and 7500 psig inc. (186 bar dec. and 517 bar inc.)

Wetted Material

1 Aluminum port and piston, Teflon seal and Buna-N O-Ring

Electrical Form

C 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC;
.5 amp resistive at 125 VDC
CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC;
.5 amp resistive at 125 VDC

Enclosure

6 Includes an explosion proof, hermetically-sealed electrical assembly. EX d IIC. Division 1 and 2, Class I, Groups A, B, C, and D; Class II, Groups E, F, and G. NEMA 4X, 7, and 9; IP66. Leads are factory sealed and Pressure Switches are Dual Seal Certified.

Miscellaneous

A Epoxy paint exterior — extra protection for severe environments
B Viton O-Ring
C EPR O-Ring
D SIL approval and marking, per IEC61508 (includes FMEA report)
I 3/4 NPT Conduit box with terminal strip (Groups C & D only, not available with N option)
M Gold electrical contacts for extremely low current applications
N ATEX and IECEx with CE Mark
R 72" Electrical free leads
W Stainless steel screws

Special (Consult representative or factory)

- Pressure port per MS33649E4
- Electrical connection per MS33678-10SL-3P
- Non-catalog set point, deadband and/or proof pressure
- Media temperature capability from -65°F to +350°F
- Stainless steel Aminco port with 9/16" - 18 UNF-3B THD

Ordering Procedure

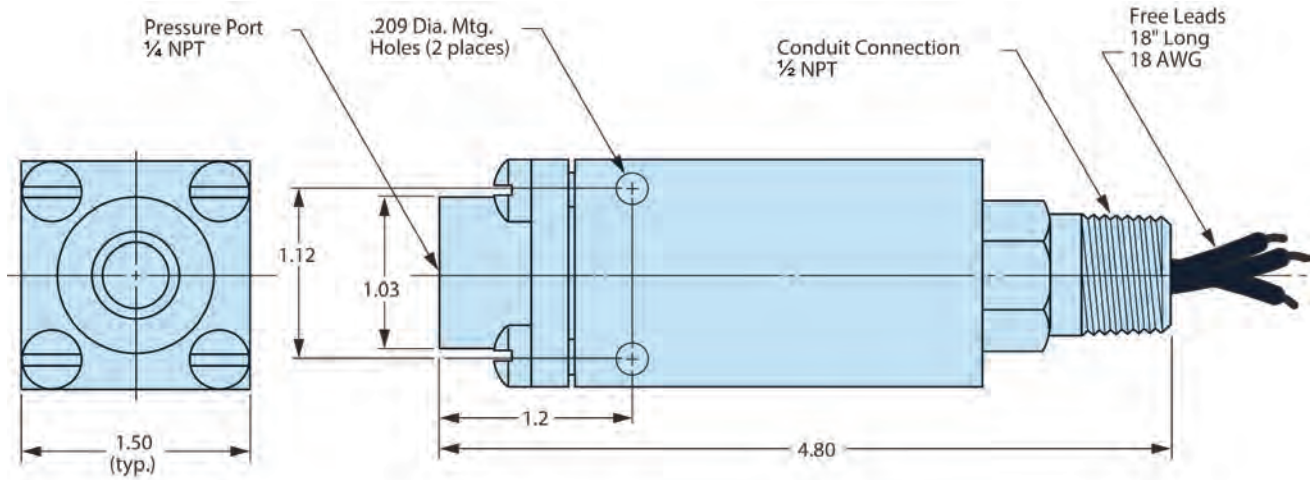
- Specify set point, increasing or decreasing
- Specify deadband
- Specify media
- Insert available option number or letter designation as required

Example

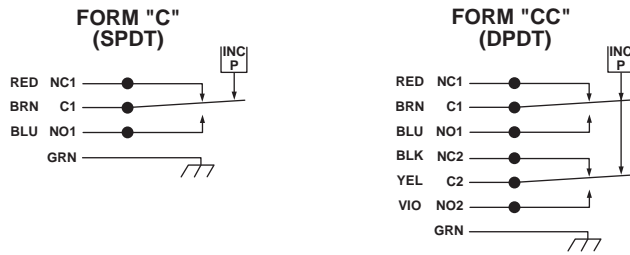
Series
Wetted Material
Electrical Form
Enclosure
Miscellaneous
Customer Identification Number (numerically assigned by factory)

225P 1 CC 6 _ _ _

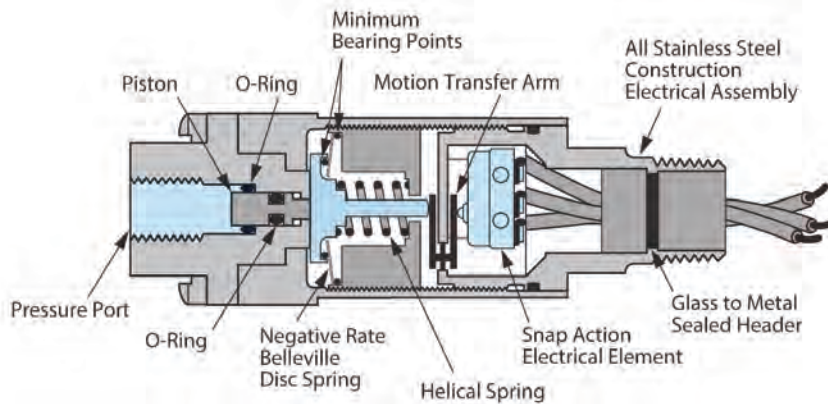
Envelope Dimensions



Electrical Form



Basic Principles of Design



**GENERAL
PURPOSE
VACUUM
SWITCHES
NEMA 4, 4X & 13**

General Purpose Weather Proof	- Adjustable	9
142P Series – Ultra Low Vacuum		
180P Series – High System Pressure		

OEM Series Weather Proof	- Adjustable	10
181P Series – Compact Vacuum Switch		
182P Series – Adjustable Thru Port Cap - Vacuum		

**HAZARDOUS
AREA
VACUUM
SWITCHES
NEMA 7 & 9**

Hermetically Sealed/Explosion Proof	- Adjustable	11
142P Series – Ultra Low Vacuum		

OEM Series Hermetically Sealed/Explosion Proof	- Factory Set	12
181P Series – Compact Vacuum Switch		
182P Series – Adjustable Thru Port Cap - Vacuum		

Neo-Dyn® Series 142P8 Ultra Low Vacuum/Pressure Switch

Ultra low pressure and vacuum to pressure crossover switch. Unique construction using efficient Nega-Rate® Belleville disc spring for stable set points and high proof pressure. Wide range of wetted materials makes this series well suited for applications that formerly required the use of diaphragm seals.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range	Deadband* (approximate)	Maximum Recommended System Pressure	Proof Pressure
	Increasing			
0	1" to 10" H ₂ O	.75" H ₂ O	30" H ₂ O Vacuum to 30" H ₂ O Pressure	30" H ₂ O Vacuum to +5 psig
1	2" to 40" H ₂ O	1" H ₂ O	30" H ₂ O Vacuum to +5 psig	30" H ₂ O Vacuum to +15 psig
2	0" to 40" H ₂ O Vacuum to 0" to 40" H ₂ O Pressure	1" H ₂ O	Full Vacuum to +15 psig	Full Vacuum to 100 psig

*Deadband 50% wider with "CC" (DPDT) and "Z" (Double Break) Electrical Forms.

Standard Specifications

Electrical

Snap action electrical switch recognized by Underwriters' Laboratories, Inc. and CSA International

Electrical Connection

1/2 NPT female conduit connection with terminal block

Pressure Connection

1/2 NPT Female

Temperature Range*

Ambient: -40°F to +180°F
(-40°C to +82°C)

Media: -50°F to +250°F
(-46°C to +121°C)

*Temperature limits change with O-Ring selection

Adjustment

Concealed wrench flat adjustment with range scale

Shipping Weight

Approximately 3.5 pounds



Order Miscellaneous Option "D"



Weather Proof (NEMA 4 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Adjustable Range

- 0 .25" H₂O (.62 mbar) dec. to 10" (24.9 mbar) H₂O inc.
- 1 1" H₂O (2.49 mbar) dec. to 40" (99.6 mbar) H₂O inc.
- 2 40" H₂O (99.6 mbar) inc. vac. to 40" (99.6 mbar) H₂O inc. pressure

Electrical Form

- C 15 amp at 125 or 250 VAC; 1/8 hp at 125 VAC; 1/4 hp at 250 VAC; .5 amp resistive, .04 amp inductive at 125 VDC
- CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive 28 VDC; .5 amp resistive at 125 VDC
- Z 15 amp at 125 or 250 VAC; 1/4 hp at 125 VAC; 1/2 hp at 250 VAC; 1 amp resistive, .5 amp inductive at 125 VDC

Enclosure

- 3 Meets or exceeds the requirements of NEMA Type 3 3R, 3S, 4, 4X and 13

Miscellaneous

- A Epoxy paint exterior — extra protection for severe environments
- D SIL approval and marking, per IEC61508 (includes FMEA report)
- L Neon light indicator — 115 VAC
- M Gold electrical contacts for extremely low current applications
- X CE Mark

Port Material

- 4 316 Stainless Steel
- 7 Hastelloy C

Diaphragm

- 1 Polyimide
- 4 316 Stainless Steel
- 6 Tantalum
- 7 Hastelloy C

O-Rings

- 2 Kalrez
- 3 Viton
- 5 EPR
- 8 Buna-N

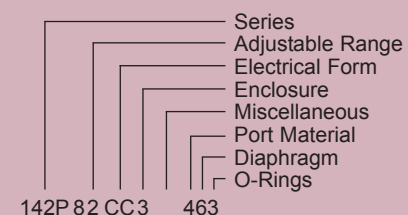
Special (Consult representative or factory)

- Non-catalog adjustable range and/or set point and deadband
- Operating temperature capabilities from -65°F to 400°F

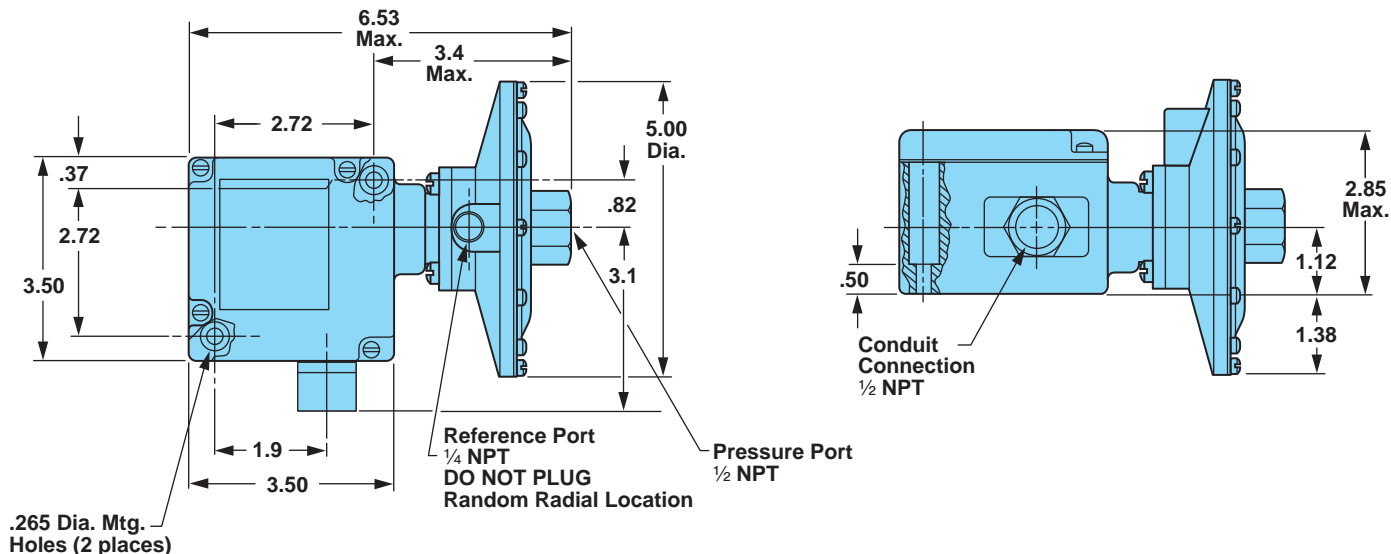
Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

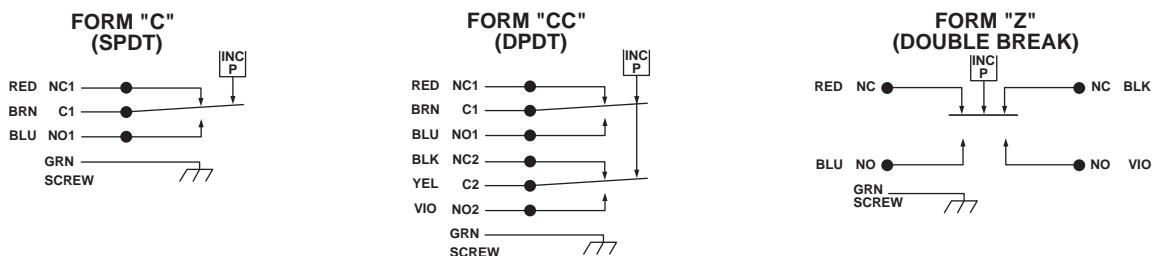
Example



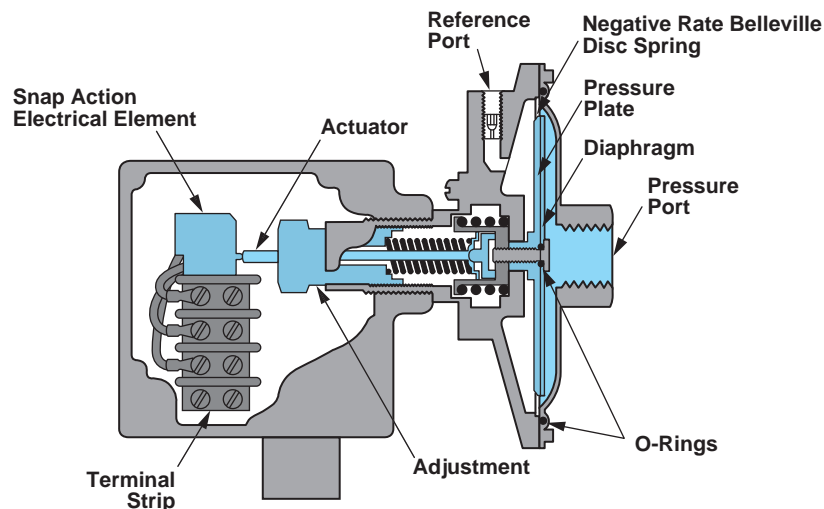
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 180P Vacuum Pressure Switch/Internal Adjustment

Adjustable vacuum switch with efficient Nega-Rate® Belleville disc spring sensing mechanism. Weather proof enclosure and stable set points makes this switch ideal for a wide variety of applications.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range		Deadband (approximate)	Maximum Recommended System Pressure	Proof Pressure
	Increasing Vacuum	Decreasing Vacuum			
4	3" to 28" Hg	1" to 26" Hg	2" Hg	225	350

All values given in psig.

Standard Specifications

Electrical

Snap action electrical switch recognized by Underwriters' Laboratories, Inc. and CSA International

Electrical Connection

1/2 NPT female conduit connection with terminal block

Pressure Connection

1/4 NPT Female

Temperature Range*

Ambient: -40°F to +180°F
(-40°C to +82°C)

Media: -40°F to +250°F
(-40°C to +121°C)

*Temperature limits change with O-Ring selection

Adjustment

Concealed wrench flat adjustment with range scale

Shipping Weight

Approximately 3.5 pounds



Order Miscellaneous Option "D"



Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

- 1 Aluminum port and body, Teflon coated polyimide diaphragm, Buna-N O-Rings and stainless steel
- 4 Stainless steel, Teflon coated polyimide diaphragm and Buna-N O-Rings

Adjustable Vacuum Range

- 4 1" Hg dec. to 28" Hg inc. (0.0 bar dec. to 0.9 bar inc.)

Electrical Form

- C 15 amp at 125 or 250 VAC; 1/8 hp at 125 VAC; 1/4 hp at 250 VAC; .5 amp resistive, .04 amp inductive at 125 VDC
- CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC

Enclosure

- 3 Meets or exceeds the requirements of NEMA Type 3, 3R, 3S, 4, 4X and 13

Miscellaneous

- A Epoxy paint exterior — extra protection for severe environments
- B Viton O-Ring
- C EPR O-Ring
- D SIL approval and marking, per IEC61508 (includes FMEA report)
- L Neon indicator light — 115 VAC
- M Gold electrical contacts for extremely low current applications
- X CE Mark

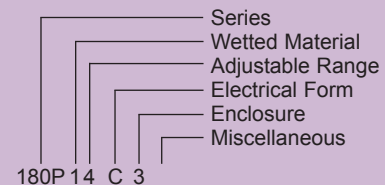
Special (Consult representative or factory)

- Non-catalog adjustable range and/or set point, deadband and proof pressure
- Media temperature capability from -65°F to +350°F
- 10 amps 125 VDC electrical rating
- Chemical seals installed
- Optional orientation of Low Pressure Port

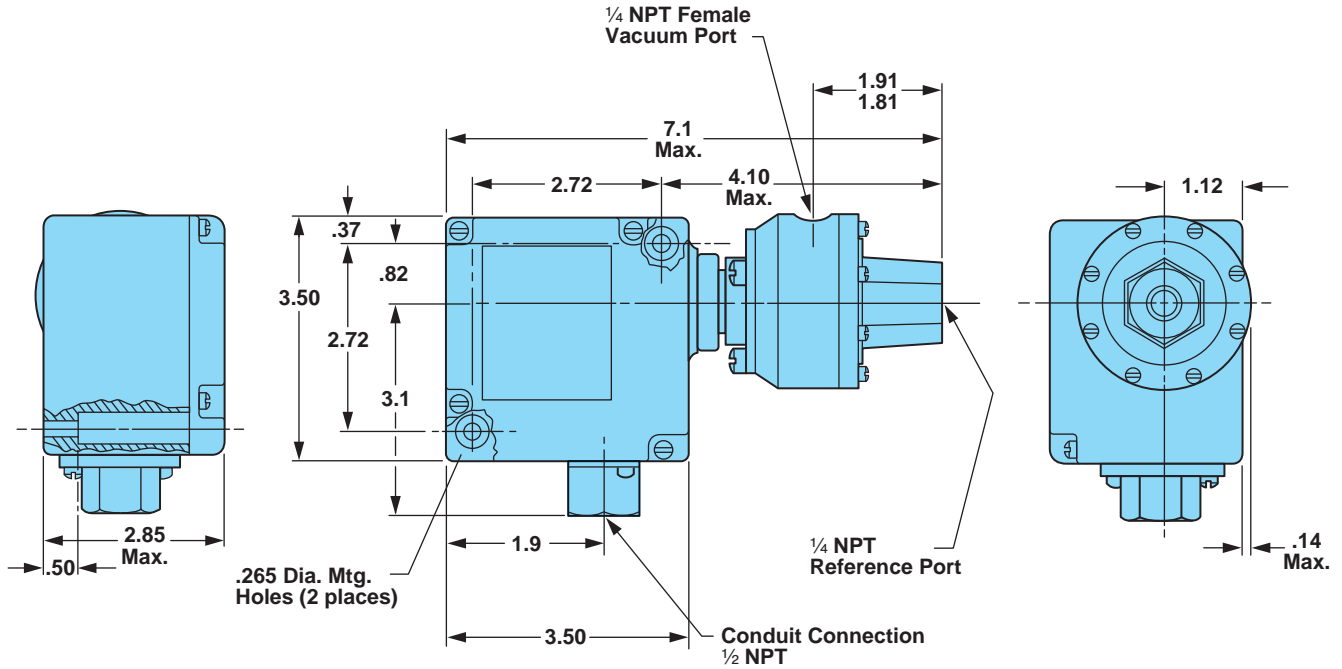
Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

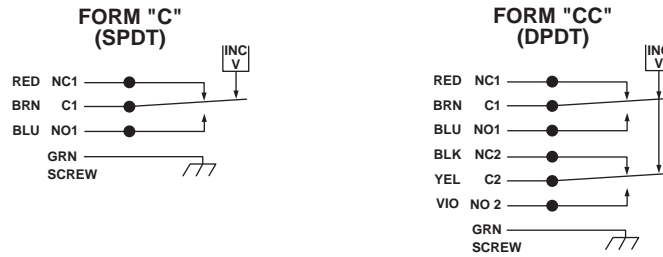
Example



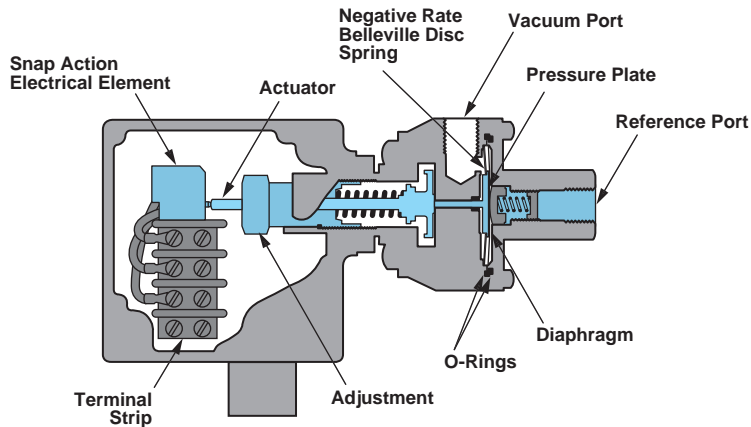
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 181P Vacuum Switch/Internal Adjustment

Compact, adjustable vacuum switch well suited to numerous applications. Our efficient Nega-Rate® Belleville disc spring offers superior set point stability and vibration resistance. The 181P series vacuum switch also has a selectable deadband feature which can be preset at the factory.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range		Selectable Deadband	Default Deadband (approx.)	Maximum Recommended System Pressure	Proof Pressure
	Increasing Vacuum	Decreasing Vacuum				
2	4 to 28" Hg	2 to 26" Hg	1.5 to 2.5" Hg	2" Hg	150	250

All values given in psig unless otherwise noted.

Standard Specifications

Electrical Listings

Switch listed by Underwriters Laboratories, Inc., CSA International and Factory Mutual

Electrical Connection

1/2 NPT male conduit connection, 18" free leads

Pressure Connection

1/4 NPT Female and 1/2 NPT Male

Temperature Range*

Ambient: -40°F to +176°F
(-40°C to +80°C)

Media: -40°F to +300°F
(-40°C to +149°C)

* Temperature limits change with O-Ring selection

Adjustment

Internal, slotted adjustment wheel

Shipping Weight

Approximately 13 ounces



Order Miscellaneous Option "D"



Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

- 1 Aluminum port, polyimide diaphragm, Buna-N O-Ring
- 4 316 stainless steel port, polyimide diaphragm, Buna-N O-Ring

Adjustable Vacuum Range

- 2 2" dec. to 28" Hg inc.

