



CustomControlSensors

Dual Snap[®]

Pressure, Temperature and Liquid Flow Switches and Sensors

Industrial Products Catalog



Time-Tested Solutions. Reduced Costs and Time.
When It Absolutely Must Work.



Custom Control Sensors, Inc. (CCS) is a global leader in the design, testing, manufacturing and supply of pressure, temperature and liquid flow switches and sensors for the Industrial, Energy, Aerospace and Defense markets.

Founded in 1958, CCS revolutionized the industrial pressure switch market by utilizing its patented “Dual-Snap” disc spring technology. Originally developed for critical aerospace applications, the Dual-Snap disc spring eliminates contact chatter and erroneous electrical signals due to vibration, shock and high temperature conditions associated with other constant-rate pressure switch devices. As a result, CCS industrial pressure and temperature switch products are the industry standard used in essential equipment alarm, monitoring and control functions all over the globe.

Headquartered in Chatsworth, California, near Los Angeles, CCS is a full service company offering complete R&D, design, prototyping, manufacturing, assembly and testing capabilities. The 68,000 square foot Chatsworth facility continues to maintain all of its essential functions, including a large modern machine shop, a tool and die department, assembly operation and a state of the art engineering test lab. CCS brings product to market through its extensive global distribution and representative network.

CCS’ Quality Policy is to pursue perfection through continual improvement of its products and services. This requires a personal commitment from every employee to understand and consistently meet or exceed customer requirements. To achieve this objective, Custom Control Sensors recognizes that it is essential to train, develop and promote the concept of continual improvement to the greatest extent possible so that every product or service is delivered defect-free and on time.

CCS is an ISO 9001:2008 & AS9100:2009 certified facility.

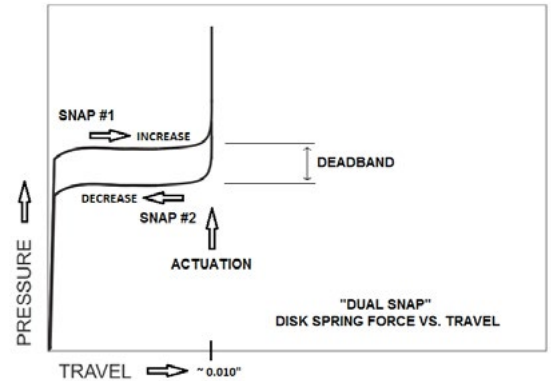
www.ccsdualsnap.com

How a Wide Range DUAL-SNAP[®] Pressure Switch Works

The heart of the design...



The negative rate Belleville disc spring snaps to concave under pressure and snaps back when pressure is released.



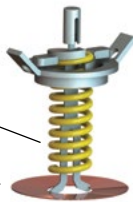
The Belleville disc spring is backed up with a fully adjustable helical spring and a diaphragm to meet various media compatibility requirements.

Conventional pressure switches incorporate constant-rate sensing technology (Bellows, Bourdon Tube, Spring Loaded Piston). CCS' negative rate Belleville spring technology revolutionized sensing by converting pressure into force. This technology minimized or eliminated the effects caused by vibration, low temperature, high cycle life / premature wear, contact chatter and pump ripple. The switch is either on or off and there is no "teasing" of the electrical element. There are no moving parts except during actuation and deactuation. The total movement is typically less than .010 inches.

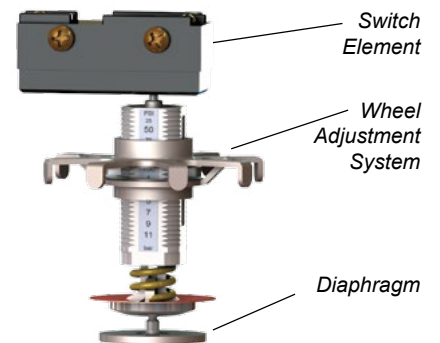
Spring System

Helical Spring

Disc Spring



The diaphragm is not a sensing element. It simply seals the media and transfers force to the disc spring, which responds instantaneously when system pressure reaches the set point.



CCS Dual Snap switches are available with various options for wetted materials and electrical ratings to meet a wide range of application requirements and media capability.