Electrical Form

- C 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC
- CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC

Enclosure

- 3 Meets or exceeds the requirements of NEMA Type 3, 3R, 3S, 4, 4X and 13

Miscellaneous

- A Epoxy paint exterior for extra protection for severe environments
- B Viton O-Ring
- C EPR O-Ring
- D SIL approval and marking, per IEC61508 (includes FMEA report)
- I 3/4 NPT Conduit box with terminal block
- M Gold electrical contacts for extremely low current applications
- R 72" Electrical free leads
- X CE Mark
- Z Mounting bracket kit

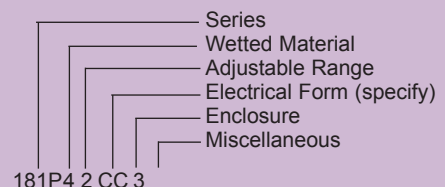
Special (Consult representative or factory)

- Non-catalog adjustable range and/or set point, deadband and proof pressure

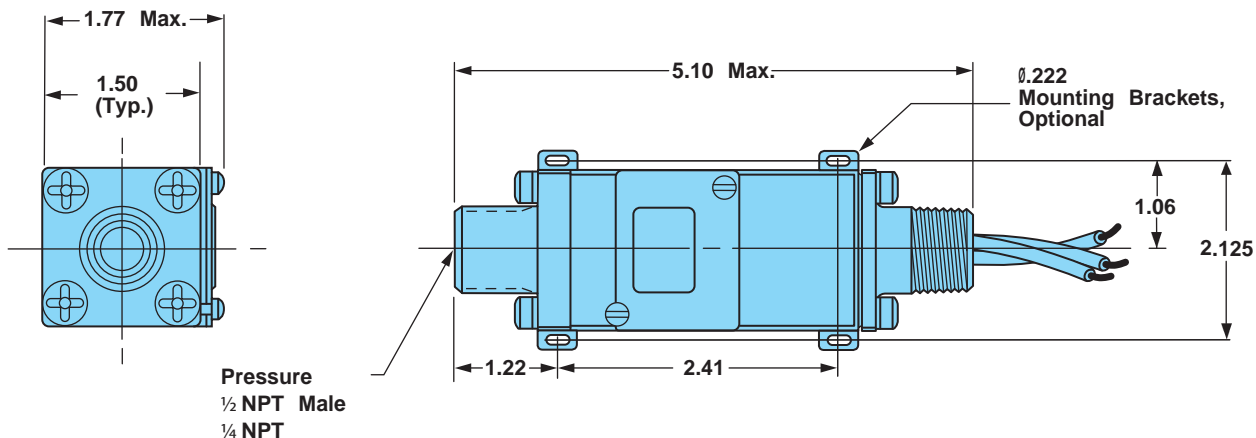
Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required
- When a selectable deadband is desired, stipulate deadband within allowed range

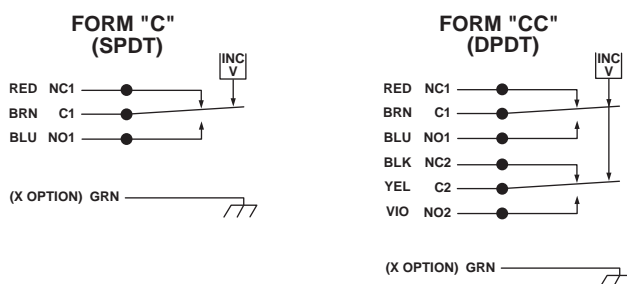
Example



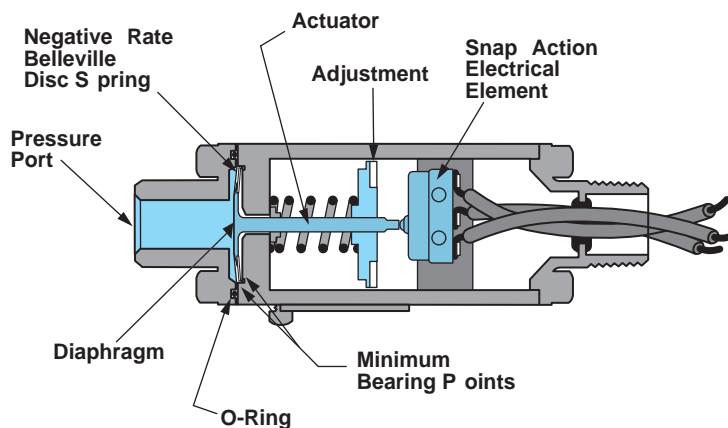
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 182P Vacuum Switch / Tamper Resistant

Compact, versatile vacuum switch suited to numerous applications. Features efficient Nega-Rate® Belleville disc spring for stable set points and is field adjustable through the pressure port. Once adjustments are made and switch is installed, it becomes tamper proof.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range		Deadband (approximate)	Maximum Recommended System Pressure	Proof Pressure
	Increasing Vacuum	Decreasing Vacuum			
2	4" to 28" Hg	2" to 26" Hg	2" Hg	150	250

All values given in psig.

Standard Specifications

Electrical

Snap action electrical switch recognized by Underwriters' Laboratories, Inc. and CSA International

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18 AWG, 18" long leads

Pressure Connection

1/4 NPT Male

Temperature Range*

Ambient: -40°F to +180°F
(-40°C to +82°C)

Media: -40°F to +300°F
(-40°C to +149°C)

*Temperature limits change with O-Ring selection

Adjustment

1/8" allen wrench through port

Shipping Weight

Approximately 8 ounces



Order Miscellaneous Option "D"



Weather Proof (NEMA 4 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

- 1 Aluminum port, Teflon coated polyimide diaphragm, Buna-N O-Rings, stainless and cadmium plated steel
- 4 Stainless steel port, Teflon coated polyimide diaphragm and Buna-N O-Rings

Adjustable Vacuum Range

- 2 2" Hg dec. to 28" Hg inc. vacuum (.07 bar dec. to .95 bar inc.)

Electrical Form

- C 11 amp, 1/4 at 125 or 250 VAC; 5 amp resistive, 3 amp inductive 28 at VDC; .5 amp resistive at 125 VDC
- CC 11 amp, 1/4 at 125 or 250 VAC; 5 amp resistive, 3 amp inductive 28 at VDC; .5 amp resistive at 125 VDC

Enclosure

- 3 Meets or exceeds the requirements of NEMA Type 3, 3R, 3S, 4, 4X and 13

Miscellaneous

- A Epoxy paint exterior — extra protection for severe environments
- B Viton O-Ring
- C EPR O-Ring
- D SIL approval and marking, per IEC61508 (includes FMEA report)
- I 1/2 NPT Conduit box with terminal strip
- M Gold electrical contacts for extremely low current applications
- R 72" Electrical free leads
- X CE Mark

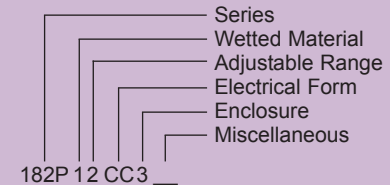
Special (Consult representative or factory)

- Non-catalog adjustable range and/or set point, deadband and proof pressure

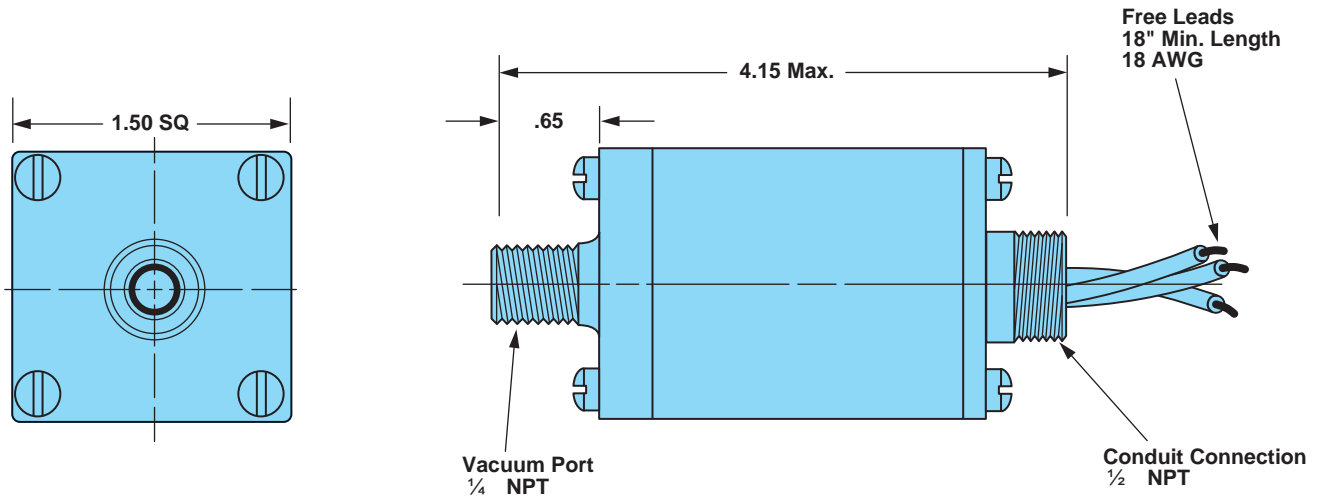
Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

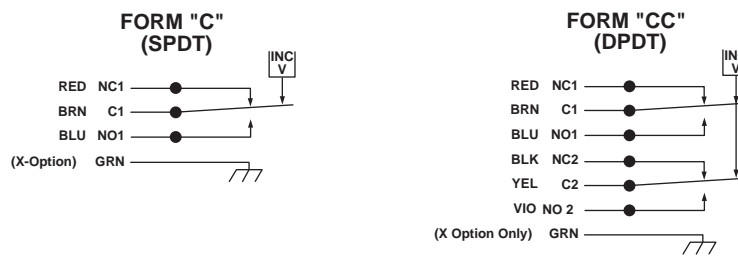
Example



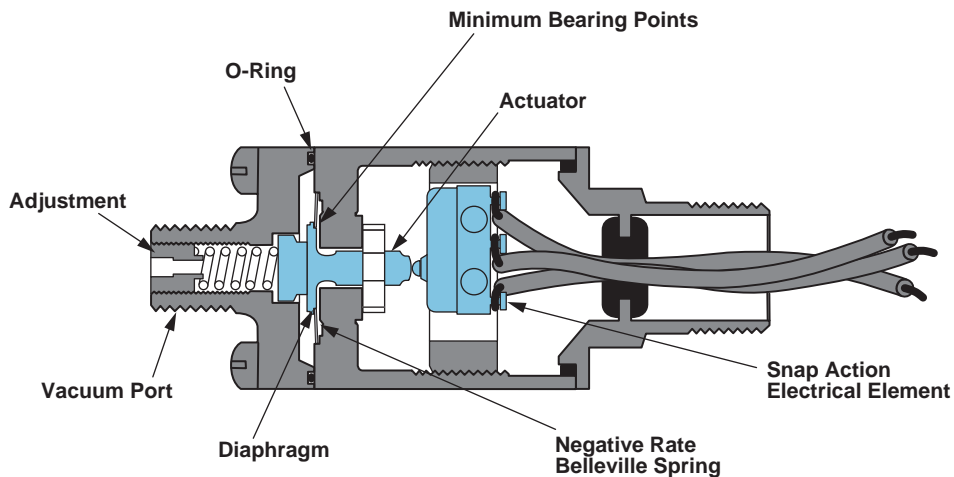
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 142P8 Ultra Low Vacuum/Pressure Switch

Ultra low pressure and vacuum to pressure crossover switch. Unique construction using efficient Nega-Rate® Belleville disc spring for stable set points and high proof pressure. Explosion proof enclosure and wide range of wetted materials makes this switch especially well suited for hazardous or corrosive atmospheres.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range	Deadband* (approximate)	Maximum Recommended System Pressure	Proof Pressure
	Increasing			
0	1" to 10" H ₂ O	.75" H ₂ O	30" H ₂ O Vacuum to 30" H ₂ O Pressure	30" H ₂ O Vacuum to +5 psig
1	2" to 40" H ₂ O	1" H ₂ O	30" H ₂ O Vacuum to +5 psig	30" H ₂ O Vacuum to +15 psig
2	0" to 40" H ₂ O Vacuum to 0" to 40" H ₂ O Pressure	1" H ₂ O	Full Vacuum to +15 psig	Full Vacuum to 100 psig

*Deadband 50% wider with "CC" (DPDT) Electrical Forms.

Standard Specifications

Electrical

Snap action electrical switch listed by Underwriters' Laboratories, Inc., Factory Mutual and CSA International

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18 AWG, 18" long leads

Pressure Connection

1/2 NPT Female

Temperature Range*

Ambient: -40°F to +180°F
(-40°C to +82°C)

Media: -50°F to +250°F
(-46°C to +121°C)

*Temperature limits change with O-Ring selection. See Electrical Assembly specification sheet for Temperature Class Ratings.

Adjustment

Concealed wrench flat adjustment with range scale

Shipping Weight

Approximately 3.5 pounds



Order Miscellaneous Option "D"



Explosion Proof
Hermetically Sealed
(NEMA 4X, 7, 9 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Adjustable Range

- 0** .25" H₂O (.62 mbar) dec. to 10" (24.9 mbar) H₂O inc.
- 1** 1" H₂O (2.49 mbar) dec. to 40" (99.6 mbar) H₂O inc.
- 2** 40" H₂O (99.6 mbar) inc. vac. to 40" (99.6 mbar) H₂O inc. pressure

Electrical Form

- C** 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC
- CC** 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC

Enclosure

- 6** Explosion proof, hermetically-sealed electrical assembly, EX d IIC. Part Numbers 057-0770 & 057-0772 (Form C) and 057-0771 & 057-0773 (Form CC). Agency listings include **Underwriters Laboratories, Inc.**, **CSA International**, **Factory Mutual**, and **Inmetro**. Division 1 and 2, Class I, Groups A, B, C, and D; Class II, Groups E, F, and G. NEMA 4X, 7, and 9; IP66. Leads are factory sealed and Pressure Switches are Dual Seal Certified.

Miscellaneous

- A** Epoxy paint exterior — extra protection for severe environments
- D** SIL approval and marking, per IEC61508 (includes FMEA report)
- I** 3/4 NPT conduit box with terminal strip (Groups C & D only, not available with N option)
- M** Gold electrical contacts for extremely low current applications
- N** ATEX and IECEx with CE Mark
- R** 72" Electrical free leads

Port Material

- 4** 316 Stainless Steel
- 7** Hastelloy C

Diaphragm

- 1** Polyimide
- 4** 316 Stainless Steel
- 6** Tantalum
- 7** Hastelloy C

O-Rings

- 2** Kalrez
- 3** Viton
- 5** EPR
- 8** Buna-N

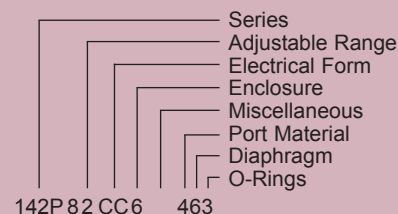
Special (Consult representative or factory)

- Non-catalog adjustable range and/or set point, deadband and proof pressure
- Media temperature capabilities from -65°F to +400°F

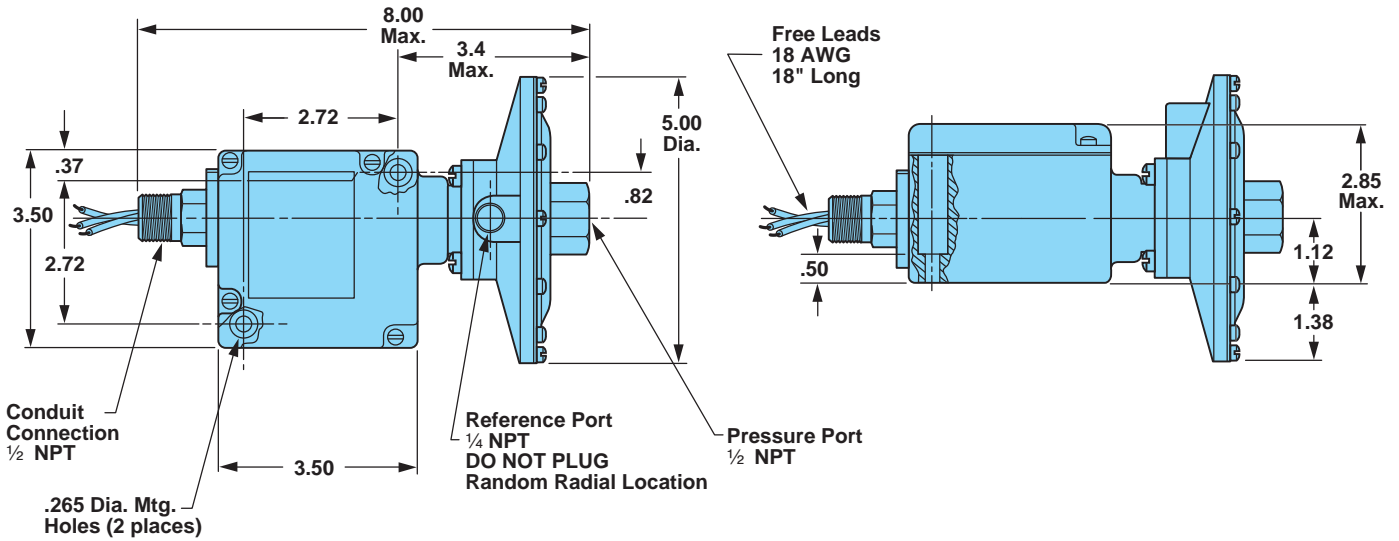
Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

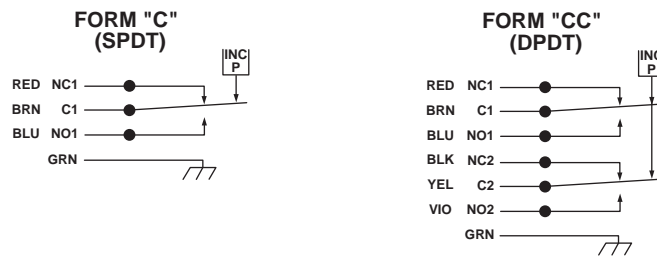
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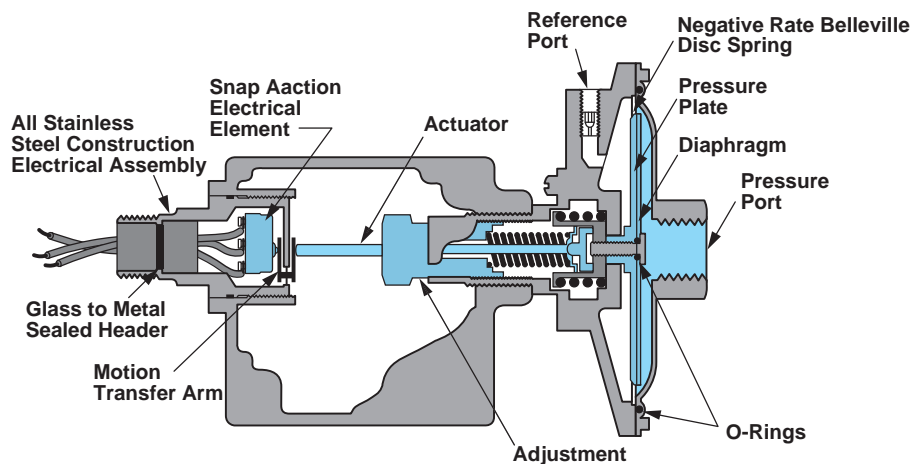
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 181P Vacuum Switch/Internal Adjustment

Compact, adjustable vacuum switch well suited to numerous applications. Our efficient Nega-Rate® Belleville disc spring offers superior set point stability and vibration resistance. The 181P series vacuum switch also has a selectable deadband feature which can be preset.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range		Selectable Deadband	Default Deadband (approx.)	Maximum Recommended System Pressure	Proof Pressure
	Increasing Vacuum	Decreasing Vacuum				
2	4 to 28" Hg	2 to 26" Hg	1.5 to 2.5" Hg	2" Hg	150	250

All values given in psig unless otherwise noted.

Standard Specifications

Electrical Listings

Snap action electrical switch assemblies, Part Numbers 057-0770 & 057-0772 (Form C) and 057-0771 & 057-0773 (Form CC), are listed by Underwriters' Laboratories, Inc., FM Approvals, CSA International and NCC (INMETRO). See the miscellaneous option N for additional listings.

Electrical Connection

1/2 NPT male conduit connection with PVS insulated 18 AWG, 18" long leads

Pressure Connection

1/4 NPT Female and 1/2 NPT Male

Temperature Range*

Ambient: -40°F to +176°F
(-40°C to +80°C)

Media: -40°F to +300°F
(-40°C to +149°C)

* Temperature limits change with O-Ring selection. See Electrical Assembly specification sheet for Temperature Class Ratings.

Adjustment

Internal, slotted adjustment wheel

Shipping Weight

Approximately 20 ounces



Order Miscellaneous Option "D"



Explosion Proof
Hermetically Sealed
(NEMA 4X, 7, 9 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

- 1 Aluminum port, polyimide diaphragm, Buna-N O-Ring
- 4 316 stainless steel port, polyimide diaphragm, Buna-N O-Ring

Adjustable Vacuum Range

- 2 2" Hg dec. to 28" Hg inc.

Electrical Form

- C 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC
- CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC

Enclosure

- 6 Includes an explosion proof, hermetically-sealed electrical assembly. EX d IIC. Division 1 and 2, Class I, Groups A, B, C, and D; Class II, Groups E, F, and G. NEMA 4X, 7, and 9; IP66. Leads are factory sealed and Pressure Switches are Dual Seal Certified.

Miscellaneous

- A Epoxy paint exterior for extra protection for severe environments
- B Viton O-Ring
- C EPR O-Ring
- D SIL approval and marking, per IEC61508 (includes FMEA report)
- D SAA Approval (current and temperature ratings vary)
- H 316 stainless Steel Body
- I 3/4 NPT Conduit box with terminal strip (Groups C & D only, not available with N option)
- M Gold electrical contacts for extremely low current applications
- N ATEX and IECEx with CE Mark
- R 72" Electrical free leads
- Z Mounting bracket kit

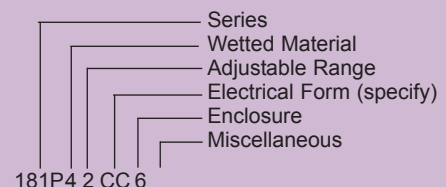
Special (Consult representative or factory)

- Non-catalog adjustable range and/or set point, deadband and proof pressure

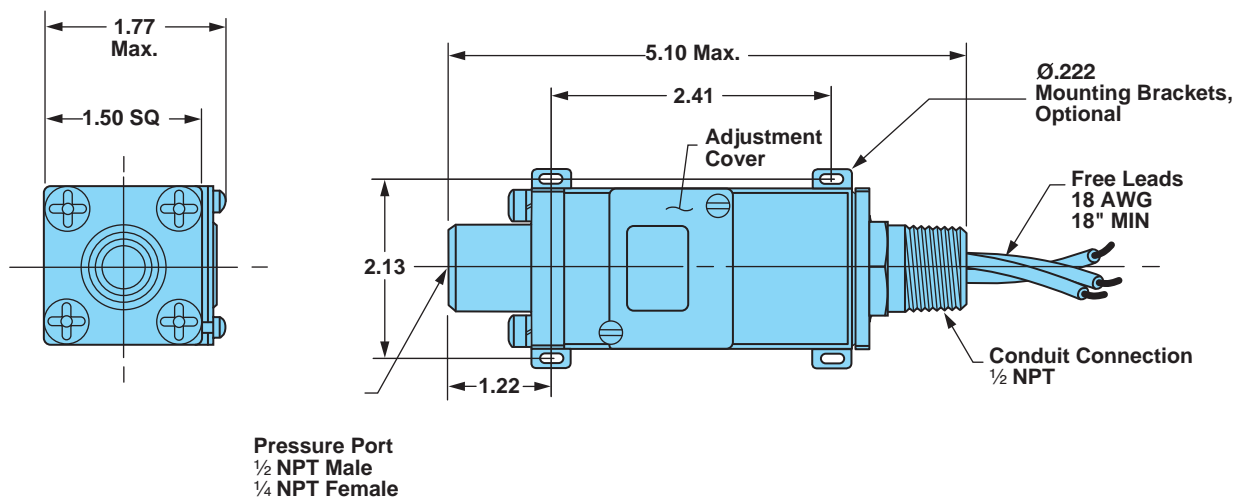
Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required
- When a selectable deadband is desired, stipulate deadband within allowed range

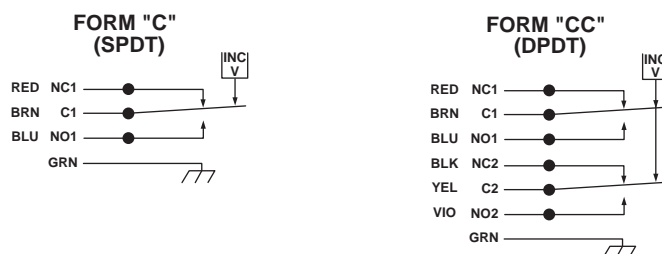
Example



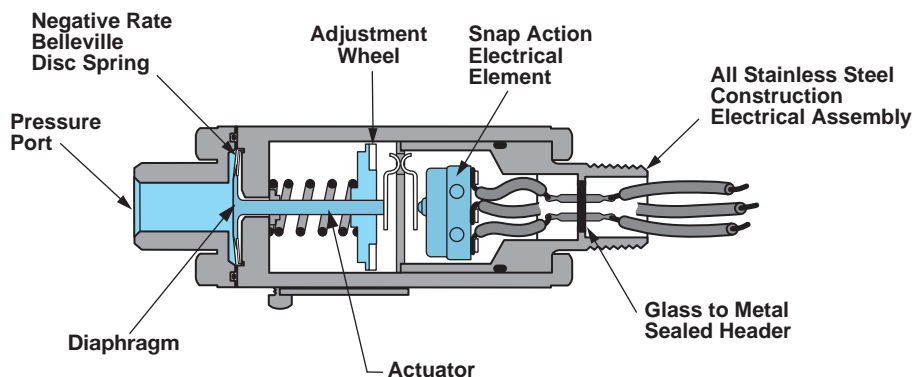
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 182P Vacuum Switch/Tamper Resistant

Compact, versatile vacuum switch well suited for hazardous or corrosive atmospheres. For vacuum applications. Features efficient Nega-Rate® Belleville disc spring for stable set points and is field adjustable using 1/8" allen wrench. Once adjustments are made and switch is installed, it becomes tamper proof.