CCS Dual Snap Advantages:

- CCS engineering is based on aerospace technology
- Vibration resistant
- High over-pressure capability
- Repeatable and stable set points/set point accuracy
- High cycle life
- Wide range of set points - 28.5" Hg Vacuum to 16,000 PSIG
- Protection against environment
- Hazardous area certifications
- Wetted materials comply to NACE standard MR0175/ISO15156

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Selection Guide

Set Point Range	Type	Series	Page
0.3 to 75 PSID / 0.02 to 5.17 bar / 2.07 to 517 kPa	Differential Pressure / Diaphragm	604D	12
0.3 to 5000 PSIG / 0.02 to 345 bar / 2.07 to 34474 kPa	Gage Pressure / Diaphragm	604G	14
10 to 5000 PSID / 0.69 to 345 bar / 68.9 to 34474 kPa	Gage Pressure / Piston	604P	16
-39° to 420°F / -39° to 216°C	Temperature / Probe	604T	18
-39° to 630°F / -39° to 332°C	Temperature / Capillary	604TU	20
1 to 28.5" Hg / 25 to 724 mm Hg	Vacuum / Diaphragm	604V	22
20" Hg Vacuum to 12 PSIG / 508 mm Hg to 0.83bar	Crossover / Diaphragm	604GV	22
0.4 to 75 PSIG / 0.02 to 5.17 bar / 2.07 to 517 kPa	Differential Pressure / Diaphragm	605D	24
0.3 to 5000 PSIG / 0.02 to 345 bar / 2.07 to 34474 kPa	Gage Pressure / Diaphragm	605G	26
10 to 5000 PSID / 0.69 to 345 bar / 68.9 to 34474 kPa	Gage Pressure / Piston	605P	28
-39° to 420°F / -39° to 216°C	Temperature / Probe	605T	30
-39° to 630°F / -39° to 332°C	Temperature / Capillary	605TU	32
1 to 28.5" Hg / 25 to 724 mm Hg	Vacuum / Diaphragm	605V	34
.75 to 180 PSIG / .052 to 12.4 bar / 5.17 to 1241 kPa	Gage Pressure / Diaphragm	611G	36
1.5 to 28.5" Hg / 38 to 724 mm Hg	Vacuum / Diaphragm	611V	36
.75 to 180 PSIG / .052 to 12.4 bar / 5.17 to 1241 kPa	Gage Pressure / Diaphragm	611GE	38
1.5 to 28.5" Hg / 38 to 724 mm Hg	Vacuum / Diaphragm	611VE	38
1.0 to 80 PSI / .069 to 5.52 bar / 6.89 to 552 kPa	Gage Pressure / Diaphragm	642GE	40
1.0 to 80 PSI / .069 to 5.52 bar / 6.89 to 552 kPa	Differential Pressure / Diaphragm	642DE	40
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.4 to 1000 PSID / .028 to 68.94 bar / 2.76 to 6895 kPa	Differential Pressure / Diaphragm	646DZE	42
2 to 75 PSID / .138 to 5.2 bar / 13.8 to 520 kPa	Differential / Welded Capsule	646DCE	44
.4 to 5000 PSIG / .028 to 345 bar / 2.76 to 34474 kPa	Gage Pressure / Diaphragm	646GE	46
10 to 5000 PSIG / .069 to 345 bar / 68.9 to 34474 kPa	Gage Pressure / Piston	646PE	48
-39° to 420°F / -39° to 215°C	Temperature / Probe	646TE	50
-39° to 630°F / -39° to 332°C	Temperature / Capillary	646TUE	52
1 to 28.5" Hg / 25 to 724 mm Hg	Vacuum / Diaphragm	646VE	54
20" Hg Vacuum to 12 PSIG / 508 mm Hg to 0.83 bar	Crossover / Diaphragm	646GVE	54
2 to 150 PSID / 0.14 to 10.3 bar / 13.79 to 1034 kPa	Differential Pressure / Diaphragm	672DE	56
2 to 60 PSID / 0.14 to 4.14 bar / 13.79 to 414 kPa	Differential Pressure / Diaphragm	673DE	58

Note: The letter "E" in a CCS part number denotes hazardous area applicability.