Operating Pressure Data

Adjustable Range Number	Adjustable Set-Point Range		Deadband (approximate)	Maximum Recommended System Pressure	Proof Pressure
	Increasing Vacuum	Decreasing Vacuum			
2	4 to 28" Hg	2 to 26" Hg	2" Hg	150	250

All values given in psig.

Standard Specifications

Electrical

Snap action electrical switch assemblies, Part Numbers 057-0770 & 057-0772 (Form C) and 057-0771 & 057-0773 (Form CC), are listed by Underwriters' Laboratories, Inc., FM Approvals, CSA International and NCC (INMETRO). See the miscellaneous option N for additional listings.

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18 AWG, 18" long leads

Pressure Connection

1/4 NPT Male

Temperature Range*

Ambient: -40°F to +180°F
(-40°C to +82°C)

Media: -40°F to +300°F
(-40°C to +149°C)

*Temperature limits change with O-Ring selection. See Electrical Assembly specification sheet for Temperature Class Ratings.

Adjustment

1/8" allen wrench through port

Shipping Weight

Approximately 16 ounces



Explosion Proof
Hermetically Sealed
(NEMA 4X, 7, 9 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

- 1 Aluminum port, Teflon coated polyimide diaphragm, Buna-N O-Ring, stainless and cadmium plated steel
- 4 Stainless steel, Teflon coated polyimide diaphragm and Buna-N O-Ring

Adjustable Vacuum Range

- 2 2" Hg dec. to 28" Hg inc. vacuum (.07 bar dec. to .95 bar inc.)

Electrical Form

- C 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC
- CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC

Enclosure

- 6 Includes an explosion proof, hermetically-sealed electrical assembly. EX d IIC. Division 1 and 2, Class I, Groups A, B, C, and D; Class II, Groups E, F, and G. NEMA 4X, 7, and 9; IP66. Leads are factory sealed and Pressure Switches are Dual Seal Certified.

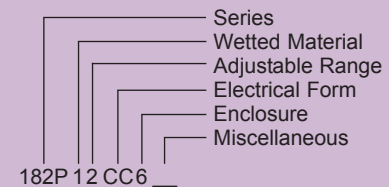
Miscellaneous

- A Epoxy paint exterior — extra protection for severe environments
- B Viton O-Ring
- C EPR O-Ring
- H Stainless steel body
- I 3/4 NPT conduit box with terminal strip (Groups C & D only, not available with N option)
- M Gold electrical contacts for extremely low current applications
- N ATEX and IECEx with CE Mark
- R 72" Electrical free leads

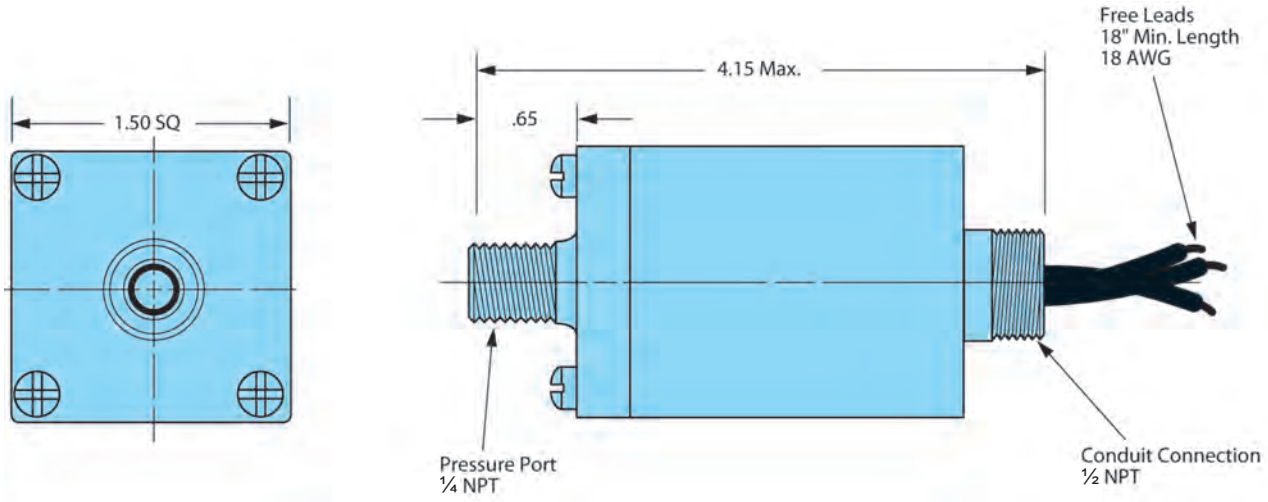
Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

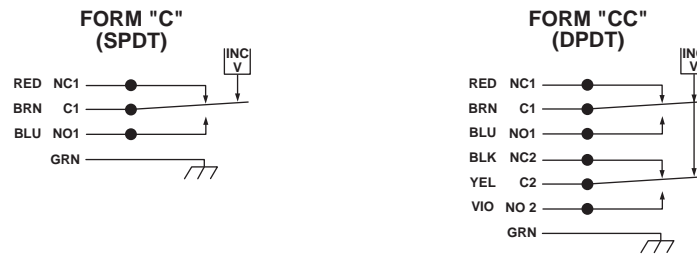
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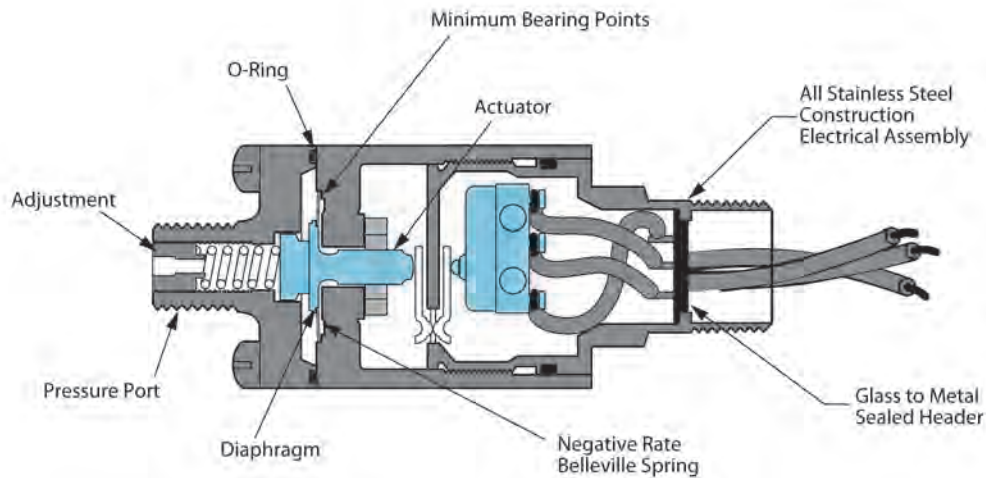
Envelope Dimensions



Electrical Form



Basic Principles of Design



**GENERAL
PURPOSE
DIFFERENTIAL
SWITCHES
NEMA 4, 4X & 13**

General Purpose Weather Proof	– Adjustable	13
152P Series – Ultra Low System Pressure		
160P Series – Mid Range System Pressure		

Compact Weather Proof	– Adjustable	14
151P Series – Low Differential Set Points w/Mid Range System Pressure		

**HAZARDOUS
AREA
DIFFERENTIAL
SWITCHES
NEMA 7 & 9**

Hermetically Sealed/Explosion Proof	– Adjustable	15
152P Series – Ultra Low System Pressure		
160P Series – Mid Range System Pressure		

Compact Hermetically Sealed/Explosion Proof	– Adjustable	16
151P Series – Low Differential Set Points w/Mid Range System Pressure		
162P Series – High System Pressure		

Neo-Dyn® Series 152P8 Ultra Low Differential/Pressure Switch

Ultra low adjustable pressure switch. Unique construction using efficient Nega-Rate® Belleville disc spring for stable set points and high proof pressure. Wide range of wetted materials makes this series well suited for applications that formerly required the use of diaphragm seals.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range	Deadband* (approximate)	Maximum Recommended System Pressure	Proof Pressure
	Increasing			
2	2" to 100" H ₂ O Differential	1.5" H ₂ O	15 psig Simul. or Hi over Low 100" H ₂ O Low over Hi	100 PSI Simul. or Hi over Low 15 PSI Low over Hi

*Deadband 50% wider with "CC" (DPDT) and "Z" (Double Break) Electrical Forms.

Standard Specifications

Electrical

Snap action electrical switch recognized by Underwriters' Laboratories, Inc. and CSA International

Electrical Connection

1/2 NPT female conduit connection with terminal block

Pressure Connection

High — 1/2 NPT Female
Low — 1/4 NPT Female

Temperature Range*

Ambient: -40°F to +180°F
(-40°C to +82°C)

Media: -50°F to +250°F
(-46°C to +121°C)

*Temperature limits change with O-Ring selection

Adjustment

Concealed wrench flat adjustment with range scale

Shipping Weight

Approximately 4 pounds



Order Miscellaneous Option "D"



Weather Proof
(NEMA 4 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Adjustable Range

2 .5" H₂O dec. (1.2 mbar) to 100" H₂O inc. (249 mbar)

Electrical Form

C 15 amp at 125 or 250 VAC; 1/8 hp at 125 VAC; 1/4 hp at 250 VAC;
.5 amp resistive, .04 amp inductive at 125 VDC

CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC;
.5 amp resistive at 125 VDC

Z 15 amp at 125 or 250 VAC; 1/4 hp at 125 VAC; 1/2 hp at 250 VAC;
1 amp resistive, .5 amp inductive at 125 VDC

Enclosure

3 Meets or exceeds the requirements of NEMA Type 3 3R, 3S, 4, 4X and 13

Miscellaneous

A Epoxy paint exterior — extra protection for severe environments

D SIL approval and marking, per IEC61508 (includes FMEA report)

L Neon light indicator — 115 VAC

M Gold electrical contacts for extremely low current applications

Port Material

1 316 Stainless Steel High/Aluminum Low

4 316 Stainless Steel High/Low

Diaphragm

1 Polyimide

4 316 Stainless Steel

6 Tantalum

7 Hastelloy C

O-Rings

2 Kalrez

3 Viton

5 EPR

8 Buna-N

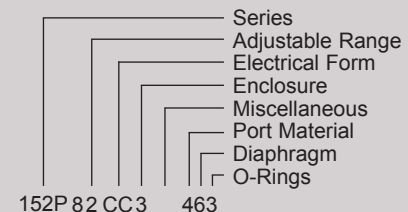
Special (Consult representative or factory)

- Non-catalog adjustable range and/or set point and deadband
- Media temperature capabilities from -65°F to 400°F

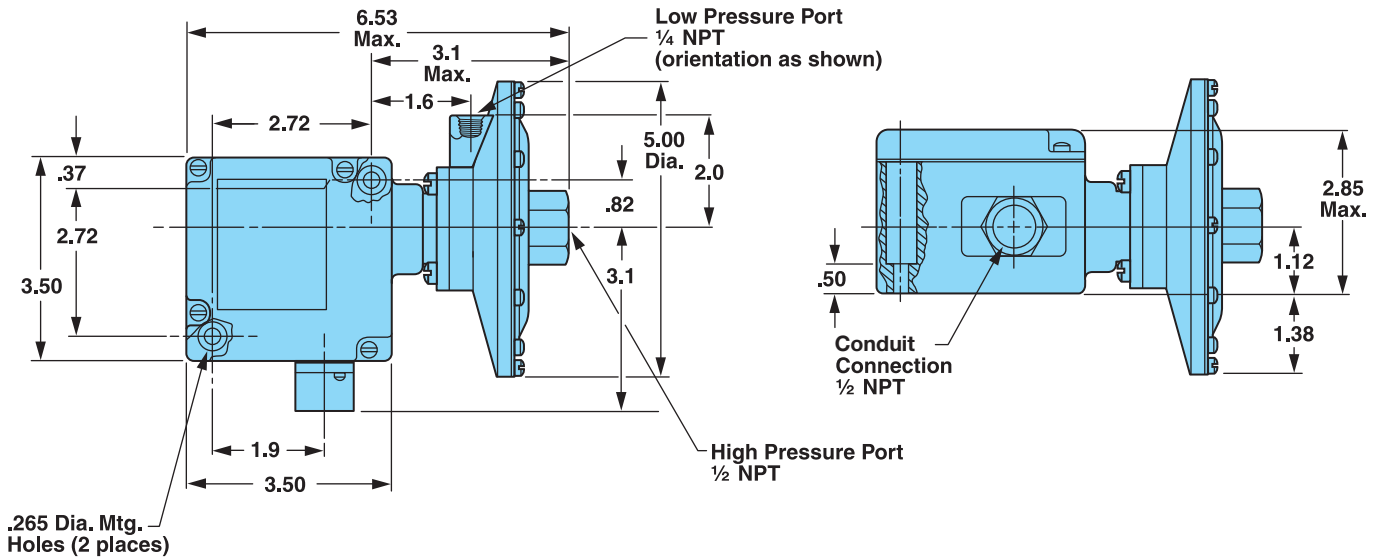
Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing and system pressure
- Insert available option number or letter designation as required

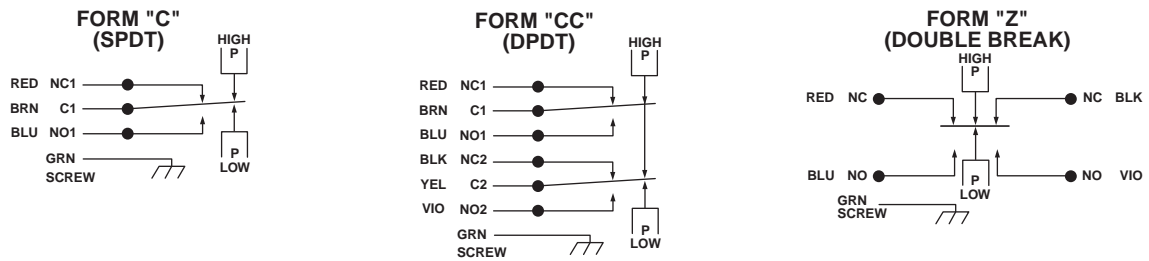
Example



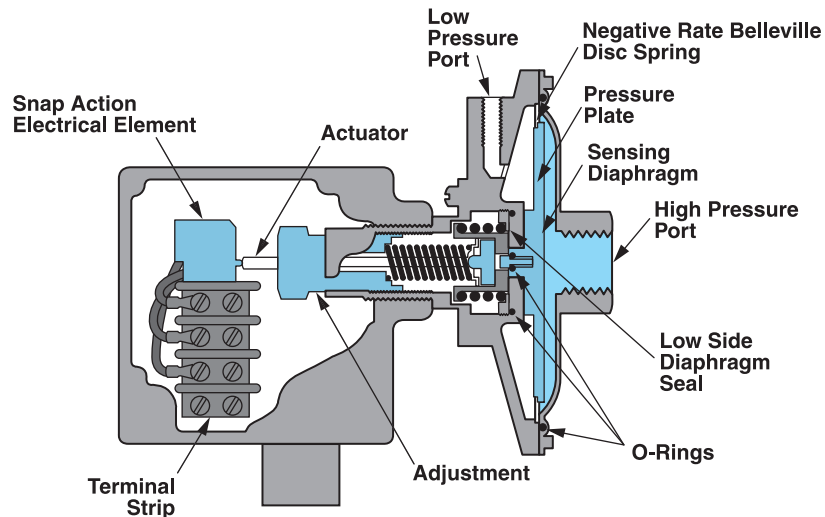
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 160P Differential Pressure Switch

Mid-range, adjustable differential pressure switch. Efficient Nega-Rate® Belleville disc spring sensing mechanism. Weather proof enclosure and stable set points during system pressure changes makes this switch ideal for a wide variety of applications.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range		Deadband (approximate)	Maximum Recommended System Pressure	Proof Pressure
	Increasing	Decreasing			
2	1.1 to 15	.75 to 14.65	.35	300	500 Hi/Low 200 Low/Hi
4	1.5 to 18	.3 to 16.8	1.2	500	1000 Hi/Low 400 Low/Hi
6	5 to 60	2 to 57	3	500	1000 Hi/Low 400 Low/Hi
7	55 to 110	49 to 104	6	500	1000 Hi/Low 400 Low/Hi

All values given in psid.

Standard Specifications

Electrical

Snap action electrical switch recognized by Underwriters' Laboratories, Inc. and CSA International

Electrical Connection

1/2 NPT female conduit connection with terminal block

Pressure Connections

1/4 NPT Female

Temperature Range*

Ambient: -40°F to +180°F
(-40°C to +82°C)

Media: -40°F to +250°F
(-40°C to +121°C)

*Temperature limits change with O-Ring selection

Adjustment

Concealed wrench flat adjustment with range scale

Shipping Weight

Approximately 3.5 pounds



Order Miscellaneous Option "D"



Weather Proof (NEMA 4 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

- 1 Aluminum port and body, Teflon coated polyimide diaphragm, Buna-N O-Rings and stainless steel
- 4 Stainless steel, Teflon coated polyimide diaphragm and Buna-N O-Rings

Adjustable Range

- 2 .75 psid dec. to 15 psid inc. (0.1 bar dec. to 1.0 bar inc.)
- 4 .3 psid dec. to 18 psid inc. (0.0 bar dec. to 1.2 bar inc.)
- 6 2 psid dec. to 60 psid inc. (0.1 bar dec. to 4.1 bar inc.)
- 7 49 psid dec. to 110 psid inc. (3.4 bar dec. to 7.6 bar inc.)

Electrical Form

- C 15 amp at 125 or 250 VAC; 1/8 hp at 125 VAC; 1/4 hp at 250 VAC; .5 amp resistive, .04 amp inductive at 125 VDC
- CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive 28 at VDC; .5 amp resistive at 125 VDC

Enclosure

- 3 Meets or exceeds the requirements of NEMA Type 3, 3R, 3S, 4, 4X and 13

Miscellaneous

- A Epoxy paint exterior — extra protection for severe environments
- B Viton O-Ring
- C EPR O-Ring
- D SIL approval and marking, per IEC61508 (includes FMEA report)
- L Neon indicator light — 115 VAC
- M Gold electrical contacts for extremely low current applications (1 Amp at 125 VAC; 1 Amp Res, 0.5 Amp Ind. at 28 VDC)
- S Stainless steel diaphragm — No low over high capability (Ranges 2 & 4 and Wetted Material 4 only)
- X CE Mark

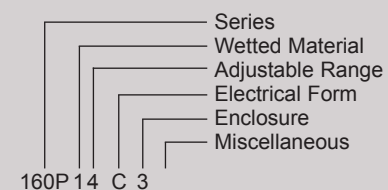
Special (Consult representative or factory)

- Non-catalog adjustable range and/or set point, deadband and proof pressure
- Media temperature capability from -65°F to +350°F
- 10 amps 125 VDC electrical rating
- Chemical seals installed
- Optional orientation of Low Pressure Port

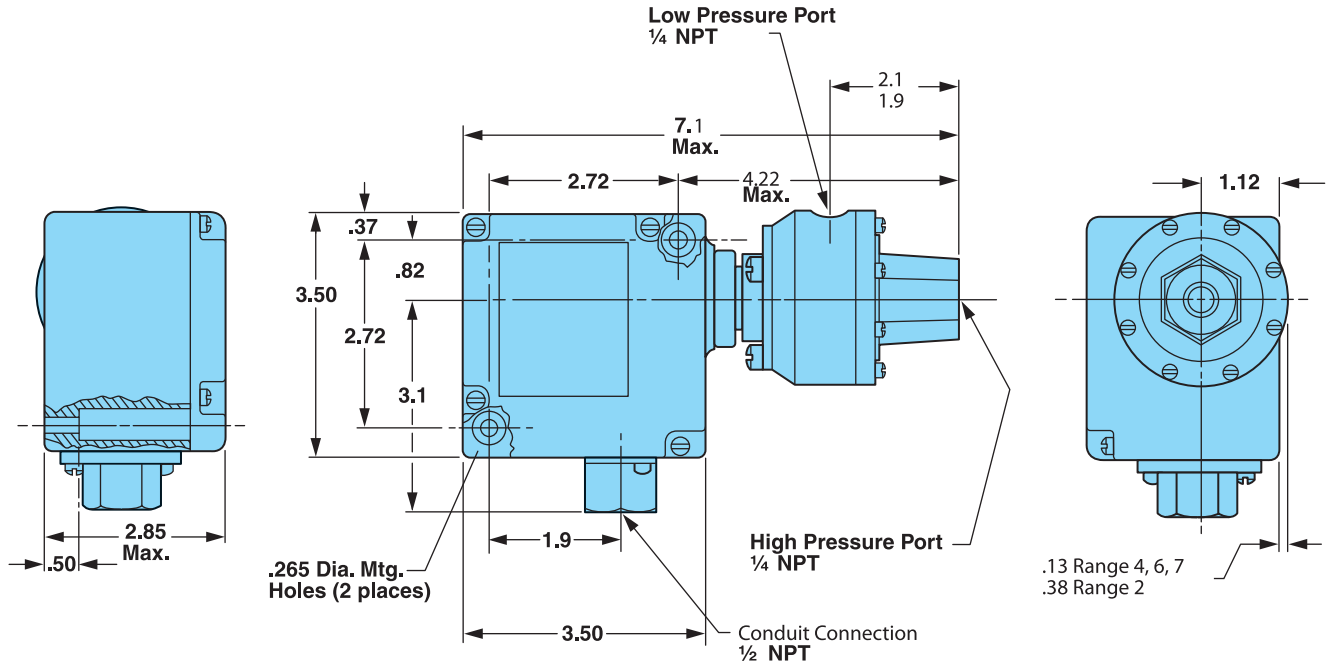
Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing and system pressure
- Insert available option number or letter designation as required

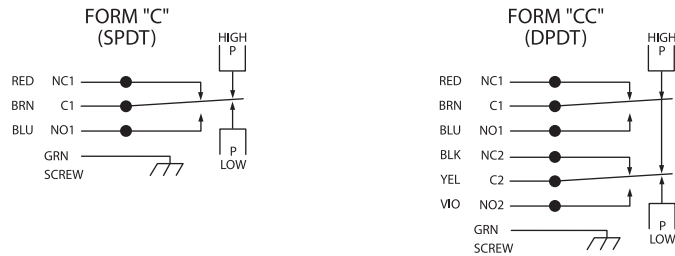
Example



Envelope Dimensions

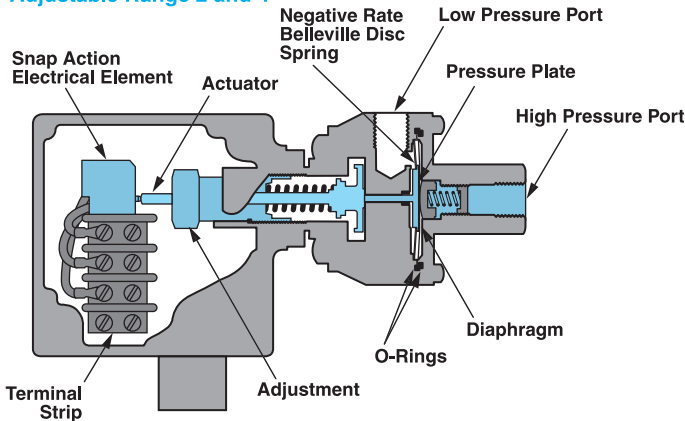


Electrical Form

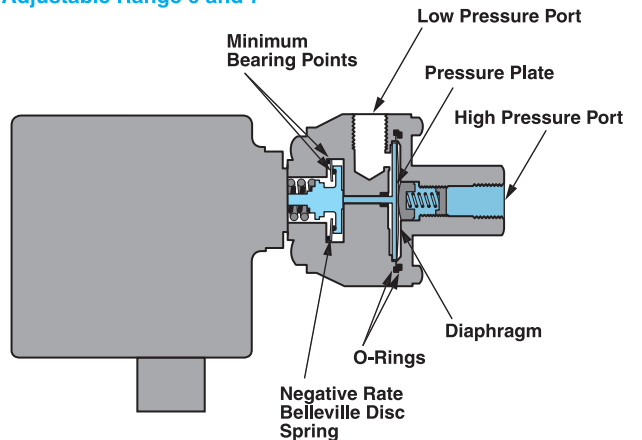


Basic Principles of Design

Adjustable Range 2 and 4



Adjustable Range 6 and 7



Neo-Dyn® Series 151P Differential Pressure Switch

Low range adjustable differential pressure switch compact design features efficient Nega-Rate® Belleville disc spring sensing mechanism. Stable set points are not affected by system pressure changes.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range		Deadband (approximate)	Maximum Recommended System Pressure	Proof Pressure
	Increasing	Decreasing			
2	9 To 50 " H ₂ O	5 To 46 " H ₂ O	4" H ₂ O	100 psid	150 psid
4	50 To 100 " H ₂ O	41 To 91 " H ₂ O	9" H ₂ O	100 psid	150 psid
6	100 To 150 " H ₂ O	88 To 138 " H ₂ O	12" H ₂ O	100 psid	150 psid

Standard Specifications

Electrical

Snap action electrical switch assemblies, Part Numbers 057-0770 & 057-0772 (Form C) and 057-0771 & 057-0773 (Form CC), are listed by Underwriters' Laboratories, Inc., FM Approvals, CSA International and NCC (INMETRO). See the miscellaneous option N for additional listings.