Set Point Range	Type	Series	Page
2 to 800 PSID / 0.14 to 55.16 bar / 13.8 to 5515 kPa	Differential Pressure / Diaphragm	674D	60
2 to 800 PSID / 0.14 to 55.16 bar / 13.79 to 5515 kPa	Differential Pressure / Diaphragm	674DE	62
.7 to 31" H ₂ O / 1.7 to 77.2 mbar / 0.17 to 7.72 kPa	Differential Pressure / Diaphragm	675D800	64
.7 to 31" H ₂ O / 1.7 to 77.2 mbar / 0.17 to 7.72 kPa	Differential Pressure / Diaphragm	675DE & 675DE800	66
.7 to 31" H ₂ O / 1.7 to 77.2 mbar / 0.17 to 7.72 kPa	Gage Pressure / Diaphragm	675G800	68
.7 to 31" H ₂ O / 1.7 to 77.2 mbar / 0.17 to 7.72 kPa	Gage Pressure / Diaphragm	675GE & 675GE800	70
.7 to 31" H ₂ O / 1.7 to 77.2 mbar / 0.17 to 7.72 kPa	Vacuum / Diaphragm	675V800	72
.7 to 31" H ₂ O / 1.7 to 77.2 mbar / 0.17 to 7.72 kPa	Vacuum / Diaphragm	675VE & 675VE800	74
.39 to 75 PSID / 0.027 to 5.17 bar / 2.7 to 517 kPa	Differential Pressure / Diaphragm	6403DZE	76
.44 to 6498 PSIG / 0.03 to 448 bar / 3 to 44802 kPa	Gage Pressure / Diaphragm	6403GZE	78
1" to 28.5" Hg / 0.03 to 0.96 bar / 3.4 to 96 kPa	Vacuum / Diaphragm	6403VZE	78
.44 to 6498 PSIG / 0.03 to 448 bar / 3 to 44802 kPa	Gage Pressure / Piston	6403PE	78
-43° to 630° F / -42° to 332° C	Temperature / Capillary	6403TUE	80
1.5" H ₂ O to 100 PSIG / 3.74 mbar to 6.89 bar / 0.374 to 689 kPa	Gage Pressure / Diaphragm	6860G & 6862G	82
1.5" H ₂ O to 100 PSIG / 3.74 mbar to 6.89 bar / 0.374 to 689 kPa	Gage Pressure / Diaphragm	6860GE & 6862GE	84
.4 to 75 PSID / 0.03 to 5.17 bar / 2.76 to 517 kPa	Differential Pressure / Diaphragm	6900DZ	86
.4 to 75 PSID / 0.028 to 5.17 bar / 2.76 to 517 kPa	Differential Pressure / Diaphragm	6900DZE	88
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1 to 3400 PSIG / 0.07 to 234 bar / 6.89 to 23400 kPa	Gage Pressure / Diaphragm	6900GCZZE5Y	92
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5 to 16,000 PSIG / 0.34 to 1,103 bar / 34.47 to 110,316 kPa	Gage Pressure / Piston	6900P	96
5 to 16,000 PSIG / 0.34 to 1,103 bar / 34.47 to 110,316 kPa	Gage Pressure / Piston	6900PE	98
5 to 16,000 PSIG / 0.34 to 1,103 bar / 34.47 to 110,316 kPa	Gage Pressure / Piston	6900PZZE5Y	100
0° to 405° F / -18° to 207° C	Temperature / Probe	6900T	102
0° to 405° F / -18° to 207° C	Temperature / Probe	6900TE	104
0° to 650° F / -18° to 340° C	Temperature / Capillary	6900TU	106
0° to 650° F / -18° to 340° C	Temperature / Capillary	6900TUE	108
.5 to 75 PSID / 0.03 to 5.17 bar / 3.45 to 517 kPa	Differential Pressure / Diaphragm	6905DZE	110
1 to 16000 PSIG / 0.069 to 1103 bar / 6.89 to 110316 kPa	Gage Pressure / Diaphragm	6905GZE	112
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Accessories

Detail Data on Available Capillaries & Thermowells

Capillaries — Optional Tube Lengths

Standard series temperature switches are furnished with a 5' capillary. Optional 10', 15' and 25' capillaries are available. Order as listed below:

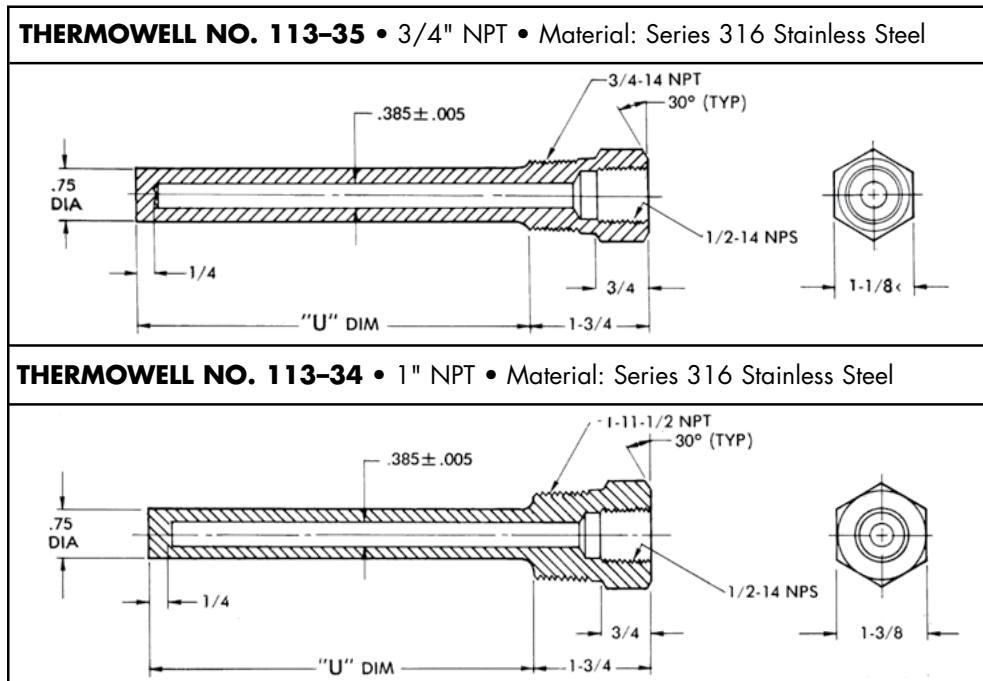
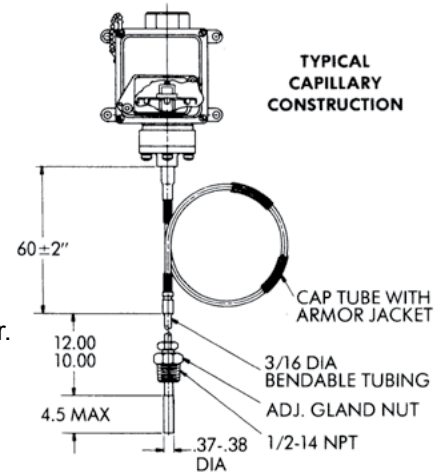
- 10' capillary (3.05 meter): When ordering add -7001 to model number
- 15' capillary (4.57 meter): When ordering add -7002 to model number
- 25' capillary (7.62 meter): When ordering add -7003 to model number

How to order:

1. Specify standard model number of temperature switch desired.
 2. Add the above number that specifies capillary length to end of standard number.
- Example: To order 646TUE1 with 15' capillary, specify 646TUE1-7002

Thermowells

Readily available convenience items for use with temperature switch models.



How to order:

Specify thermowell part number as a separate line item.

"U" Dim.	Part Number	Part Number
4 1/2"	113-35-1	113-34-1
7 1/2"	113-35-2	113-34-2
10 1/2"	113-35-3	113-34-3
13 1/2"	113-35-4	113-34-4

4 1/2" (114.3 mm), 7 1/2" (190.5 mm),
10 1/2" (266.7 mm), 13 1/2" (342.9 mm)

Accessories

Junction Boxes

Junction Box Options:

- 141-18 (Outlet: 3/4"-14 NPT Aluminum)
- 141-19 (M20 Aluminum)
* For 6905 Series Use PN: 141-25
- 141-20 (3/4" NPT Stainless Steel) - Model shown right
* For 6905 Series Use PN: 141-26
- 141-27 (M20 x 1.5P Electrical Conduit and M20 x 1.5P Outlet Stainless Steel)
- 141-28 (1/2"-14 NPT Electrical Conduit and M20 x 1.5P Outlet Stainless Steel)

Junction Box Standard Features:

- Explosion proof
- Weatherproof
- Suitable for hazardous areas
- Div 1, Div 2, Zone 1, Zone 2, IP 68
- Certified to ATEX, CSA, FM, IECEx

Obsolete Models:

- 141-21 (Use part number 141-18)
- 141-22 (Use part number 141-19)

Standard Features:

- Weatherproof
- Suitable for non-hazardous areas

How to Order:

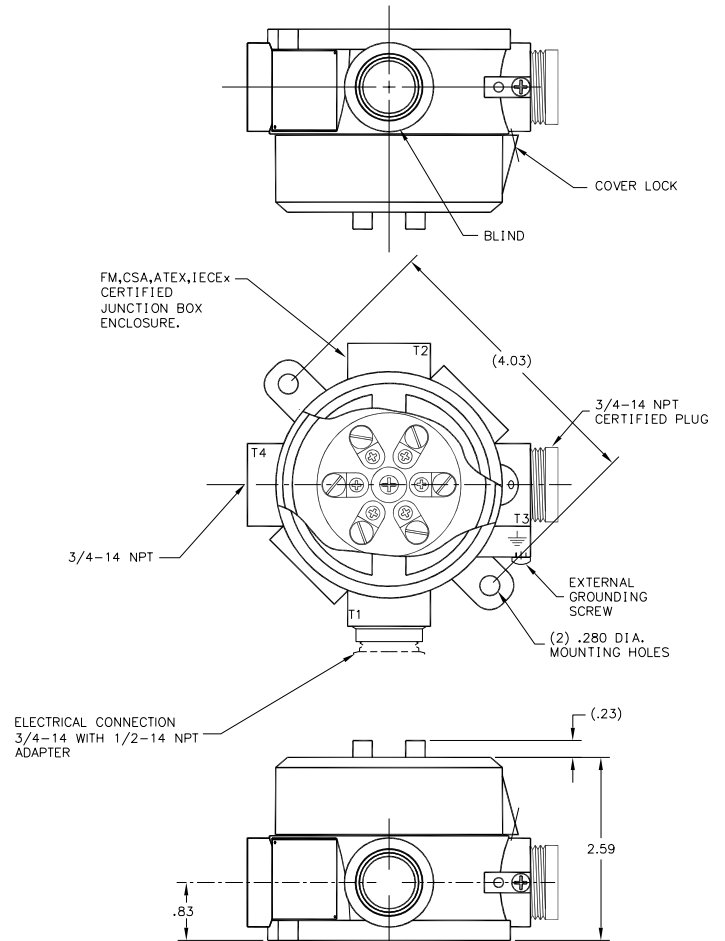
CCS Junction Boxes can be purchased as a separate line item to be installed in the field or they can be purchased attached to a CCS switch.

- To order the junction box as a separate line item (unattached), please place an order for one of the five models listed above.
- To place an order for a switch attached to a junction box follow the example below:

Example: 6900GZE12 with 141-20 Junction Box *installed/attached*:

Line 1: Switch part number (6900GZE12)

Line 2: Junction box model (141-20) Note: Attach to switch in line 1



Accessories

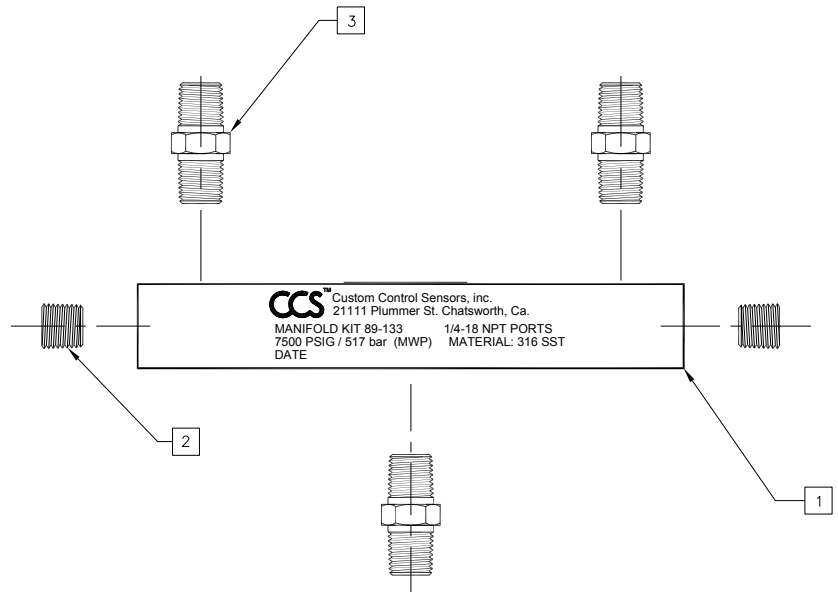
Mounting Kits/Manifolds

Models:

- 89-130 (675 Series Mounting Bracket Kit)
- 89-133 (1/4" 18 NPT 316 Stainless Steel)
- 89-133-1 (1/2" 14 NPT 316 Stainless Steel)
- 89-134-1H (Pipe Mount - Horizontal)
- 89-134-1V (Pipe Mount - Vertical)

Features and Benefits:

- Facilitates dual set points.
- Allows for
 - Pressure indication
 - Process monitoring
 - Functional testing
 - Switch calibration



DIN Connector Accessories

The new 675 non-hazardous series comes furnished with a four blade electrical connector which conforms to DIN-43650. To purchase a standard 611 and 6900 SPDT non-hazardous model including the same electrical connector, please add the -7075 or -7077 (DIN + gold contacts) modified standard suffix to the end of the part number.