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18 AWG, 18" long leads

Pressure Connections

7/16"-20 SAE Female

Temperature Range*

Ambient: -30°F to +160°F
(-34°C to +71°C)

Media: -30°F to +160°F
(-34°C to +71°C)

* Temperature limits change with O-ring selection. See Electrical Assembly specification sheet for Temperature Class Ratings.

Shipping Weight

Approximately 20 ounces



Explosion Proof
Hermetically Sealed
(NEMA 4X, 7, 9 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

1 Aluminum and stainless steel, Teflon coated polyimide diaphragm, Buna-N O-Rings

Adjustable Range

2 5" H₂O decreasing to 50" H₂O increasing
4 41" H₂O decreasing to 100" H₂O increasing
6 88" H₂O decreasing to 150" H₂O increasing

Electrical Form

C 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive 28 VDC;
.5 amp resistive 125 VDC
CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive 28 VDC;
.5 amp resistive 125 VDC

Enclosure

6 Includes an explosion proof, hermetically-sealed electrical assembly, EX d IIC. Division 1 and 2, Class I, Groups A, B, C, and D; Class II, Groups E, F, and G. NEMA 4X, 7, and 9; IP66. Leads are factory sealed and Pressure Switches are Dual Seal Certified.

Miscellaneous

A Epoxy paint exterior — extra protection for severe environments
B Viton O-Ring
C EPR O-Ring
M Gold electrical contacts for extremely low current applications
N ATEX and IECEx
R 72" Electrical free leads
I 3/4 NPT conduit box with terminal strip (Groups C & D only, not available with N option)

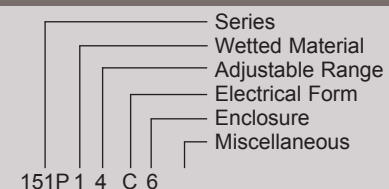
Special (Consult representative or factory)

- Non-catalog set point, deadband and/or proof pressure

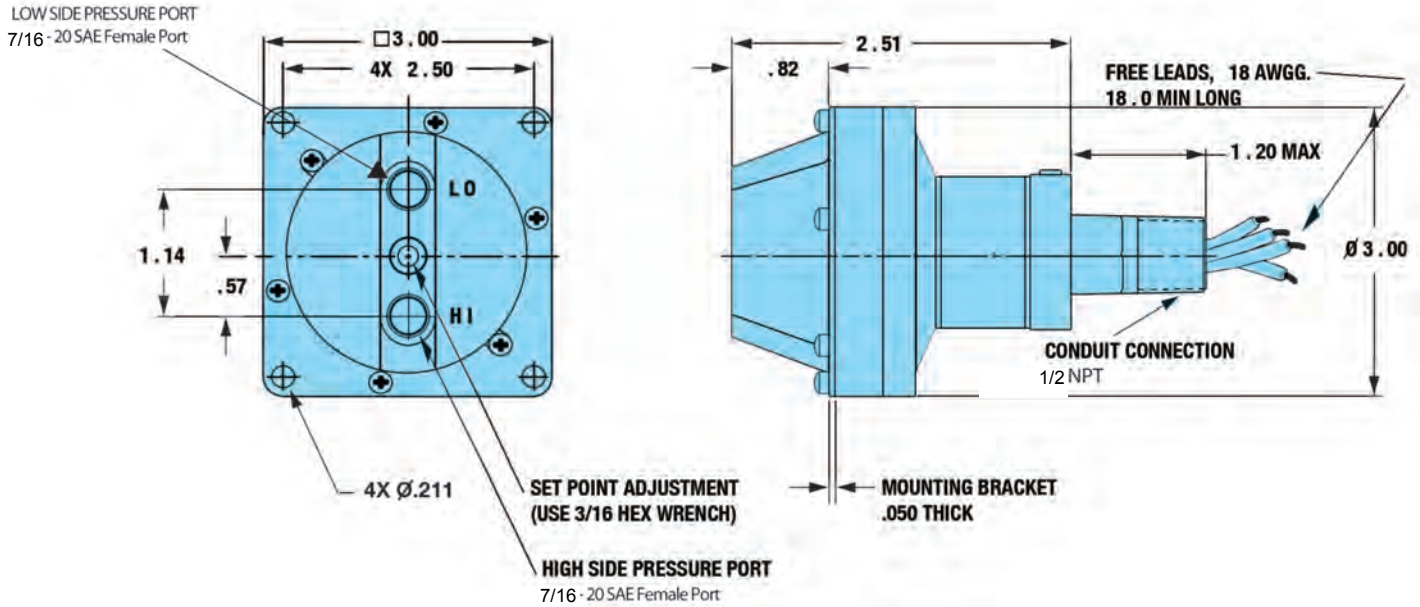
Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

Example



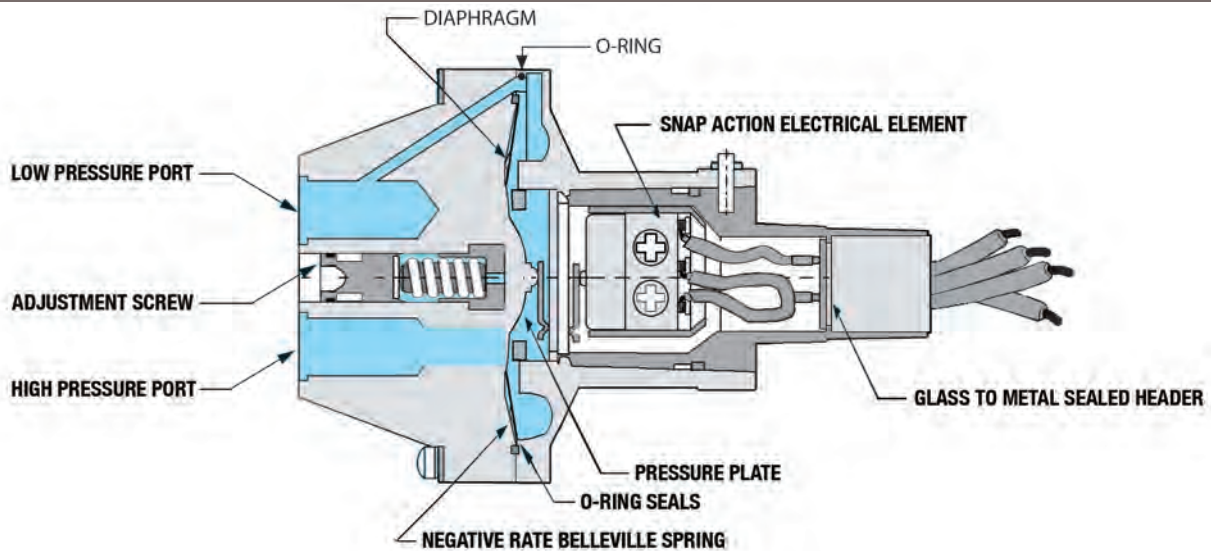
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 152P8 Ultra Low Differential Pressure Switch

Ultra low adjustable differential pressure switch. Unique construction using efficient Nega-Rate® Belleville disc spring for stable set points and high proof pressure. Explosion proof enclosure and wide range of wetted materials makes this switch especially well suited for hazardous or corrosive atmospheres.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range	Deadband* (approximate)	Maximum Recommended System Pressure	Proof Pressure
	Increasing			
2	2" to 100" H ₂ O Differential	1.5" H ₂ O	15 psig Simul. or Hi over Low 100" H ₂ O Low over Hi	100 PSI Simul. or Hi over Low 15 PSI Low over Hi

*Deadband 50% wider with "CC" (DPDT) Electrical Forms.

Standard Specifications

Electrical

Snap action electrical switch assemblies, Part Numbers 057-0770 & 057-0772 (Form C) and 057-0771 & 057-0773 (Form CC), are listed by Underwriters' Laboratories, Inc., FM Approvals, CSA International and NCC (INMETRO). See the miscellaneous option N for additional listings.

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18 AWG, 18" long leads

Pressure Connection

High — 1/2 NPT Female
Low — 1/4 NPT Female

Temperature Range*

Ambient: -40°F to +180°F
(-40°C to +82°C)
Media: -50°F to +250°F
(-46°C to +121°C)

*Temperature limits change with O-Ring selection. See Electrical Assembly specification sheet for Temperature Class Ratings.

Adjustment

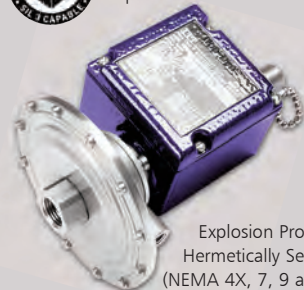
Concealed wrench flat adjustment with range scale

Shipping Weight

Approximately 4 pounds



Order Miscellaneous Option "D"



Explosion Proof
Hermetically Sealed
(NEMA 4X, 7, 9 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Adjustable Range

2 .5" H₂O dec. (1.2 mb) to 100" H₂O inc. (249 mb)

Electrical Form

C 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC;
.5 amp resistive at 125 VDC

CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC;
.5 amp resistive at 125 VDC

Enclosure

6 Includes an explosion proof, hermetically-sealed electrical assembly. EX d IIC. Division 1 and 2, Class I, Groups A, B, C, and D; Class II, Groups E, F, and G. NEMA 4X, 7, and 9; IP66. Leads are factory sealed and Pressure Switches are Dual Seal Certified.

Miscellaneous

A Epoxy paint exterior — extra protection for severe environments

D SIL approval and marking, per IEC61508 (includes FMEA report)

I 3/4 NPT conduit box with terminal strip (Groups C & D only, not available with N option)

M Gold electrical contacts for extremely low current applications
(1 Amp at 125 VAC; 1 Amp Res, 0.5 Amp Ind. at 28 VDC)

N ATEX and IECEx

R 72" Electrical free leads

Port Material

1 316 Stainless Steel High/Aluminum Low

4 316 Stainless Steel High/Low

Diaphragm

1 Polyimide

4 316 Stainless Steel

6 Tantalum

7 Hastelloy C

O-Rings

2 Kalrez

3 Viton

5 EPR

8 Buna-N

Special (Consult representative or factory)

- Non-catalog adjustable range and/or set point, deadband and proof pressure
- Media temperature capabilities from -65°F to +400°F

Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing and system pressure
- Insert available option number or letter designation as required

Example

Series
Adjustable Range
Electrical Form
Enclosure
Miscellaneous
Port Material
Diaphragm
O-Rings

152P 82 CC6 _ 463

Neo-Dyn® Series 160P Differential Pressure Switch

Mid-range, adjustable differential pressure switch. Efficient Nega-Rate® Belleville disc spring sensing mechanism for stable set points during system pressure changes. Hermetically sealed, explosion-proof electrical assembly well suited for hazardous or explosive environments.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range		Deadband (approximate)	Maximum Recommended System Pressure	Proof Pressure
	Increasing	Decreasing			
2	1.1 to 15	.75 to 14.65	.35	300	500 Hi/Low 200 Low/Hi
4	1.5 to 18	.3 to 16.8	1.2	500	1000 Hi/Low 400 Low/Hi
6	5 to 60	2 to 57	3	500	1000 Hi/Low 400 Low/Hi
7	55 to 110	49 to 104	6	500	1000 Hi/Low 400 Low/Hi

All values given in psid.

Standard Specifications

Electrical

Snap action electrical switch assemblies, Part Numbers 057-0770 & 057-0772 (Form C) and 057-0771 & 057-0773 (Form CC), are listed by Underwriters' Laboratories, Inc., FM Approvals, CSA International and NCC (INMETRO). See the miscellaneous option N for additional listings.

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18 AWG, 18" long leads

Pressure Connection

1/4 NPT Female

Temperature Range*

Ambient: -40°F to +180°F
(-40°C to +82°C)

Media: -40°F to +250°F
(-40°C to +121°C)

*Temperature limits change with O-Ring selection. See Electrical Assembly specification sheet for Temperature Class Ratings.

Adjustment

Concealed wrench flat adjustment with range scale

Shipping Weight

Approximately 3.5 pounds



Order Miscellaneous Option "D"



Explosion Proof
Hermetically Sealed
(NEMA 4X, 7, 9 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

- 1** Aluminum port and body, Teflon coated polyimide diaphragm, Buna-N O-Rings and stainless steel
- 4** Stainless steel, Teflon coated polyimide diaphragm and Buna-N O-Rings

Adjustable Range

- 2** .75 psid dec. to 15 psid inc. (0.1 bar dec. to 1.0 bar inc.)
- 4** .3 psid dec. to 18 psid inc. (0.0 bar dec. to 1.2 bar inc.)
- 6** 2 psid dec. to 60 psid inc. (0.1 bar dec. to 4.1 bar inc.)
- 7** 49 psid dec. to 110 psid inc. (3.4 bar dec. to 7.6 bar inc.)

Electrical Form

- C** 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC
- CC** 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC

Enclosure

- 6** Includes an explosion proof, hermetically-sealed electrical assembly. EX d IIC. Division 1 and 2, Class I, Groups A, B, C, and D; Class II, Groups E, F, and G. NEMA 4X, 7, and 9; IP66. Leads are factory sealed and Pressure Switches are Dual Seal Certified.

Miscellaneous

- A** Epoxy paint exterior — extra protection for severe environments
- B** Viton O-Ring
- C** EPR O-Ring
- D** SIL approval and marking, per IEC61508 (includes FMEA report)
- I** 3/4 NPT conduit box with terminal strip (Groups C & D only, not available with N option)
- M** Gold electrical contacts for extremely low current applications (1 Amp at 125 VAC; 1 Amp Res, 0.5 Amp Ind. at 28 VDC)
- N** ATEX and IECEx with CE Mark
- R** 72" Electrical free leads
- S** Stainless steel diaphragm — No low over high capability (Ranges 2 & 4 and Wetted Material 4 only)

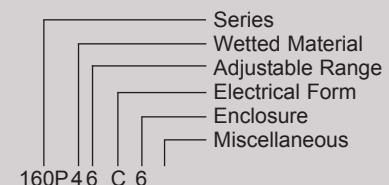
Special (Consult representative or factory)

- Non-catalog adjustable range and/or set point, deadband and proof pressure
- Media temperature capability from -65°F to +350°F
- Chemical seals installed
- Optional orientation of Low Pressure Port

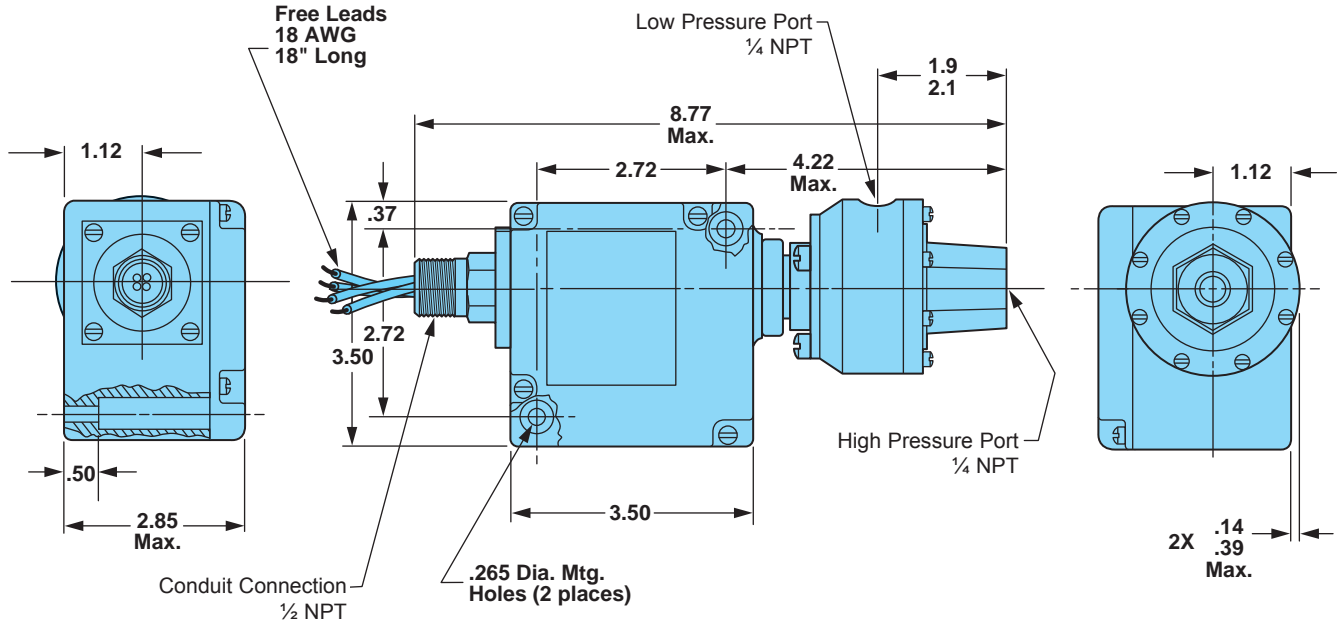
Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing and system pressure
- Insert available option number or letter designation as required

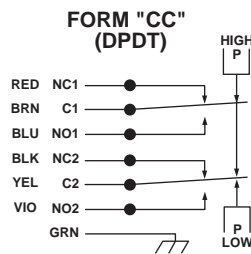
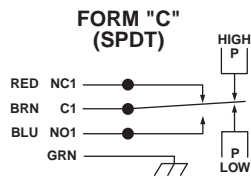
Example



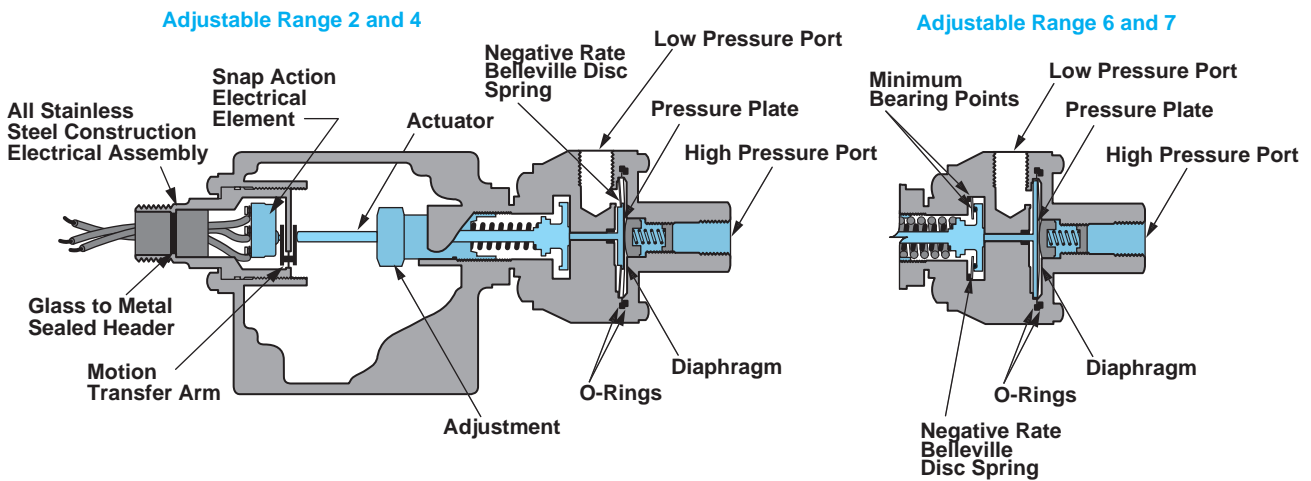
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 151P Differential Pressure Switch

Low range adjustable differential pressure switch compact design features efficient Nega-Rate® Belleville disc spring sensing mechanism. Stable set points are not affected by system pressure changes.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range		Deadband (approximate)	Maximum Recommended System Pressure	Proof Pressure
	Increasing	Decreasing			
2	9 To 50 " H ₂ O	5 To 46 " H ₂ O	4" H ₂ O	100 psid	150 psid
4	50 To 100 " H ₂ O	41 To 91 " H ₂ O	9" H ₂ O	100 psid	150 psid
6	100 To 150 " H ₂ O	88 To 138 " H ₂ O	12" H ₂ O	100 psid	150 psid

Standard Specifications

Electrical

Snap action electrical switch listed by Underwriters' Laboratories, Inc., Factory Mutual and CSA International

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18 AWG, 18" long leads

Pressure Connections

7/16"-20 SAE Female

Temperature Range*

Ambient: -30°F to +160°F
(-34°C to +71°C)

Media: -30°F to +160°F
(-34°C to +71°C)

* Temperature limits change with O-ring selection. See Electrical Assembly specification sheet for Temperature Class Ratings.

Shipping Weight

Approximately 20 ounces



Explosion Proof
Hermetically Sealed
(NEMA 4X, 7, 9 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

1 Aluminum and stainless steel, Teflon coated polyimide diaphragm, Buna-N O-Rings

Adjustable Range

2 5" H₂O decreasing to 50" H₂O increasing
4 41" H₂O decreasing to 100" H₂O increasing
6 88" H₂O decreasing to 150" H₂O increasing

Electrical Form

C 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive 28 VDC;
 .5 amp resistive 125 VDC
CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive 28 VDC;
 .5 amp resistive 125 VDC

Enclosure

6 Explosion proof, hermetically-sealed electrical assembly, EX d IIC.
 Part Numbers 057-0770 & 057-0772 (Form C) and 057-0771 & 057-0773 (Form CC).
 Agency listings include **Underwriters Laboratories, Inc.**, **CSA International**, **Factory Mutual**, and **Inmetro**. Division 1 and 2, Class I, Groups A, B, C, and D; Class II, Groups E, F, and G. NEMA 4X, 7, and 9; IP66. Leads are factory sealed and Pressure Switches are Dual Seal Certified.

Miscellaneous

A Epoxy paint exterior — extra protection for severe environments
B Viton O-Ring
C EPR O-Ring
M Gold electrical contacts for extremely low current applications
N ATEX and IECEx
R 72" Electrical free leads
I 3/4 NPT conduit box with terminal strip (Groups C & D only, not available with N option)

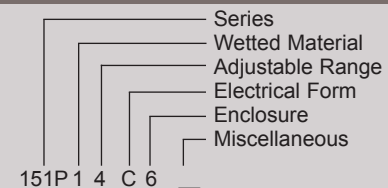
Special (Consult representative or factory)

- Non-catalog set point, deadband and/or proof pressure

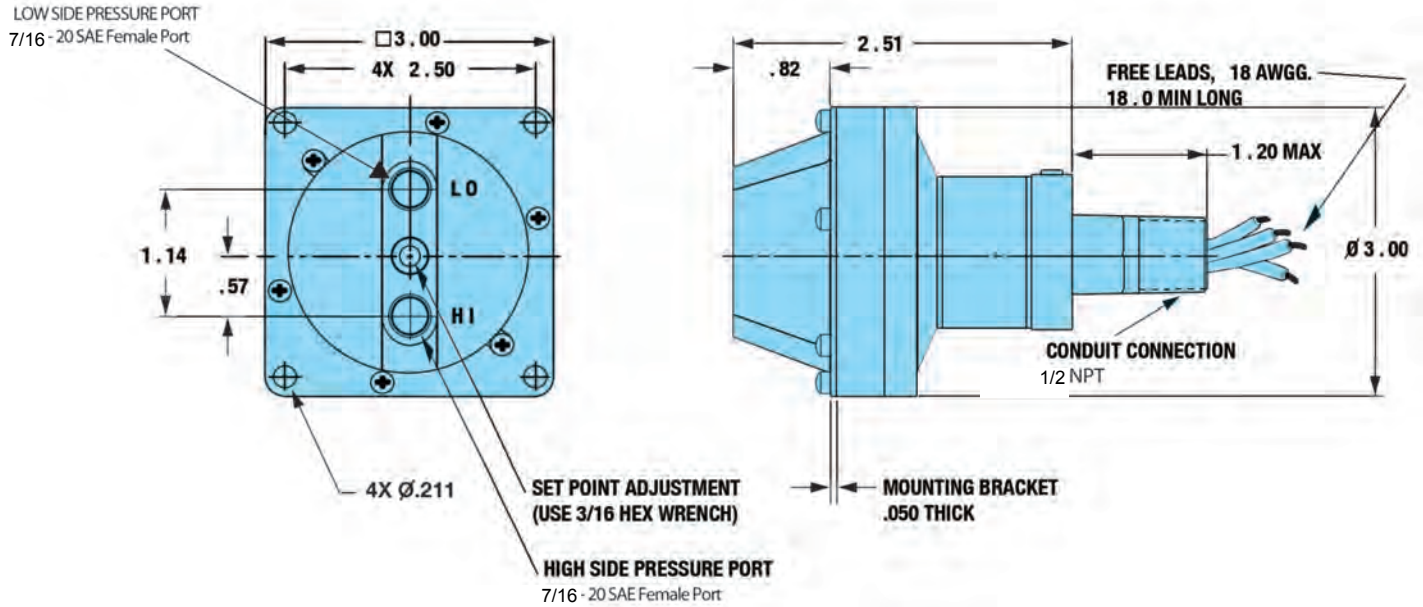
Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

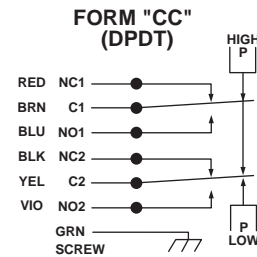
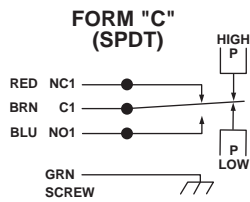
Example



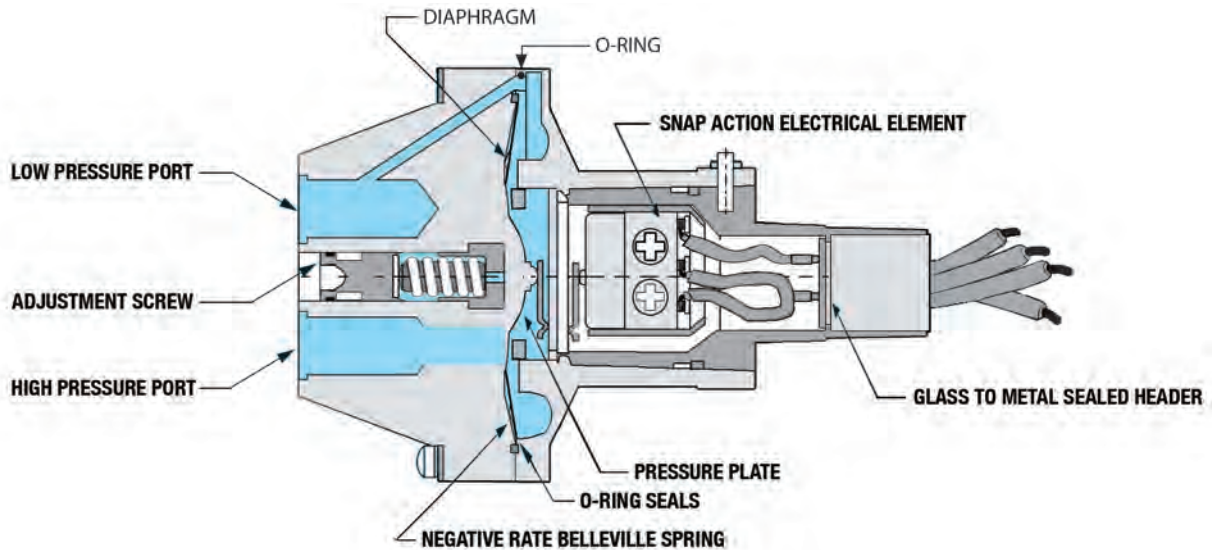
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 162P Differential Pressure Switch

Adjustable high pressure differential switch. Rugged construction with efficient Nega-Rate® Belleville disc spring sensing mechanism. Maintains set point at high system pressure. Available in all stainless steel construction with hermetically sealed electrical assembly for corrosive atmospheres.

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range		Deadband (approximate)	Maximum Recommended System Pressure	Proof Pressure		
	Increasing	Decreasing			Simultaneous	High/Low	Low/High
2	6 to 50	1 to 45	5	5000	7500	2500	2500
4	20 to 90	10 to 80	10	5000	7500	2500	2500
6	30 to 200	10 to 180	20	5000	7500	2500	2500
8	180 to 350	150 to 320	30	5000	7500	2500	2500
9	325 to 1000	225 to 900	100	5000	7500	2500	2500

All values given in psid.

Standard Specifications

Electrical

Snap action electrical switch assemblies, Part Numbers 057-0770 & 057-0772 (Form C) and 057-0771 & 057-0773 (Form CC), are listed by Underwriters' Laboratories, Inc., FM Approvals, CSA International and NCC (INMETRO). See the miscellaneous option N for additional listings.

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18 AWG, 18" long leads

Pressure Connections

1/4 NPT Female

Temperature Range*

Ambient: -40°F to +180°F
(-40°C to +82°C)

Media: -40°F to +300°F
(-40°C to +149°C)

*Temperature limits change with O-Ring selection. See Electrical Assembly specification sheet for Temperature Class Ratings.

Adjustment

External 1/2" hex head
Note: Turn clockwise to increase set point; approximately 24 turns through range

Shipping Weight

Aluminum: Approximately 3 lbs
Stainless Steel: Approximately 7 lbs



Order Miscellaneous Option "D"



Explosion Proof
Hermetically Sealed
(NEMA 4X, 7, 9 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

- 1 Aluminum port, Teflon coated polyimide diaphragm, steel, and Buna-N O-Ring
- 4 Stainless steel ports, Teflon coated polyimide diaphragm and Buna-N O-Ring

Adjustable Range

- 2 1 psid dec. to 50 psid inc. (0.1 bar dec. to 3.4 bar inc.)
- 4 10 psid dec. to 90 psid inc. (0.7 bar dec. to 6.2 bar inc.)
- 6 10 psid dec. to 200 psid inc. (0.7 bar dec. to 13.8 bar inc.)
- 8 150 psid dec. to 350 psid inc. (10.3 bar dec. to 24.1 bar inc.)
- 9 225 psid dec. to 1000 psid inc. (15.5 bar dec. to 69.0 bar inc.)

Electrical Form

- C 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC
- CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC

Enclosure

- 6 Includes an explosion proof, hermetically-sealed electrical assembly. EX d IIC. Division 1 and 2, Class I, Groups A, B, C, and D; Class II, Groups E, F, and G. NEMA 4X, 7, and 9; IP66. Leads are factory sealed and Pressure Switches are Dual Seal Certified.

Miscellaneous

- A Epoxy paint exterior — extra protection for severe environments
- B Viton O-Ring
- C EPR O-Ring
- D SIL approval and marking, per IEC61508 (includes FMEA report)
- I 3/4 NPT conduit box with terminal strip (Groups C & D only, not available with N option)
- M Gold electrical contacts for extremely low current applications (1 Amp at 125 VAC; 1 Amp Res, 0.5 Amp Ind. at 28 VDC)
- N ATEX and IECEx with CE Mark
- R 72" Electrical free leads

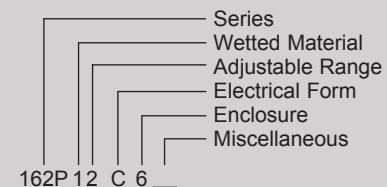
Special (Consult representative or factory)

- Non-catalog adjustable range and/or set point, deadband and proof pressure
- Chemical seals installed

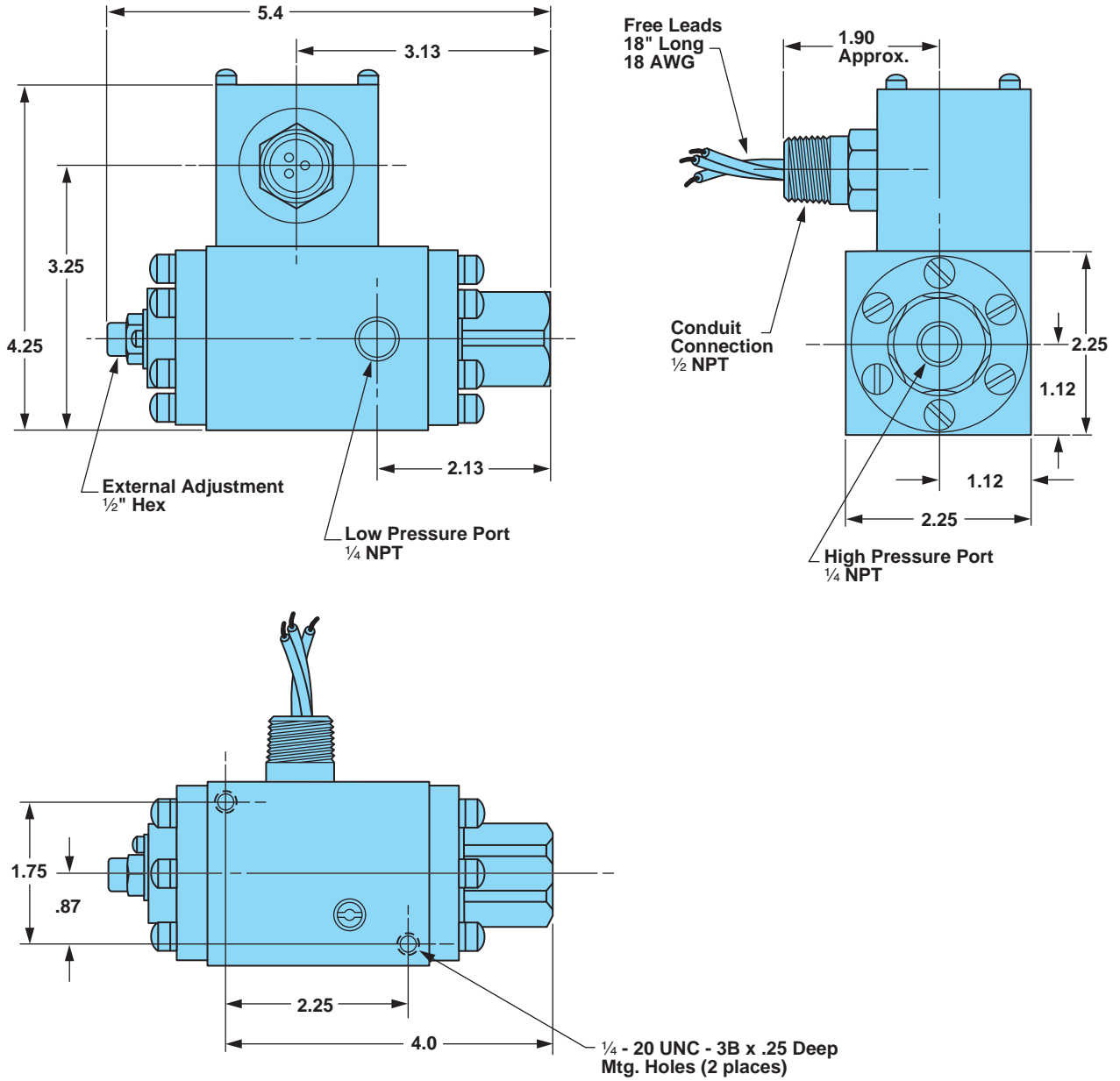
Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing, and system pressure
- Insert available option number or letter designation as required

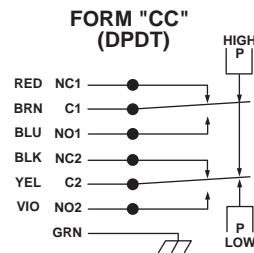
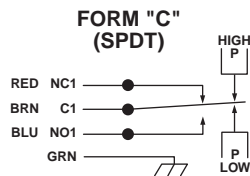
Example



Envelope Dimensions



Electrical Form



**GENERAL
PURPOSE
TEMPERATURE
SWITCHES
NEMA 4,
4X & 13**

General Purpose Weather Proof

– Adjustable

17

100T Series – Direct Mount

100TC Series – Remote Mount

General Purpose Weather Proof

– Adjustable

18

132T Series – Direct Mount

132TC Series – Remote Mount

**HAZARDOUS
AREA
TEMPERATURE
SWITCHES
NEMA 7 & 9**

Hermetically Sealed/Explosion Proof

– Adjustable

19

100T Series – Direct Mount

100TC Series – Remote Mount

Hermetically Sealed/Explosion Proof

– Adjustable

20

132T Series – Direct Mount

132TC Series – Remote Mount

Neo-Dyn® Series 100T Temperature Switch/Internal Adjustment

Direct mount adjustable temperature switch with efficient Nega-Rate® Belleville spring mechanism and saturated vapor sensor for quick response.

Operating Temperature Data

Adjustable Range Number	Adjustable Set Point Range		Deadband† (approx) Bottom/Top		Proof Temperature	
	Increasing °F	Decreasing °F	°F	°C	°F	°C
B	-50 to +65	-69 to +62	19/3	11 / 2	250	121
D	+30 to +175	+7 to +172	23/3	13 / 2	400	204
F	+95 to +250	+70 to +247	25/3	14 / 2	450	232
H	+175 to +360	+145 to +355	30/5	17 / 3	500	260
J	+335 to +500	+305 to +495	30/5	17 / 3	600	315

†Deadband decreases as the adjustable set point is increased. For narrow deadband select set point in upper half of adjustable range.

Standard Specifications

Electrical

Snap action electrical switch recognized by Underwriters' Laboratories, Inc. and CSA International

Electrical Connection

1/2 NPT female conduit connection with terminal block

Process Connection

1/2 NPT Male Direct mount

Temperature Range

Ambient: -40°F to +180°F
(-40°C to +82°C)

System Pressure

1500 psig maximum

Proof Pressure

2250 psig

Adjustment

Concealed wrench flat adjustment with range scale

Shipping Weight

Approximately 3 pounds



Order Miscellaneous Option "D"



Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

3 Steel port with stainless steel probe, Viton seal
NOTE: Range "J" uses Teflon seal

Adjustable Range

B -69°F dec. to +65°F inc. (-56°C dec. to 18°C inc.)
D +7°F dec. to +175°F inc. (-14°C dec. to 79°C inc.)
F +70°F dec. to +250°F inc. (21°C dec. to 121°C inc.)
H +145°F dec. to +360°F inc. (63°C dec. to 182°C inc.)
J +305°F dec. to +500°F inc. (152°C dec. to 260°C inc.)

Electrical Form

C 15 amp at 125 or 250 VAC; 1/8, hp at 125 VAC; 1/4 hp at 250 VAC;
.5 amp resistive, .04 amp inductive at 125 VDC

CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive 28 at VDC;
.5 amp resistive at 125 VDC

Z 15 amp at 125 or 250 VAC; 1/4 hp at 125 VAC; 1/2 hp at 250 VAC; 1 amp resistive,
.5 amp inductive at 125 VDC

Enclosure

3 Meets or exceeds the requirements of NEMA Type 3, 3R, 3S, 4, 4X and 13

Miscellaneous

A Epoxy paint exterior — extra protection for severe environments

D SIL approval and marking, per IEC61508 (includes FMEA report)

J Annealed stainless steel port screws for H₂S environments

L Neon indicator light — 115 VAC

M Gold electrical contacts for extremely low current applications

P 5-Pin Brad Harrison connector (Reduce AC electrical rating to 8 amps)
(Not for CC3 Electrical)

W Stainless steel screws — exterior

X CE Mark

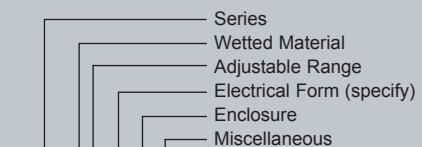
Special (Consult representative or factory)

- Thermowells
- Non-catalog adjustable range and/or set point and deadband
- Optional probe lengths available

Ordering Procedure

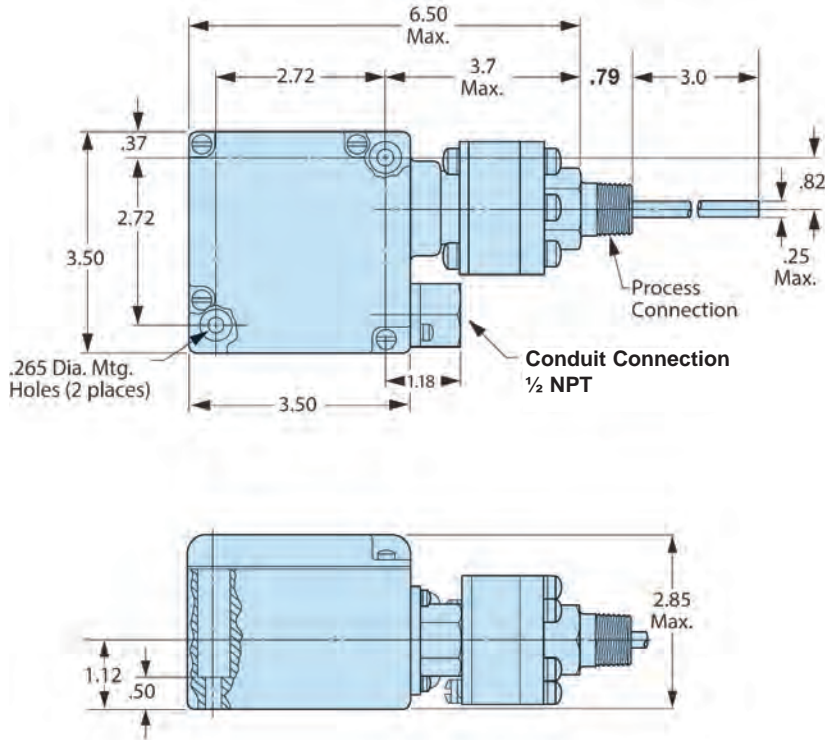
- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option letter designation as required

Example

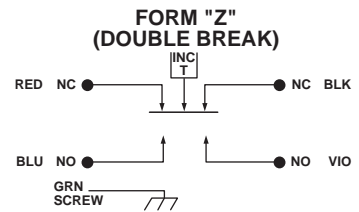
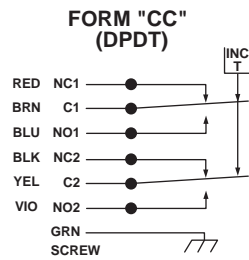
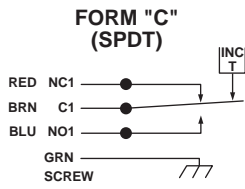


100T 3B CC 3

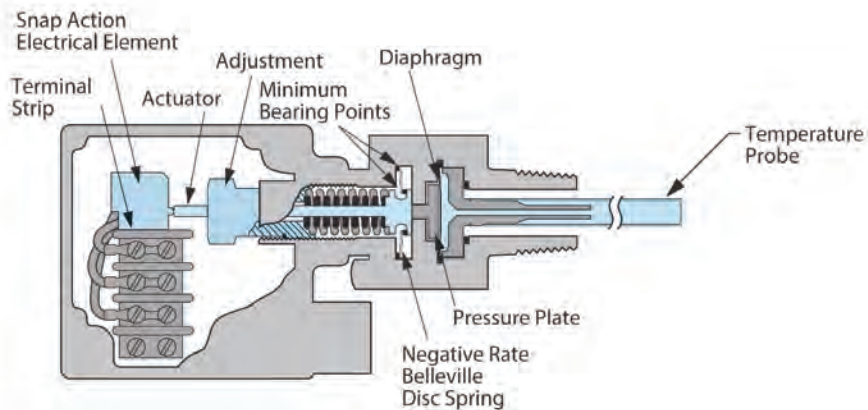
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 100TC Temperature Switch/Internal Adjustment

Remote mount adjustable temperature switch with efficient Nega-Rate® Belleville spring mechanism and saturated vapor sensor for quick response and narrow deadband.

Operating Temperature Data

Adjustable Range Number	Adjustable Set Point Range		Deadband† (approx) Bottom/Top		Proof Temperature	
	Increasing °F	Decreasing °F	°F	°C	°F	°C
B	-50 to +65	-69 to +62	19/3	11 / 2	250	121
D	+30 to +175	+7 to +172	23/3	13 / 2	400	204
F	+95 to +250	+70 to +247	25/3	14 / 2	450	232
H	+175 to +360	+145 to +355	30/5	17 / 3	500	260
J	+335 to +500	+305 to +495	30/5	17 / 3	600*	315
L	+485 to +720	+445 to +714	40/6	22 / 3	900*	482

†Deadband decreases as the adjustable set point is increased. For narrow deadband select set point in upper half of adjustable range.

*Thermowell required for temperatures above 500°F.

Standard Specifications

Electrical

Snap action electrical switch recognized by Underwriters' Laboratories, Inc. and CSA International

Electrical Connection

1/2 NPT female conduit connection with terminal block

Process Connection

1/2 NPT Male
Remote mount Stainless steel 6' capillary with armor jacket, 10" minimum bendable tubing and 1/2" adjustable gland nut. Optional capillary lengths available.

Temperature Range

Ambient: -40°F to +180°F
(-40°C to +82°C)

System Pressure

1500 psig maximum

Proof Pressure

2250 psig

Adjustment

Concealed wrench flat adjustment with range scale

Shipping Weight

Approximately 5 pounds



Order Miscellaneous Option "D"



Weather Proof
(NEMA 4 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

5 300 series stainless steel, graphite filled non-asbestos packing

Adjustable Range

B -69°F dec. to +65°F inc. (-56°C dec. to 18°C inc.)
D +7°F dec. to +175°F inc. (-14°C dec. to 79°C inc.)
F +70°F dec. to +250°F inc. (21°C dec. to 121°C inc.)
H +145°F dec. to +360°F inc. (63°C dec. to 182°C inc.)
J +305°F dec. to +500°F inc. (152°C dec. to 260°C inc.)
L +445°F dec. to +720°F inc. (229°C dec. to 382°C inc.)