The following DIN accessories can also be ordered as separate convenience items.

Models:

- 69-102: Mating Connector (18 AWG wire)
- 57-159: Sealing Gasket

Miscellaneous Items and Services

Cable Glands, Pipe Mount, Oxygen Cleaning, Diaphragm Seals and Epoxy Paint offered.

Tagging:

Tagging requirement must be specified on the face of the purchase order. Indicate whether mylar or stainless steel tagging is required.

Factory Setting:

Factory setting of field adjustable models offered. Please specify required set point on the face of the purchase order.

Please contact CCS Sales Department for pricing.

Glossary

Terms & Definitions

ACCURACY (REPEATABILITY) — Accuracy is the maximum operational set point deviation of a single sensor (a pressure, temperature, or flow switch) under one given set of environmental and operational conditions. CCS Repeatability is within +/- 1% of set point.

ACTION AND DEACTION POINT — The actuation point (sometimes called the set point) is the exact point at which the electrical circuit controlled by the switching element is opened (or closed) on increasing pressure or temperature. The deactuation point is the opposite, or the point at which the electrical circuit is closed (or opened) on decreasing pressure or temperature.

ADJUSTABLE RANGE — The total range within which the actuation point (set point) of a sensor may be adjusted.

AMBIENT TEMPERATURE RANGE — The maximum and minimum temperature that will surround the sensor during use and/or test.

ANSI (American National Standards Institute) — A federation of trade associations, professional and scientific societies, and individual company members. ANSI approves and serves as a clearinghouse for voluntary, nongovernmental American national standards.

API (American Petroleum Institute) — The national trade association that provides information in the form of standards, bulletins, and recommended practices for the petroleum industry.

ATEX — The Directive on Equipment and Protective Systems Intended for use in Potentially Explosive Atmospheres' (94/9/EC) entered into force on 1 March 1996. The Directive is commonly referred to as the 'ATEX' Directive ('Atmospheres Explosibles'), but may also be called the ATEX Equipment Directive or ATEX 95.

BASEEFA (British Approvals Service for Electrical Equipment in Flammable Atmospheres) — (2001) Ltd. (British Approvals Service for Electrical Equipment in Flammable Atmospheres) is the British national testing and certification authority for electrical equipment used in hazardous locations other than mines. Baseefa is a leading internationally recognized certification body for explosion protected equipment, delivering both IECEx and ATEX certification to customers around the globe. Depending on the category of equipment involved, manufacturers are also required to install a quality system that ensures that a product that has been type examined will be faithfully replicated.

SIRA — A world leader in the conformity assessment solutions field, specializing in explosion safety of equipment used in potentially explosive atmospheres (ATEX & IECEx). As a leading Notified Body for Ex Product Certification (ATEX & IECEx), Sira sets the standard with a range of ATEX 137 & DSEAR, ATEX Quality Assurance, IEC 61508 Functional Safety, Training and Personnel Competence Certification services. In 2009, Sira became a CSA International company and provides certification to North American requirements.

CHARGE — The fluid with which the temperature sensing probe is filled.

CRN: (Canadian Registration Services) — Statutory Declaration, Registration of Fitting (Technical Standards and Safety Act, 2000, and

Regulations for Boilers and Pressure Vessels and CSA Standard B51)

CRITICAL SET POINT — The critical set point is the set point of the unit which is held to the closest tolerance. It can be either the actuation (increasing) or deactuation (decreasing) point.

CSA (Canadian Standards Association) — A nonprofit voluntary association engaged in standards development and certification activities. A CSA certified electrical product conforms to applicable requirements of the Canadian Electrical Code. Representative prototypes are tested prior to certification and CSA maintains a production surveillance program to ensure continuing conformity.

DOUBLE BREAK SWITCHING ELEMENT — A double break switching element has two isolated circuits; one normally open and one normally closed, the four terminals facilitate wiring.

DEAD BAND (DIFFERENTIAL, ACTUATION VALUE) — The difference between the actuation point and the deactuation point of a sensor. For instance, if a pressure switch reaches its actuation point and closes the snap action switch at 100 psi, it is in an actuated condition. If the pressure then drops and the switch deactuates (returns to its normal condition) at 90 psi, it is said to have a dead band of 10 psi. NOTE: CCS dead bands are within +/- 50% of the published value.