Electrical Form

C 15 amp at 125 or 250 VAC; 1/8 hp at 125 VAC; 1/4 hp at 250 VAC;
 .5 amp resistive, .04 amp inductive at 125 VDC
CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC;
 .5 amp resistive at 125 VDC
Z 15 amp at 125 or 250 VAC; 1/4 hp at 125 VAC; 1/2 hp at 250 VAC; 1 amp resistive,
 .5 amp inductive at 125 VDC

Enclosure

3 Meets or exceeds the requirements of NEMA Type 3, 3R, 3S, 4, 4X and 13

Miscellaneous

A Epoxy paint exterior — extra protection for severe environments
D SIL approval and marking, per IEC61508 (includes FMEA report)
J Annealed stainless steel port screws for H₂S environments
L Neon indicator light — 115 VAC
M Gold electrical contacts for extremely low current applications
P 5-Pin Brad Harrison connector (Reduce AC electrical rating to 8 amps)
 (Not for CC3 Electrical)
W Stainless steel screws — exterior
X CSA Certified and CE Mark

Optional Capillary Lengths

10', 15', 20' and 25' lengths available
 (insert appropriate number at end of model number — see Example)

Special (Consult representative or factory)

- Thermowells
- Non-catalog adjustable range and/or set point and deadband

Ordering Procedure

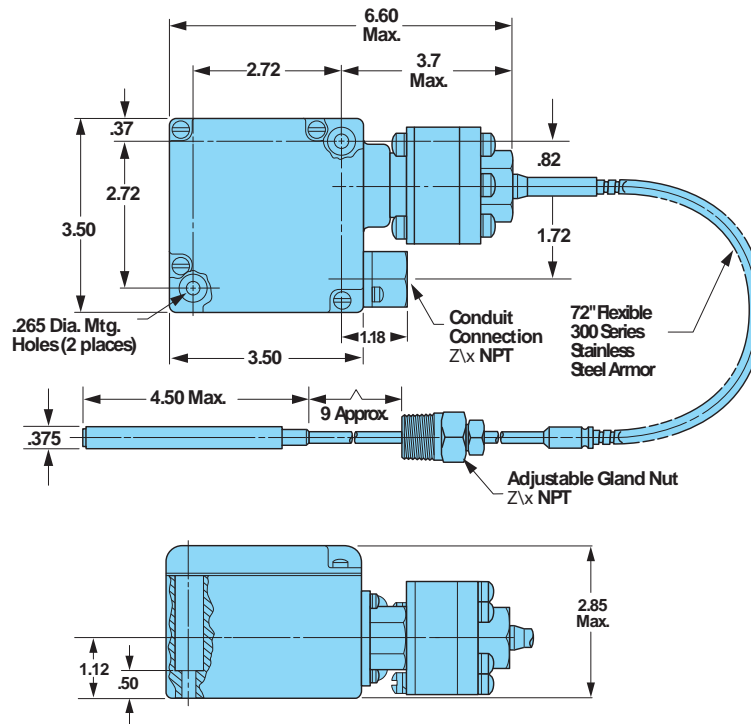
- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

Example

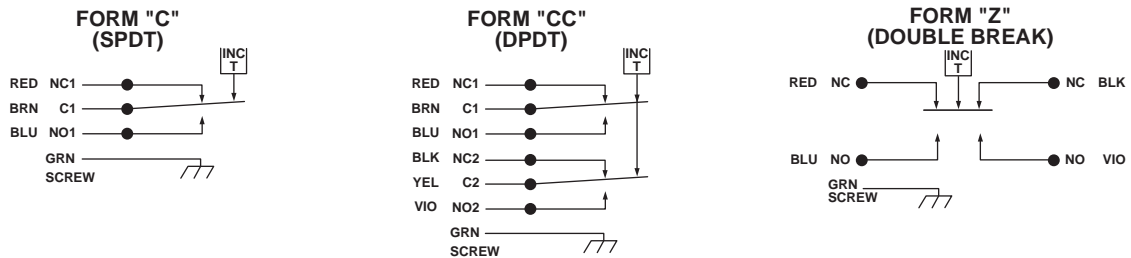
Series
 Wetted Material
 Adjustable Range
 Electrical Form
 Enclosure
 Miscellaneous
 Optional Capillary Length

100TC5B CC3

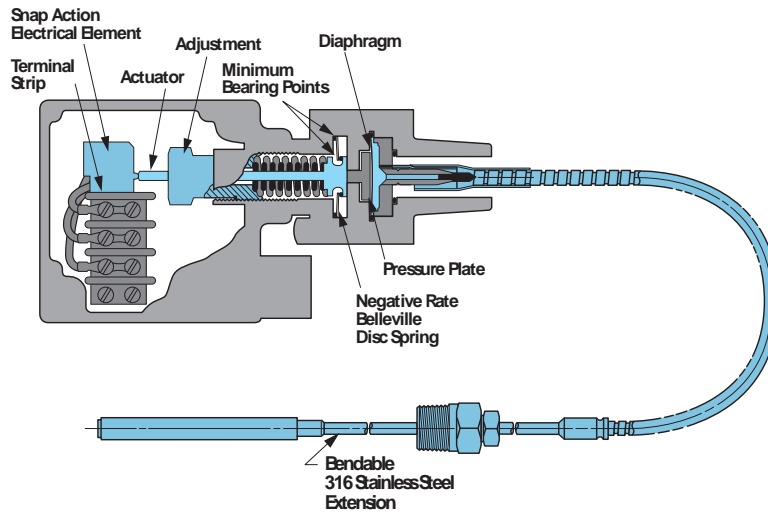
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 132T Temperature Switch/Internal Adjustment

Compact, adjustable, direct mount temperature switch featuring the efficient Nega-Rate® Belleville disc spring for set point stability and vibration resistance.

Operating Temperature Data

Adjustable Range	Adjustable Set Point Range		Deadband† (approx) Bottom/Top		Proof Temperature	
	Increasing °F	Decreasing °F	°F	°C	°F	°C
B	-50 to +30	-69 to +26	19/4	11 / 2	250	121
D	+30 to +125	+7 to +121	23/4	13 / 2	300	149
F	+95 to +200	+70 to +196	25/4	14 / 2	400	204
H	+115 to +230	+89 to +224	26/6	14 / 3	400	204
J	+175 to +300	+146 to +294	29/6	16 / 3	500	260
L	+260 to +360	+236 to +356	24/4	13 / 2	500	260
N	+290 to +395	+263 to +391	27/4	15 / 2	500	260

†Deadband decreases as the adjustable set point is increased. For narrow deadband select set point in upper half of adjustable range.

Standard Specifications

Electrical

Snap action electrical switch recognized by Underwriters' Laboratories, Inc. and CSA International

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18 AWG, 18" long leads

Process Connection

1/2 NPT Male Direct mount

System Pressure

1500 psig maximum

Proof Pressure

2250 psig

Adjustment

Internal, slotted adjustment nut with range scale

Temperature Range

Ambient: -40°F to +180°F
(-40°C to +82°C)

Shipping Weight

Approximately 2.5 pounds



Order Miscellaneous Option "D"



Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

4 300 Series stainless steel port and probe assembly, Teflon seal

Adjustable Range

B -69°F dec. to +30°F inc. (-56°C dec. to -1°C inc.)
D +7°F dec. to +125°F inc. (-14°C dec. to 52°C inc.)
F +70°F dec. to +200°F inc. (21°C dec. to 93°C inc.)
H +89°F dec. to +230°F inc. (32°C dec. to 110°C inc.)
J +146°F dec. to +300°F inc. (63°C dec. to 149°C inc.)
L +236°F dec. to +360°F inc. (113°C dec. to 182°C inc.)
N +263°F dec. to +395°F inc. (128°C dec. to 202°C inc.)

Electrical Form

C 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC;
.5 amp resistive at 125 VDC
CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC;
.5 amp resistive at 125 VDC

Enclosure

3 Meets or exceeds the requirements of NEMA Type 3, 3R, 3S, 4, 4X and 13

Miscellaneous

A Epoxy paint exterior — extra protection for severe environments
D SIL approval and marking, per IEC61508 (includes FMEA report)
I 3/4 NPT conduit box with terminal strip
J Annealed stainless steel port screws for H₂S environments
M Gold electrical contacts for extremely low current applications
R 72" Electrical free leads
X CE Mark

Special (Consult representative or factory)

- Thermowells
- Non-catalog adjustable range and/or set point and deadband
- Non-standard probe lengths

Ordering Procedure

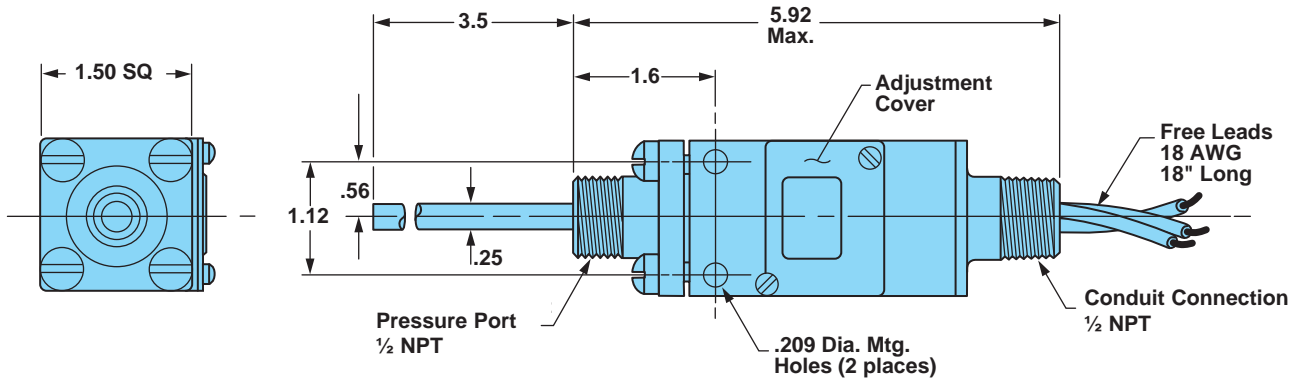
- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option letter designation as required

Example

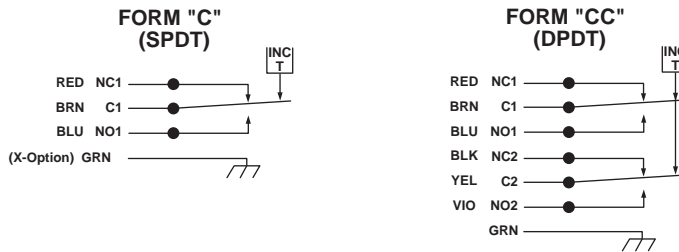
Series
Wetted Material
Adjustable Range
Electrical Form
Enclosure
Miscellaneous

132T 4B CC 3

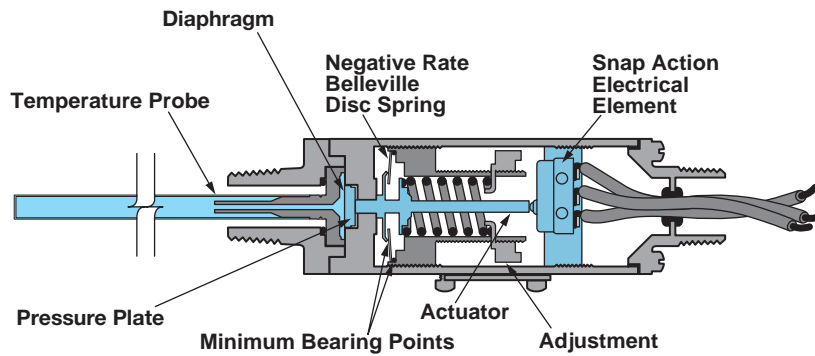
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 132TC Temperature Switch/Internal Adjustment

Compact, adjustable, temperature switch featuring the efficient Nega-Rate® Belleville disc spring for set point stability and vibration resistance. Comes with capillary for remote mount up to 25 feet.

Operating Temperature Data

Adjustable Range	Adjustable Set Point Range		Deadband† (approx) Bottom/Top		Proof Temperature	
	Increasing °F	Decreasing °F	°F	°C	°F	°C
B	-50 to +30	-69 to +26	19/4	11 / 2	250	121
D	+30 to +125	+7 to +121	23/4	13 / 2	300	149
F	+95 to +200	+70 to +196	25/4	14 / 2	400	204
H	+115 to +230	+89 to +224	26/6	14 / 3	400	204
J	+175 to +300	+146 to +294	29/6	16 / 3	500	260
L	+260 to +360	+236 to +356	24/4	13 / 2	500	260
N	+290 to +395	+263 to +391	27/4	15 / 2	500	260
P	+365 to +480	+338 to +476	27/4	15 / 2	600*	315
R	+485 to +655	+445 to +646*	40/9	22 / 5	750*	399

†Deadband decreases as the adjustable set point is increased. For narrow deadband select set point in upper half of adjustable range.

*Thermowell required for temperatures above 500°F.

Standard Specifications

Electrical

Snap action electrical switch recognized by Underwriters' Laboratories, Inc. and CSA International

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18 AWG, 18" long leads

Process Connection

1/2 NPT Male
Remote mount
Stainless steel 6' capillary with armor jacket, 10" minimum bendable tubing and 1/2" adjustable gland nut. Optional capillary lengths available.

System Pressure

1500 psig maximum

Proof Pressure

2250 psig

Adjustment

Internal, slotted adjustment nut with range scale

Temperature Range

Ambient: -40°F to +180°F
(-40°C to +82°C)

Shipping Weight

Approximately 3.5 pounds



Order Miscellaneous Option "D"



Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

5 300 series stainless steel, graphite filled non-asbestos packing

Adjustable Range

B -69°F dec. to +30°F inc. (-56°C dec. to -1°C inc.)
D +7°F dec. to +125°F inc. (-14°C dec. to 52°C inc.)
F +70°F dec. to +200°F inc. (21°C dec. to 93°C inc.)
H +89°F dec. to +230°F inc. (23°C dec. to 110°C inc.)
J +146°F dec. to +300°F inc. (63°C dec. to 149°C inc.)
L +236°F dec. to +360°F inc. (113°C dec. to 182°C inc.)
N +263°F dec. to +395°F inc. (128°C dec. to 202°C inc.)
P +338°F dec. to +480°F inc. (170°C dec. to 249°C inc.)
R +445°F dec. to +655°F inc. (229°C dec. to 346°C inc.)

Electrical Form

C 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC
CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC

Enclosure

3 Meets or exceeds the requirements of NEMA Type 3, 3R, 3S, 4, 4X and 13

Miscellaneous

A Epoxy paint exterior — extra protection for severe environments
D SIL approval and marking, per IEC61508 (includes FMEA report)
I 3/4 NPT conduit box with terminal strip
J Annealed stainless steel port screws for H₂S environments
M Gold electrical contacts for extremely low current applications
R 72" Electrical free leads
X CE Mark

Optional Capillary Lengths

10', 15', 20' and 25' lengths available
(insert appropriate number at end of model number — see Example)

Special (Consult representative or factory)

- Thermowells
- Non-catalog adjustable range and/or set point and deadband

Ordering Procedure

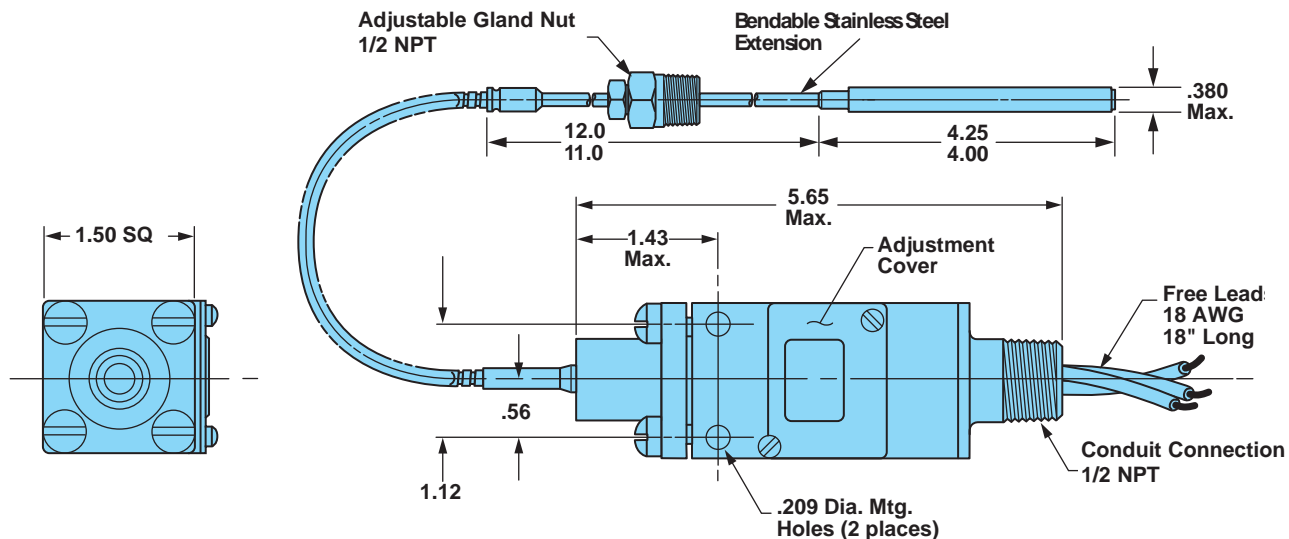
- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

Example

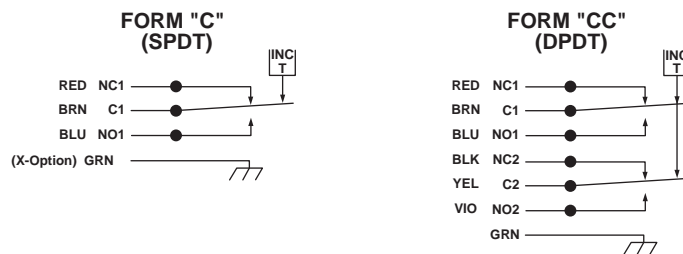
Series
 Wetted Material
 Adjustable Range
 Electrical Form
 Enclosure
 Miscellaneous
 Optional Capillary Length

132TC5BCC3

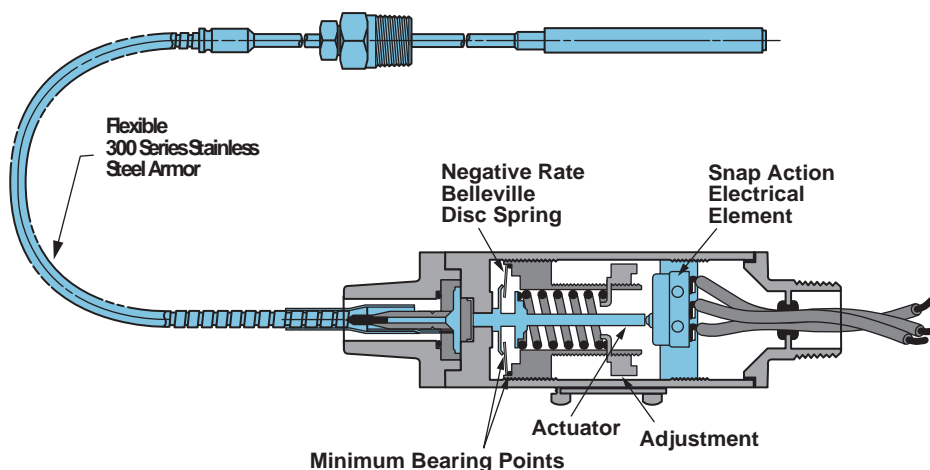
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 100T Temperature Switch/Internal Adjustment

Direct mount adjustable temperature switch for use in hazardous areas. Utilizes efficient Nega-Rate® Belleville spring mechanism and saturated vapor sensor for quick response and narrow deadband.

Operating Temperature Data

Adjustable Range Number	Adjustable Set Point Range		Deadband† (approx) Bottom/Top		Proof Temperature	
	Increasing °F	Decreasing °F	°F	°C	°F	°C
B	-50 to +65	-69 to +62	19/3	11 / 2	250	121
D	+30 to +175	+7 to +172	23/3	13 / 2	400	204
F	+95 to +250	+70 to +247	25/3	14 / 2	450	232
H	+175 to +360	+145 to +355	30/5	17 / 3	500	260
J	+335 to +500	+305 to +495	30/5	17 / 3	600	315

†Deadband decreases as the adjustable set point is increased. For narrow deadband select set point in upper half of adjustable range.

Standard Specifications

Electrical

Snap action electrical switch assemblies, Part Numbers 057-0770 & 057-0772 (Form C) and 057-0771 & 057-0773 (Form CC), are listed by Underwriters' Laboratories, Inc., FM Approvals, CSA International and NCC (INMETRO). See the miscellaneous option N for additional listings.

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18 AWG, 18" long leads

Pressure Connection

1/2 NPT Male
Direct mount

Temperature Range

Ambient: -40°F to +180°F
(-40°C to +82°C)

See Electrical Assembly specification sheet for Temperature Class Ratings.

System Pressure

1500 psig maximum

Proof Pressure

2250 psig

Adjustment

Concealed wrench flat adjustment with range scale

Shipping Weight

Approximately 3 pounds



Order Miscellaneous Option "D"



Explosion Proof
Hermetically Sealed
(NEMA 4X, 7, 9 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

3 Steel port with stainless steel probe, Viton seal
NOTE: Range "J" uses Teflon seal

Adjustable Range

B -69°F dec. to +65°F inc. (-56°C dec. to 18°C inc.)
D +7°F dec. to +175°F inc. (-14°C dec. to 79°C inc.)
F +70°F dec. to +250°F inc. (21°C dec. to 121°C inc.)
H +145°F dec. to +360°F inc. (63°C dec. to 182°C inc.)
J +305°F dec. to +500°F inc. (152°C dec. to 260°C inc.)

Electrical Form

C 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC
CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC

Enclosure

6 Includes an explosion proof, hermetically-sealed electrical assembly. EX d IIC, Division 1 and 2, Class I, Groups A, B, C, and D; Class II, Groups E, F, and G. NEMA 4X, 7, and 9; IP66. Leads are factory sealed and Pressure Switches are Dual Seal Certified.

Miscellaneous

A Epoxy paint exterior — extra protection for severe environments
D SIL approval and marking, per IEC61508 (includes FMEA report)
I 3/4 NPT conduit box with terminal strip (Groups C & D only, not available with N option)
J Annealed stainless steel port screws for H₂S environments
M Gold electrical contacts for extremely low current applications (1 Amp at 125 VAC; 1 Amp Res, 0.5 Amp Ind. at 28 VDC)
N ATEX and IECEx with CE Mark
R 72" Electrical free leads
W Stainless steel screws — exterior

Special (Consult representative or factory)

- Thermowells
- Non-catalog adjustable range and/or set point and deadband

Ordering Procedure

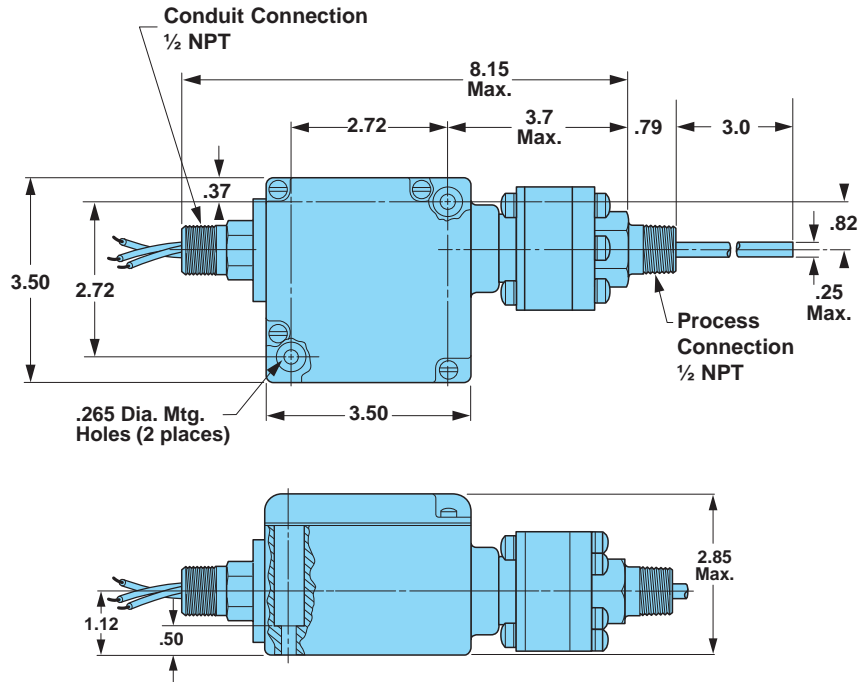
- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option letter designation as required

Example

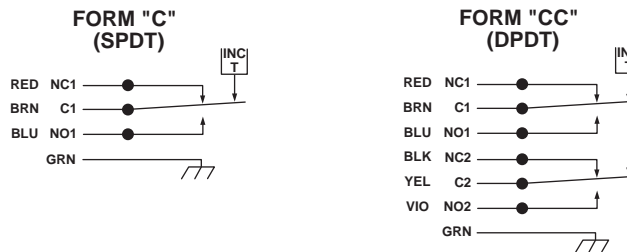
Series
Wetted Material
Adjustable Range
Electrical Form
Enclosure
Miscellaneous

100T 3B CC 6 _

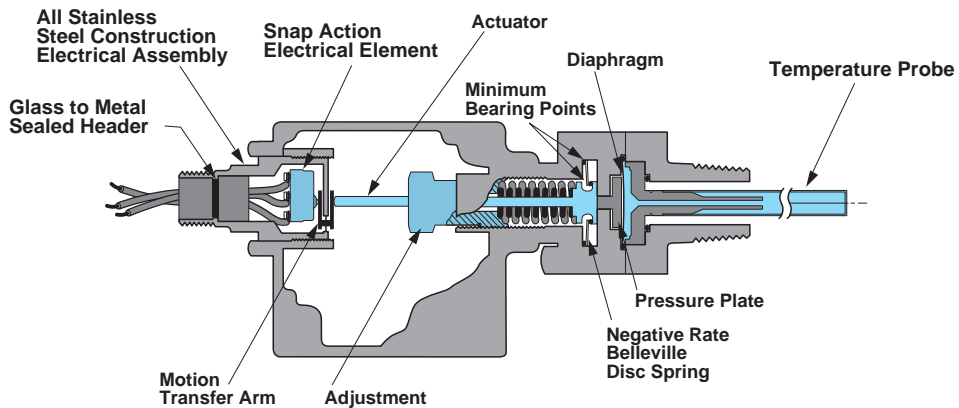
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 100TC Temperature Switch/Internal Adjustment

Remote mount adjustable temperature switch for use in hazardous areas. Utilizes the efficient Nega-Rate® Belleville spring mechanism and saturated vapor sensor for quick response.

Operating Temperature Data

Adjustable Range Number	Adjustable Set Point Range		Deadband† (approx) Bottom/Top		Proof Temperature	
	Increasing °F	Decreasing °F	°F	°C	°F	°C
B	-50 to +65	-69 to +62	19/3	11 / 2	250	121
D	+30 to +175	+7 to +172	23/3	13 / 2	400	204
F	+95 to +250	+70 to +247	25/3	14 / 2	450	232
H	+175 to +360	+145 to +355	30/5	17 / 3	500	260
J	+335 to +500	+305 to +495	30/5	17 / 3	600*	315
L	+485 to +720	+445 to +714	40/6	22 / 3	900*	482

†Deadband decreases as the adjustable set point is increased. For narrow deadband select set point in upper half of adjustable range.