DOUBLE POLE DOUBLE THROW (DPDT) SWITCHING ELEMENT — A DPDT switching element has six electrical terminals. In simple terms, it is two SPDT switching elements operating simultaneously at the same settings. This type of switch can handle two independent circuits without using a relay.

DUAL SEAL — The imminent Canadian national code adoption of NEC 2009 required process instrumentation such as flow, level and pressure gauges, meters and switches, to certify their devices to the ANSI/ISA 12.27.01 standard. Supplying a device with a nameplate labeled "Dual Seal" or "Single Seal" meets the NEC 2009 code, and permits an end-user installer to eliminate a costly secondary seal.

DUAL SETTING — A dual setting pressure sensor has two independently adjustable electrical switches that are actuated by a shared pressure source. Equivalent to two field adjustable pressure switches in one package.

FACTORY SET — Switch which can be set only at the factory to customer's requirements.

FIELD ADJUSTABLE — A pressure switch design that provides for adjustment of set points in the field.

FIELD SET — A pressure switch design that provides for field adjustment of set points. Adjustment is accomplished by turning an adjustment screw located inside of pressure port prior to installation. After unit is installed, set points can be adjusted by removing pressure fittings to access adjustment screw.

FIRE RESISTANT — A pressure sensor that is designed with a high melting point barrier (steel) that will prevent full flow of sensed flammable fluid from feeding an externally caused fire.

GOLD CONTACTS — Gold contact switching elements are characterized by high corrosion resistance and high reliability in switching low voltage and amperage circuits. They are recommended for intrinsically safe and computer interface circuits.

GOST: (Russian: ГОСТ) — Refers to a set of technical standards maintained by the Euro-Asian Council for Standardization, Metrology and Certification (EASC), a regional standards organization operating under the auspices of the Commonwealth of Independent States (CIS). These are GOST-R, GOST-B, GOST-U and GOST-K certification trademarks demonstrating product compliance to Russia, Belarus, Ukraine, and Kazakhstan.

HERMETIC SEAL — A method of sealing the electrical switching element in a sensor so that it is unaffected by all ambient external corrosive agents and explosive gases. Sealing must be accomplished by soldering, brazing, welding, and glass to metal fusion.

IECEx — International Electrotechnical Commission System for Certification to Standards relating to equipment for use in explosive atmospheres (IECEx System). IECEx Certified Service Facilities Scheme Assesses and certifies that organizations and workshops that provide repair and overhaul services to the Ex industry do so respecting the strict requirement of IEC International Standard 60079-19.

LIMP DIAPHRAGM — An elastomer or plastic diaphragm which is used in a pressure sensor. This type of diaphragm conforms to the shape of the sensing pressure plate and has no rigid structure itself. CCS uses polyimide, stainless steel or viton/dacron limp diaphragms.

NACE (National Association of Corrosion Engineers) — Nonprofit technical association that develops and maintains standards that deal exclusively with protection and performance of materials in corrosive environments. The membership represents a cross-section of industry concerned with corrosion prevention and control.

NEC (National Electrical Code) — The American national standard that contains provisions considered necessary for safeguarding persons and property from hazards arising from the use of electricity. Generally, the code covers electric conductors and equipment installed within or on public and private buildings or other structures.

NEMA (National Electrical Manufacturers Association) — A voluntary organization that adopts standards for electrical equipment. NEMA standards are designed to eliminate misunderstandings between the manufacturer and the purchaser and to assist the purchaser in selecting and obtaining the proper product for a particular need.

NFPA (National Fire Protection Association) — An organization that promotes the science and improves methods of fire protection. NFPA codes, standards, and recommended practices are intended to prescribe reasonable measures for minimizing losses of life and property by fire. NFPA sponsors the National Electrical Code under auspices of the American National Standards Institute.

NFPA (National Fluid Power Association) — A nonprofit national trade association that coordinates and develops voluntary standards for manufacturers of hydraulic and pneumatic systems and components.

NORMALLY CLOSED SWITCHING ELEMENT — Is one in which the terminals are wired so that current can flow through the switching element until the plunger pin is actuated to open the circuit.

OPERATING TEMPERATURE — The temperature rating of the device considering both media and ambient temperature extremes. Factors that affect this rating include distance between media and wetted parts as well as installation methods.

POLYIMIDE — A polymeric film possessing a unique combination of physical and mechanical properties which include long life, excellent deformation/set resistance, high resistance to temperature extremes, good tensile strength, and outstanding resistance to organic compounds. Polyimide is not recommended for water service above 140 °F (60 °C).