*Thermowell required for temperatures above 500°F.

Standard Specifications

Electrical

Snap action electrical switch assemblies, Part Numbers 057-0770 & 057-0772 (Form C) and 057-0771 & 057-0773 (Form CC), are listed by Underwriters' Laboratories, Inc., FM Approvals, CSA International and NCC (INMETRO). See the miscellaneous option N for additional listings.

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18 AWG, 18" long leads

Process Connection

1/2 NPT Male
Remote mount. Stainless steel 6' capillary with armor jacket, 10" minimum bendable tubing and 1/2" adjustable gland nut. Optional capillary lengths available.

Temperature Range

Ambient: -40°F to +180°F
(-40°C to +82°C)

See Electrical Assembly specification sheet for Temperature Class Ratings.

System Pressure: 1500 psig max.

Proof Pressure: 2250 psig

Adjustment

Concealed wrench flat adjustment with range scale

Shipping Weight:

Approximately 5 pounds



Order Miscellaneous Option "D"



Explosion Proof
Hermetically Sealed
(NEMA 4X, 7, 9 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

5 300 stainless steel, graphite filled non-asbestos packing

Adjustable Range

B -69°F dec. to +65°F inc. (-56°C dec. to 18°C inc.)
D +7°F dec. to +175°F inc. (-14°C dec. to 79°C inc.)
F +70°F dec. to +250°F inc. (21°C dec. to 121°C inc.)
H +145°F dec. to +360°F inc. (63°C dec. to 182°C inc.)
J +305°F dec. to +500°F inc. (152°C dec. to 260°C inc.)
L +445°F dec. to +720°F inc. (229°C dec. to 382°C inc.)

Electrical Form

C 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC
CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC

Enclosure

6 Includes an explosion proof, hermetically-sealed electrical assembly. EX d IIC. Division 1 and 2, Class I, Groups A, B, C, and D; Class II, Groups E, F, and G. NEMA 4X, 7, and 9; IP66. Leads are factory sealed and Pressure Switches are Dual Seal Certified.

Miscellaneous

A Epoxy paint exterior — extra protection for severe environments
D SIL approval and marking, per IEC61508 (includes FMEA report)
I 3/4 NPT conduit box with terminal strip (Groups C & D only, not available with N option)
J Annealed stainless steel port screws for H₂S environments
M Gold electrical contacts for extremely low current applications (1 Amp at 125 VAC; 1 Amp Res, 0.5 Amp Ind. at 28 VDC)
N ATEX and IECEx with CE Mark
R 72" Electrical free leads
W Stainless steel screws — exterior

Optional Capillary Lengths

10', 15', 20' and 25' lengths available
(insert appropriate number at end of model number — see Example)

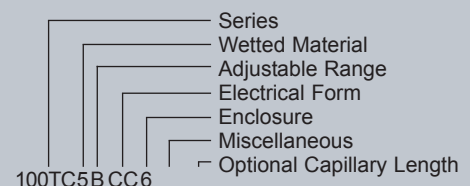
Special (Consult representative or factory)

- Thermowells
- Non-catalog adjustable range and/or set point and deadband

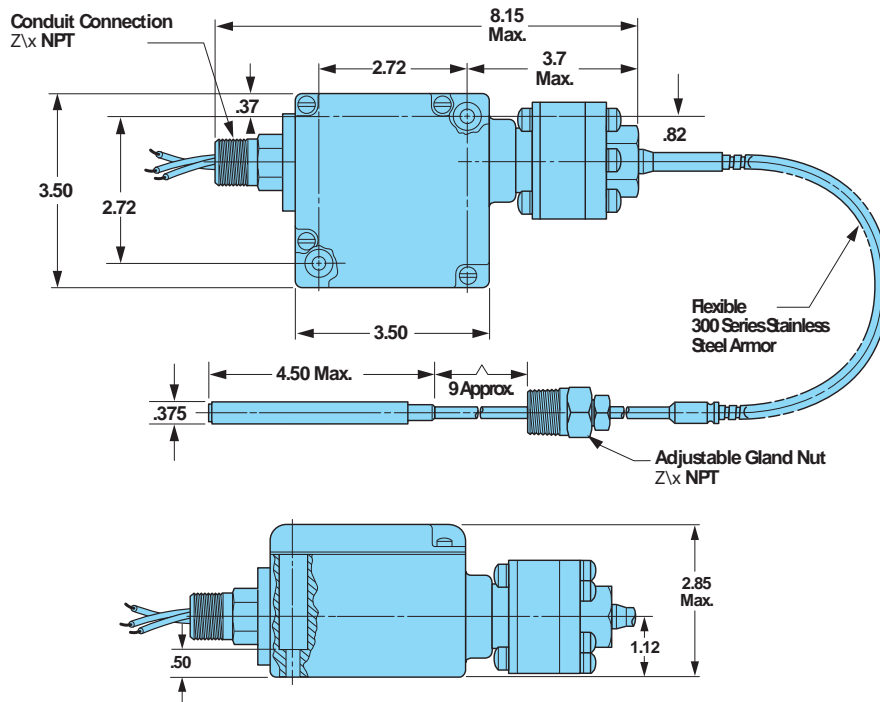
Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

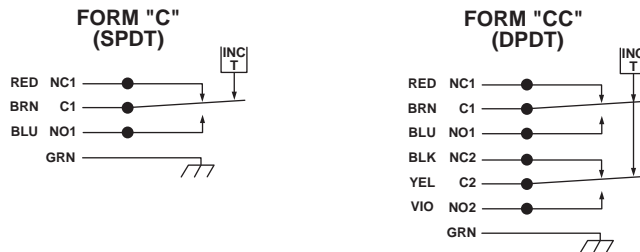
Example



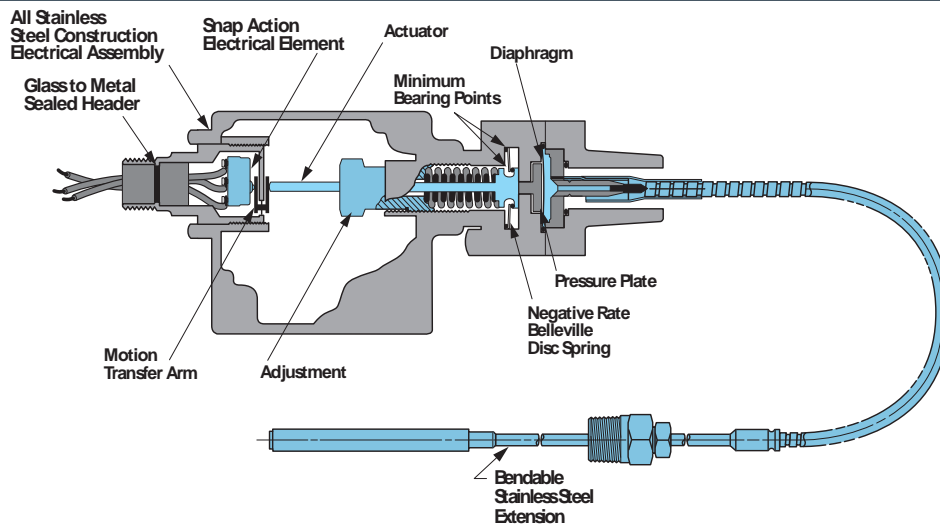
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 132T Temperature Switch/Internal Adjustment

Compact, adjustable, direct mount temperature switch featuring the efficient Nega-Rate® Belleville disc spring for set point stability and vibration resistance. Available with all stainless steel exterior and interior construction together with a hermetically sealed, explosion-proof electrical assembly. Ideally suited for applications involving hazardous and corrosive medias or environments.

Operating Temperature Data

Adjustable Range	Adjustable Set Point Range		Deadband† (approx) Bottom/Top		Proof Temperature	
	Increasing °F	Decreasing °F	°F	°C	°F	°C
B	-50 to +30	-69 to +26	19/4	11 / 2	250	121
D	+30 to +125	+7 to +121	23/4	13 / 2	300	149
F	+95 to +200	+70 to +196	25/4	14 / 2	400	204
H	+115 to +230	+89 to +224	26/6	14 / 3	400	204
J	+175 to +300	+146 to +294	29/6	16 / 3	500	260
L	+260 to +360	+236 to +356	24/4	13 / 2	500	260
N	+290 to +395	+263 to +391	27/4	15 / 2	500	260

† Deadband decreases as the adjustable set point is increased. For narrow deadband select set point in upper half of adjustable range.

Standard Specifications

Electrical

Snap action electrical switch assemblies, Part Numbers 057-0770 & 057-0772 (Form C) and 057-0771 & 057-0773 (Form CC), are listed by Underwriters' Laboratories, Inc., FM Approval, CSA International and NCC (INMETRO). See the miscellaneous option N for additional listings.

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18 AWG, 18" long leads

Process Connection

1/2 NPT Male
Direct mount

System Pressure

1500 psig maximum

Proof Pressure

2250 psig

Adjustment

Internal, slotted adjustment nut with range scale

Temperature Range

Ambient: -40°F to +180°F
(-40°C to +82°C)

See Electrical Assembly specification sheet for Temperature Class Ratings.

Shipping Weight

Approximately 2.5 pounds



Order Miscellaneous Option "D"



Explosion Proof
Hermetically Sealed
(NEMA 4X, 7, 9 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

4 300 Series stainless steel port and probe assembly, Teflon seal

Adjustable Range

B -69°F dec. to +30°F inc. (-56°C dec. to -1°C inc.)
D +7°F dec. to +125°F inc. (-14°C dec. to 52°C inc.)
F +70°F dec. to +200°F inc. (21°C dec. to 93°C inc.)
H +89°F dec. to +230°F inc. (32°C dec. to 110°C inc.)
J +146°F dec. to +300°F inc. (63°C dec. to 149°C inc.)
L +236°F dec. to +360°F inc. (113°C dec. to 182°C inc.)
N +263°F dec. to +395°F inc. (128°C dec. to 202°C inc.)

Electrical Form

C 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC
CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC

Enclosure

6 Includes an explosion proof, hermetically-sealed electrical assembly. EX d IIC. Division 1 and 2, Class I, Groups A, B, C, and D; Class II, Groups E, F, and G. NEMA 4X, 7, and 9; IP66. Leads are factory sealed and Pressure Switches are Dual Seal Certified.

Miscellaneous

A Epoxy paint exterior — extra protection for severe environments
D SIL approval and marking, per IEC61508 (includes FMEA report)
H 316 stainless steel body
I 3/4 NPT conduit box with terminal strip (Groups C & D only, not available with N option)
J Annealed stainless steel port screws for H₂S environments
M Gold electrical contacts for extremely low current applications
N ATEX and IECEx with CE Mark
R 72" Electrical free leads

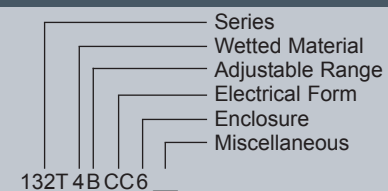
Special (Consult representative or factory)

- Thermowells
- Non-catalog adjustable range and/or set point and deadband

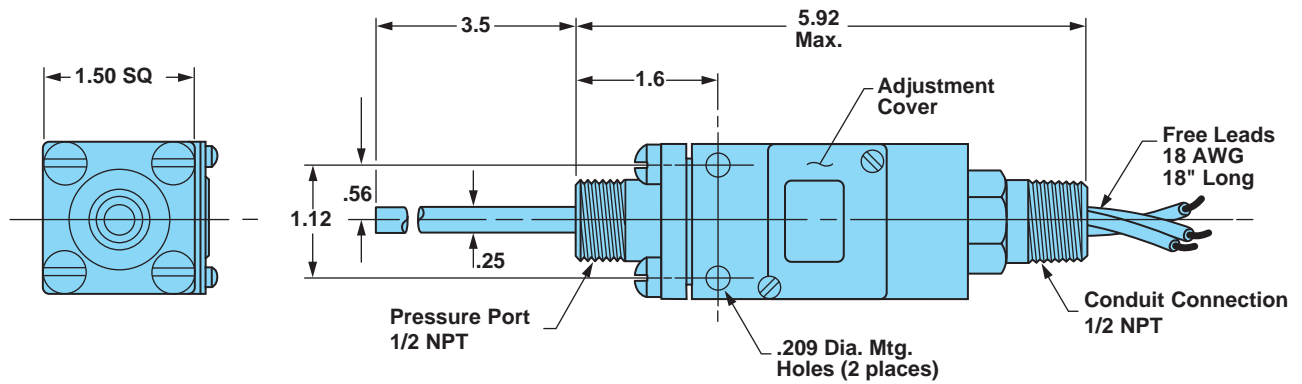
Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option letter designation as required

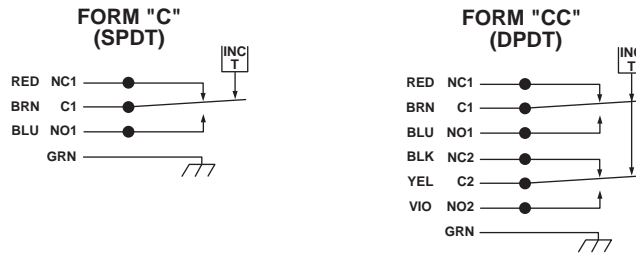
Example



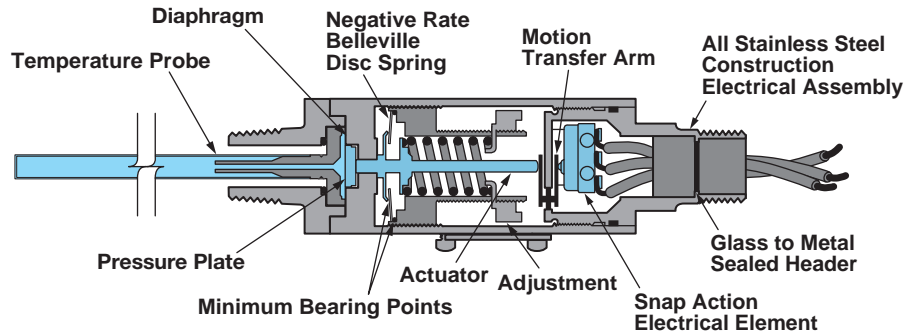
Envelope Dimensions



Electrical Form



Basic Principles of Design



Neo-Dyn® Series 132TC Temperature Switch/Internal Adjustment

Compact, adjustable temperature switch featuring the efficient Nega-Rate® Belleville disc spring for set point stability and vibration resistance. Available with all stainless steel exterior and interior construction together with a hermetically sealed, explosion-proof electrical assembly. Ideally suited for applications involving hazardous and corrosive medias or environments. Comes with capillary for remote mount up to 25 feet.

Operating Temperature Data

Adjustable Range	Adjustable Set Point Range		Deadband† (approx) Bottom/Top		Proof Temperature	
	Increasing °F	Decreasing °F	°F	°C	°F	°C
B	-50 to +30	-69 to +26	19/4	11 / 2	250	121
D	+30 to +125	+7 to +121	23/4	13 / 2	300	149
F	+95 to +200	+70 to +196	25/4	14 / 2	400	204
H	+115 to +230	+89 to +224	26/6	14 / 3	400	204
J	+175 to +300	+146 to +294	29/6	16 / 3	500	260
L	+260 to +360	+236 to +356	24/4	13 / 2	500	260
N	+290 to +395	+263 to +391	27/4	15 / 2	500	260
P	+365 to +480	+338 to +476	27/4	15 / 2	600*	315
R	+485 to +655	+445 to +646	40/9	22 / 5	750*	399

†Deadband decreases as the adjustable set point is increased. For narrow deadband select set point in upper half of adjustable range.

*Thermowell required for temperatures above 500°F.

Standard Specifications

Electrical

Snap action electrical switch assemblies, Part Numbers 057-0770 & 057-0772 (Form C) and 057-0771 & 057-0773 (Form CC), are listed by Underwriters' Laboratories, Inc., FM Approval, CSA International and NCC (INMETRO). See the miscellaneous option N for additional listings.

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18 AWG, 18" long leads

Process Connection

1/2 NPT Male
Remote mount
Stainless steel 6' capillary with armor jacket, 10" minimum bendable tubing and 1/2" adjustable gland nut. Optional capillary lengths available.

System Pressure

1500 psig maximum

Proof Pressure

2250 psig

Adjustment

Internal, slotted adjustment nut with range scale

Temperature Range

Ambient: -40°F to +180°F
(-40°C to +82°C)

See Electrical Assembly specification sheet for Temperature Class Ratings.

Shipping Weight

Approximately 3.5 pounds



Order Miscellaneous Option "D"



Explosion Proof
Hermetically Sealed
(NEMA 4X, 7, 9 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

5 300 stainless steel, graphite filled non-asbestos packing

Adjustable Range

B -69°F dec. to +30°F inc. (-56°C dec. to -1°C inc.)
D +7°F dec. to +125°F inc. (-14°C dec. to 52°C inc.)
F +70°F dec. to +200°F inc. (21°C dec. to 93°C inc.)
H +89°F dec. to +230°F inc. (23°C dec. to 110°C inc.)
J +146°F dec. to +300°F inc. (63°C dec. to 149°C inc.)
L +236°F dec. to +360°F inc. (113°C dec. to 182°C inc.)
N +263°F dec. to +395°F inc. (128°C dec. to 202°C inc.)
P +338°F dec. to +480°F inc. (170°C dec. to 249°C inc.)
R +445°F dec. to +655°F inc. (229°C dec. to 346°C inc.)

Electrical Form

C 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC
CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC

Enclosure

6 Includes an explosion proof, hermetically-sealed electrical assembly. EX d IIC. Division 1 and 2, Class I, Groups A, B, C, and D; Class II, Groups E, F, and G. NEMA 4X, 7, and 9; IP66. Leads are factory sealed and Pressure Switches are Dual Seal Certified.

Miscellaneous

A Epoxy paint exterior — extra protection for severe environments
D SIL approval and marking, per IEC61508 (includes FMEA report)
H 316 stainless steel body
I 3/4 NPT conduit box with terminal strip (Groups C & D only, not available with N option)
J Annealed stainless steel port screws for H₂S environments
M Gold electrical contacts for extremely low current applications
N ATEX and IECEx with CE Mark
R 72" Electrical free leads

Optional Capillary Lengths

10', 15', 20' and 25' lengths available
(insert appropriate number at end of model number — see Example)

Special (Consult representative or factory)

- Thermowells
- Non-catalog adjustable range and/or set point and deadband

Ordering Procedure

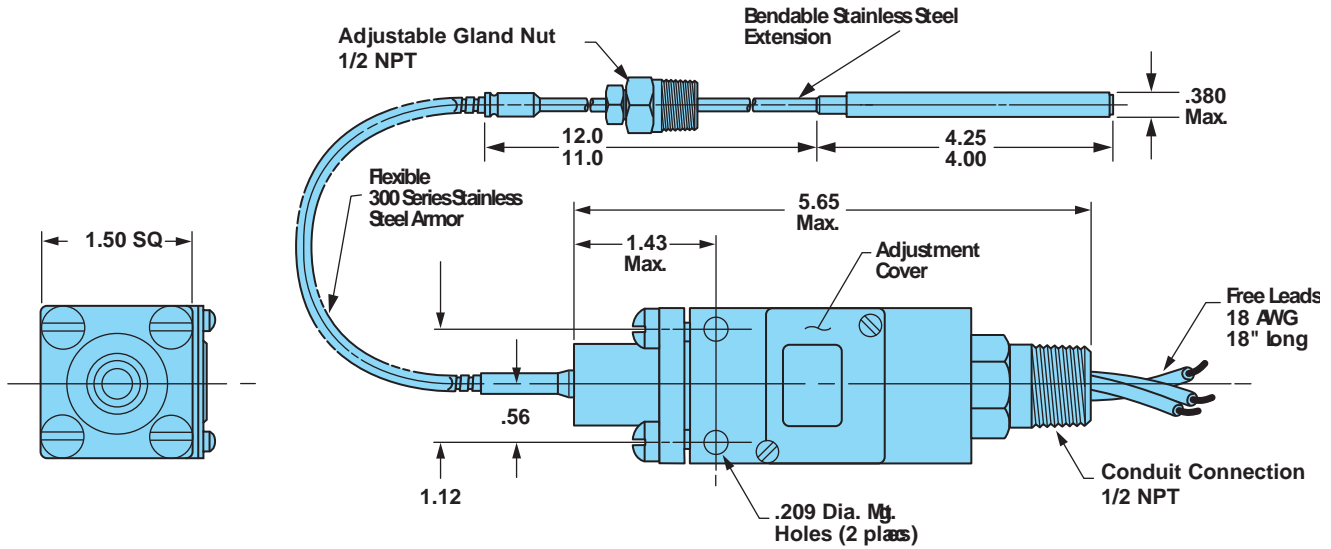
- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

Example

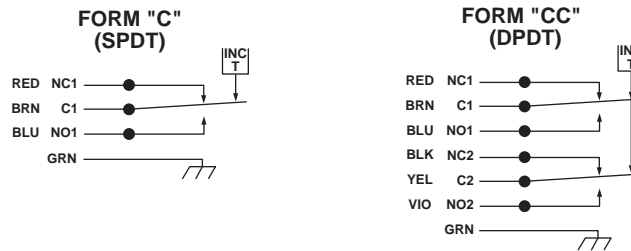
Series
Wetted Material
Adjustable Range
Electrical Form
Enclosure
Miscellaneous
Optional Capillary Length

132TC5B CC6

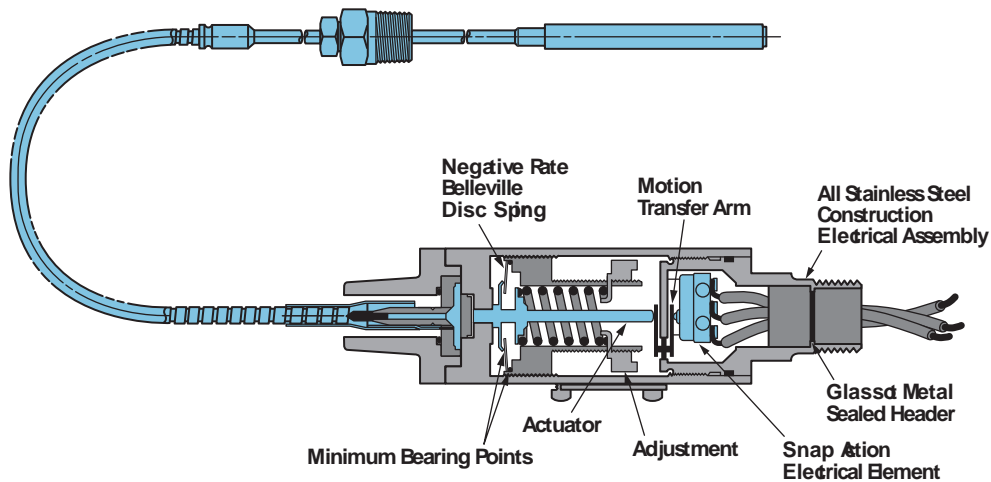
Envelope Dimensions



Electrical Form



Basic Principles of Design



GENERAL PURPOSE NEMA 4, 4X & 13	General Purpose Weather Proof	– Adjustable	21
	117P Series – Sanitary Food Service		
SANITARY PRESSURE SWITCHES			
HAZARDOUS AREA NEMA 7 & 9	Hermetically Sealed/ Explosion Proof	– Adjustable	21
	117P Series – Pharmaceutical/Biochem		

Neo-Dyn® Series 117P Sanitary Pressure Switch/Internal Adjustment

This field adjustable, compact pressure switch is intended for low- to mid-range process applications. The Tri-Clamp® compatible, polished, process connection makes this switch ideal for food, beverage and other sanitary services. Set point stability and vibration resistance are a function of the Nega-Rate® Belleville disc spring. This unit features 316 stainless steel construction, an explosion-proof/hermetically sealed electrical assembly, 18" standard free leads and SPDT or DPDT electrical forms and a wetted material surface polish of 9 - 11 micro inch Ra (0.23 - 0.28 micron Ra).†

Operating Pressure Data

Adjustable Range Number	Adjustable Set Point Range		Deadband (approximate)	*Maximum Recommended System Pressure	*Proof Pressure
	Increasing	Decreasing			
2	3 to 30	1 to 28	2	1000	1500
4	20 to 80	15 to 75	5	1000	1500
5	50 to 250	30 to 230	20	1000	1500
6	200 to 400	175 to 375	25	1000	1500
7	375 to 725	330 to 680	45	1000	1500

All values given in psig.

*Note: Pressures are switch ratings. Check clamp manufacturer for clamp rating.

Standard Specifications

Electrical

Snap action electrical switch assemblies, Part Numbers 057-0770 & 057-0772 (Form C) and 057-0771 & 057-0773 (Form CC), are listed by Underwriters' Laboratories, Inc., FM Approvals, CSA International and NCC (INMETRO). See the miscellaneous option N for additional listings.

Electrical Connection

1/2 NPT male conduit connection with PVC insulated 18 AWG, 18" long leads

Pressure Connection

1 1/2" sanitary fitting mates with Tri-Clamp® fitting†

Temperature Range

Ambient: -40°F to +180°F
(-40°C to +82°C)
Media: -40°F to +250°F
(-40°C to +121°C)

Adjustment

Internal, slotted adjustment with range scale

Shipping Weight

Approximately 2 pounds



Explosion Proof
Hermetically Sealed
(NEMA 4X, 7, 9 and 13)

Ordering Sequence — Select desired option for each category

OPTIONS

Wetted Material

5 316 stainless steel port and diaphragm, heliarc welded

Adjustable Range

2 1 psig dec. to 30 psig inc. (.07 bar dec. to 2.1 bar inc.)
4 15 psig dec. to 80 psig inc. (1.0 bar dec. to 5.5 bar inc.)
5 30 psig dec. to 250 psig inc. (2.1 bar dec. to 17.2 bar inc.)
6 175 psig dec. to 400 psig inc. (12.1 bar dec. to 27.6 bar inc.)
7 330 psig dec. to 725 psig inc. (22.8 bar dec. to 50.0 bar inc.)

Electrical Form

C 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC
CC 11 amp, 1/4 hp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive at 28 VDC; .5 amp resistive at 125 VDC

Enclosure

6 Includes an explosion proof, hermetically-sealed electrical assembly. EX d IIC. Division 1 and 2, Class I, Groups A, B, C, and D; Class II, Groups E, F, and G. NEMA 4X, 7, and 9; IP66. Leads are factory sealed and Pressure Switches are Dual Seal Certified.

Miscellaneous

I 3/4 NPT conduit box with terminal strip (Groups C & D only, not available with N option)
M Gold electrical contacts for extremely low current applications
N ATEX approval
R 72" Electrical free leads

Special (Consult representative or factory)

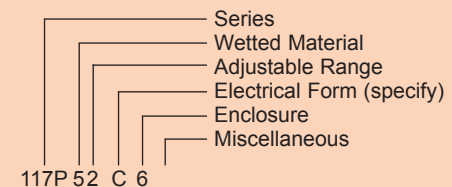
- Non-catalog adjustable range and/or set point, deadband and proof pressure

†Tri-Clamp® is a Registered Trademark of Tri-Clover Inc.

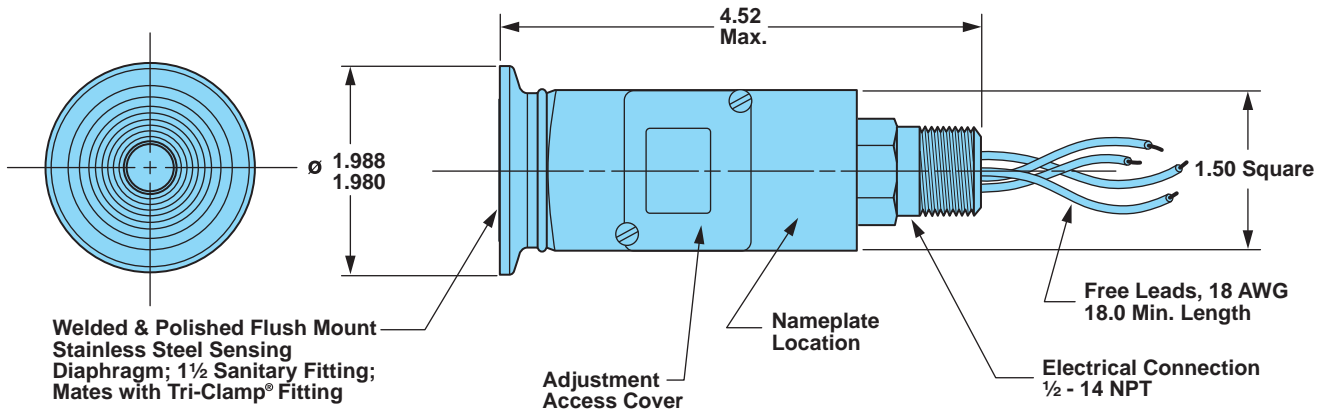
Ordering Procedure

- When factory presetting is desired, stipulate set point, increasing or decreasing
- Insert available option number or letter designation as required

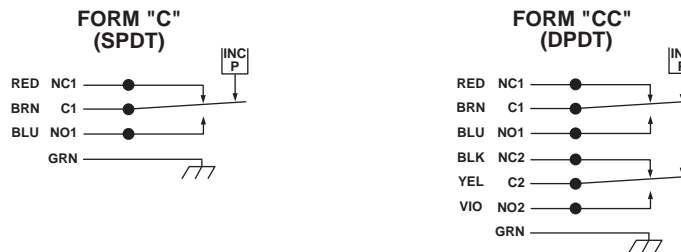
Example



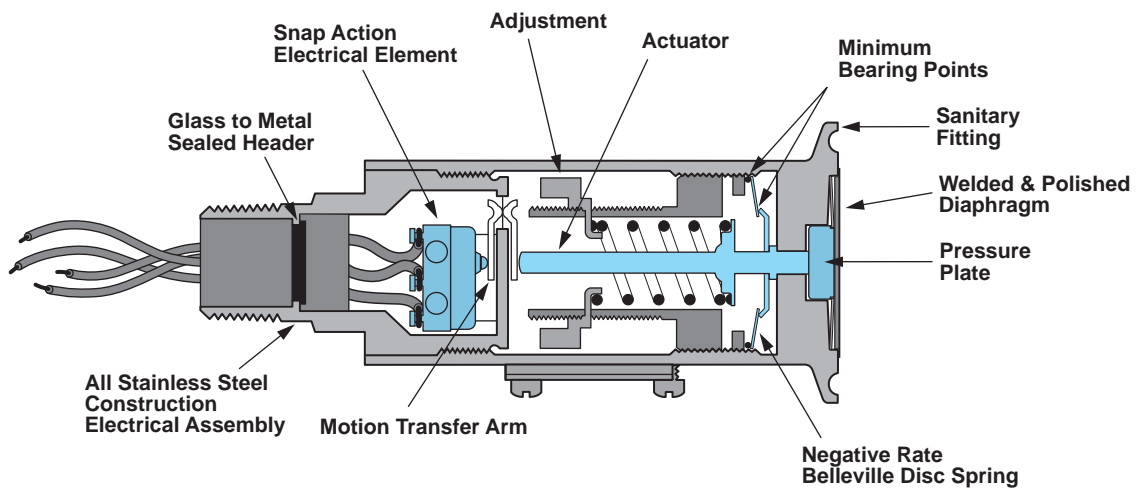
Envelope Dimensions



Electrical Form



Basic Principles of Design



Switch Accessories

Thermowells P/N 047-0014

ITT Neo-Dyn offers a line of standard thermowells for use on its direct mounted (100T/132T) or remote mounted (100TC/132TC) temperature switches. Available in 316 stainless steel with 3/4 or 1 inch process connections and insertion lengths up to 12 inches.



Specifications

DASH No.	FIGURE	MATERIAL	P	Q	HEX SIZE	U	A
-02	A	316 CRES	3/4	3/4	1-1/8	2-1/2	4
-05	A	316 CRES	1	7/8	1-3/8	2-1/2	4
-04	A	316 CRES	3/4	3/4	1-1/8	4-1/2	6
-25	A	316 CRES	1	7/8	1-3/8	4-1/2	6
-28	B	316 CRES	3/4	3/4	1-1/8	3-1/2	5
-29	B	316 CRES	1	3/4	1-3/8	3-1/2	5
-07	B	316 CRES	3/4	3/4	1-1/8	4-1/2	6
-26	B	316 CRES	1	3/4	1-1/8	4-1/2	6
-09	B	316 CRES	3/4	3/4	1-1/8	7-1/2	9
-10	B	316 CRES	3/4	3/4	1-1/8	10-1/2	12
-27	B	316 CRES	3/4	3/4	1-1/8	12	13-1/2

Envelope Dimensions

FIG. A— For use on 100T/132T Direct Mount

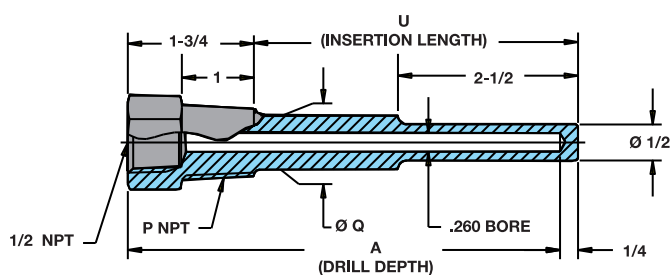
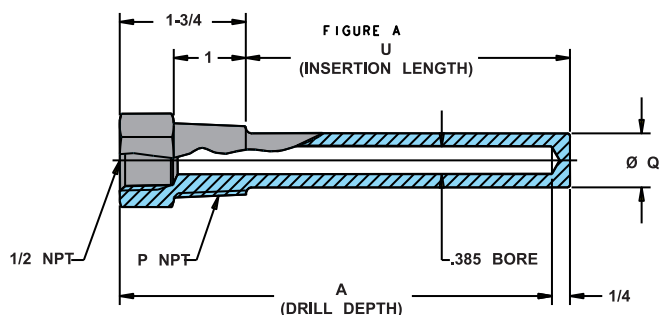


FIG. B— For use on 100TC/132TC Remote Mount



Ordering Procedure

- Select a figure from the above. Figure A has a .260 bore diameter for use on 100T/132T models while Figure B has a .385 bore diameter for use on 100TC/132TC models.
- Select a process connection size: 3/4 or 1 inch.
- Select an insertion length: U. Standard 100T/132T models use 2-1/2 inch "U" dimensions; standard 100TC/132TC models use 3-1/2 inch "U" dimensions.
- Insert selected dash number at end of part number.— See example.

Example

Part Number
Dash Number

047-0014 - **

Switch Accessories

Junction Box P/N 086-0048

Explosion Proof Junction Box with terminal strip electrical connections. Suitable for Div 1 hazardous areas when used in conjunction with any Enclosure 6 electrical used on Neo-Dyn Pressure or Temperature Switches.



Div. 1
Explosion Proof

Standard Specifications

Electrical Connection

3/4" NPT female conduit connection.

Area Classification

Suitable for use in Div 1, Class I, Groups C & D; Class II, Group E, F & G hazardous locations in accordance with NFPA 70.

Wiring Guide

Terminal strips will accept 14 to 20 AWG wire when installed in accordance with NFPA 70.

Ordering Sequence

OPTIONS

Electrical Form

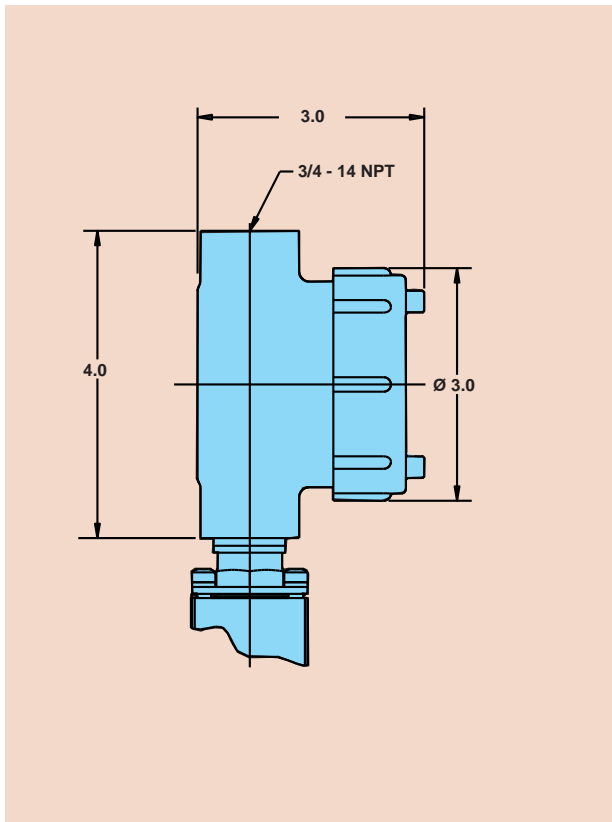
- 01 SPDT Terminal Strip with markings to indicate normally open (NO), common (C) and normally closed (NC).
- 02 DPDT Terminal Strip with markings to indicate two normally open (NO1, NO2), two common (C1, C2) and two normally closed (NC1, NC2) terminals.

Examples

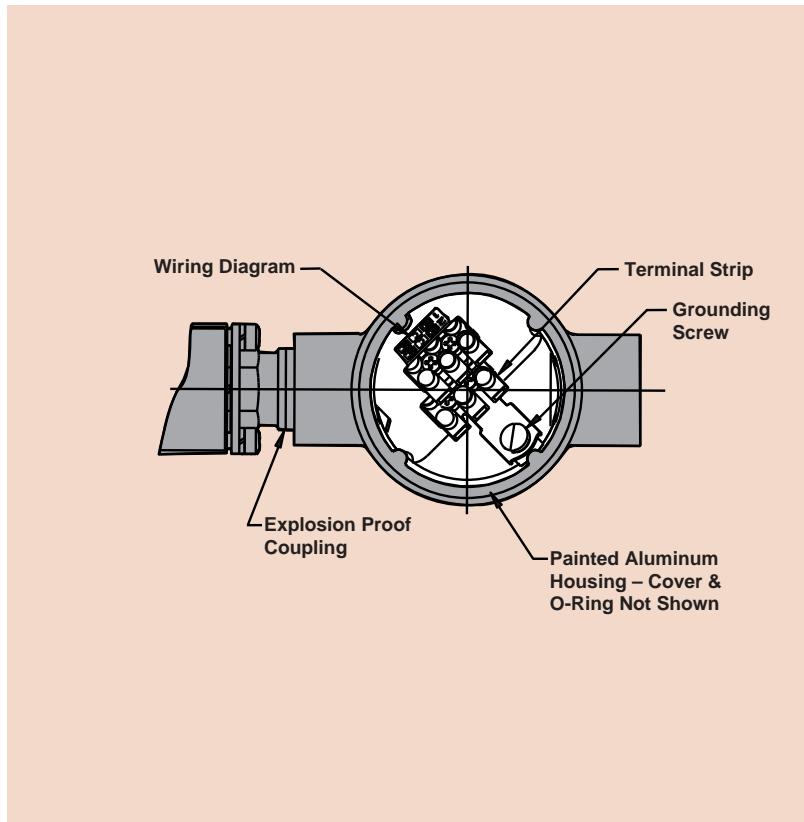


Junction Box P/N 086-0048

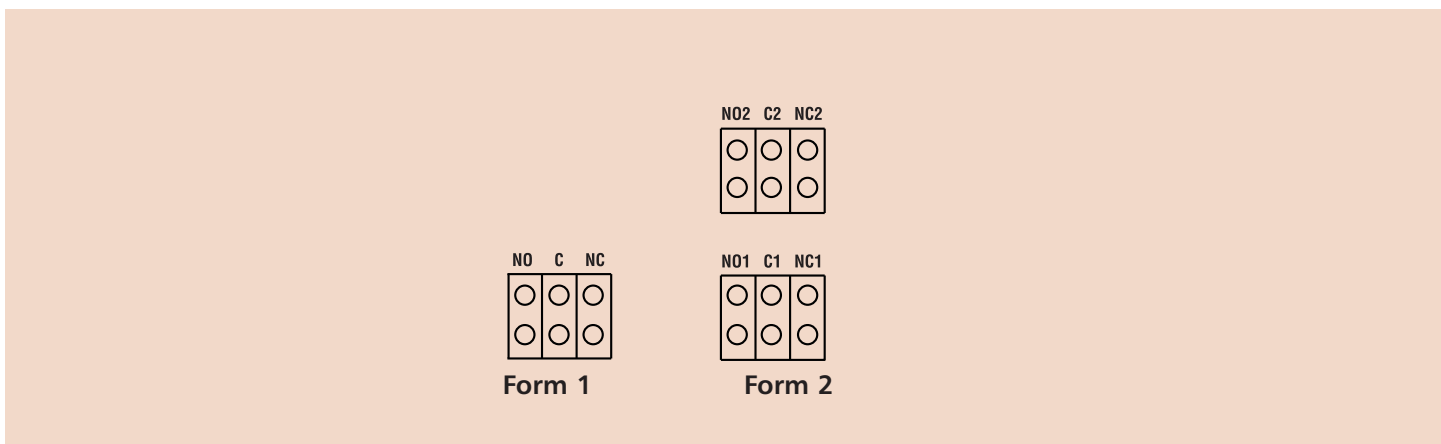
Envelope Dimensions



Basic Principles of Design



Wiring Diagram



Switch Accessories

Junction Box P/N 086-0044

Weather Proof Junction Box with terminal strip electrical connections. Suitable for Div 2 hazardous areas when used in conjunction with any Enclosure 6 electrical used on Neo-Dyn Pressure or Temperature Switches.



NEMA 4X or
Div. 2 Hazardous

Standard Specifications

Electrical Connection

1/2-14 NPT female conduit connection

Area Classification

NEMA 4X weather proof enclosure suitable for Div 2, Class I, Groups C & D hazardous locations when used in conjunction with any enclosure 6 electrical and installed in accordance with NFPA 70

Wiring Guide

Terminal strips will accept 14 to 20 AWG wire when installed in accordance with NFPA 70.

Ordering Sequence

OPTIONS

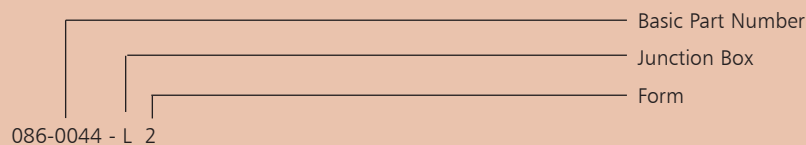
Junction Box

- L - Left Hand Connection
- S - Top Connection
- R - Right Hand Connection

Electrical Form

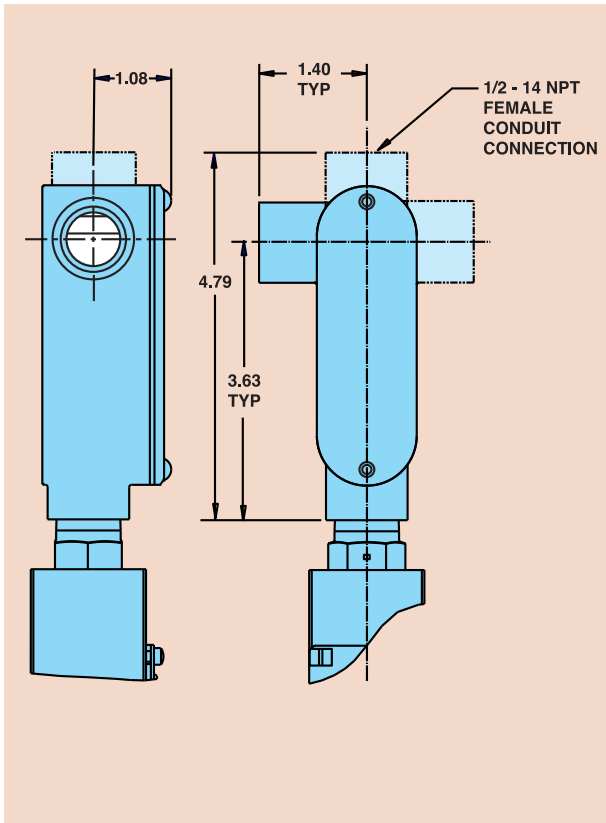
- 1 SPDT Terminal Strip with markings to indicate normally open (NO), common (C) and normally closed (NC)
- 2 DPDT Terminal Strip with markings to indicate two normally open (NO1, NO2), two common (C1, C2) and two normally closed (NC1, NC2) terminals

Examples

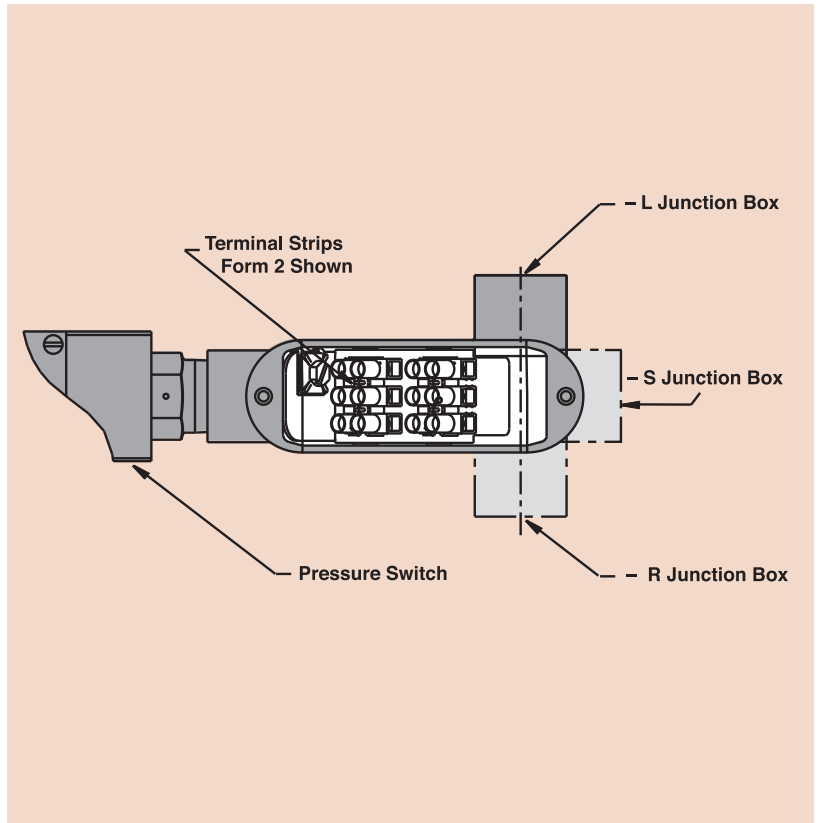


Junction Box P/N 086-0044

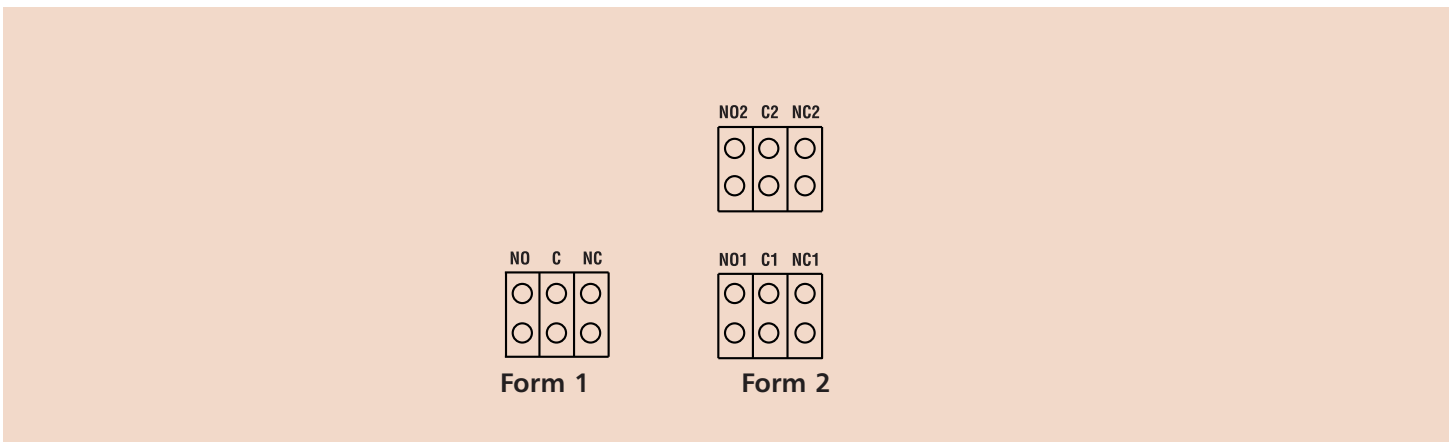
Envelope Dimensions



Basic Principles of Design



Wiring Diagram





ITT

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