PRESET — A factory set pressure switch available from stock, set to a predetermined set point.

PRESSURE, ABSOLUTE — The difference between zero pressure (a perfect vacuum) and some known pressure. It may be arrived at by adding barometric pressure to gage pressure.

PRESSURE, AMBIENT — The pressure (usually, but not necessarily atmospheric) surrounding a pressure sensor.

PRESSURE, ATMOSPHERIC — The actual weight per unit area of the earth's atmosphere at a given locale and altitude. Atmospheric pressure at sea level is approximately 14.7 psi or 30 inches of mercury or 408 inches of water.

PRESSURE, DIFFERENTIAL — The difference between a reference pressure and a variable pressure.

PRESSURE, GAGE — Gage pressure uses atmospheric pressure as a reference, and therefore will vary according to the barometric reading.

PRESSURE, PROOF — Proof pressure (normally 1.5 times system pressure) is the maximum pressure which may be applied to any pressure sensor without causing permanent damage.

PRESSURE, SYSTEM — The nominal pressure level that a system will operate at including work load.

PRESSURE SENSING ELEMENT — The portion of the pressure switch that is in contact with and moves as a result of a change in pressure / force. The most common type of sensing elements are diaphragms, accordion bourdon tubes and pistons.

PRESSURE SWITCH — A pressure switch is an electrical mechanical device that converts pressure into motion to operate an electrical switching element.

PROOF TEMPERATURE — The maximum temperature of the media which the sensing portion of the switch can be subjected to without causing permanent damage.

RESPONSE TIME OR TIME CONSTANT — The amount of time (in seconds) in which the sensor operates after being subjected to a step temperature increase where the difference between the initial soak temperature and actuation temperature equals 63% of the step temperature. The response time is expressed for a designated flow (feet per second), media and system pressure (PSIG).

RISE RATE OR RAMP RATE — The number of degrees (Fahrenheit or Celsius) that the media will increase in a unit of time (minute or second).

SEISMIC SHOCK AND VIBRATION — Low frequency, high amplitude waves produced as a result of earth movement. CCS pressure sensors are generally unaffected by seismic shock and vibration.

SINGLE POLE DOUBLE THROW (SPDT) SWITCHING ELEMENT — A SPDT switching element has one normally open, one normally closed and one common terminal. Three terminals mean that the switch can be wired with the circuit either normally open (N/O) or normally closed (N/C).

TEMPERATURE LAG — The number of degrees above the actuation point that the media will be when the sensor operates. The lag is expressed for a designated rise rate (degrees per second), flow (feet per second), and system pressure (PSIG). The lag is determined by multiplying the rise rate by the response time. Example: If a system with a constant flow, pressure, and rise rate of 10 °F per second incorporated a sensor with a response time of 3 seconds, the lag would be 30 degrees.

TEMPERATURE SWITCH — A temperature switch is a sensor that upon the increase or decrease of a temperature, opens or closes one or more electrical switching elements at a predetermined set point.

THERMOWELL — A housing that can be provided with temperature switches to isolate the temperature probe from the media.

UL (Underwriters Laboratories) — A nonprofit corporation engaged in developing standards and testing for safety. Products bearing UL labels have been tested for conformity to UL standards. UL maintains a product surveillance program to ensure continuing conformity to UL standards.

UL LISTED PRODUCT — A product that has been tested and complies to UL requirements for reasonably foreseeable hazards associated with the product and is subject to continuing UL product surveillance. UL authorizes the manufacturer to use the UL Listing mark.

UL RECOGNIZED COMPONENT — A part or subassembly that has been tested and complies to UL requirements for components used in an end product which complies with UL requirements. The component is subject to continuing UL surveillance. UL authorizes the manufacturer to use the UL Recognized mark.

WETTED PARTS — Materials in a sensor that are directly exposed to the media.



CustomControlSensors

Non-Hazardous Areas Adjustable Pressure Switch

604D* - Diaphragm Sensor



DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, midsize and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-pressure capability. (System and Proof)

- High - low over high capability.
- Various options for wetted materials and electrical ratings to meet a wide range of application requirements and media compatibility.

SHIPPING WEIGHT: APPROXIMATELY 40 OUNCES (1134 GRAMS)

SERIES:

604D*

ADJUSTABLE SET POINT RANGE: DIFFERENTIAL PRESSURE:

0.3 to 75 PSID
0.02 to 5.17 bar
2.07 to 517 kPa

OPERATING TEMPERATURE:

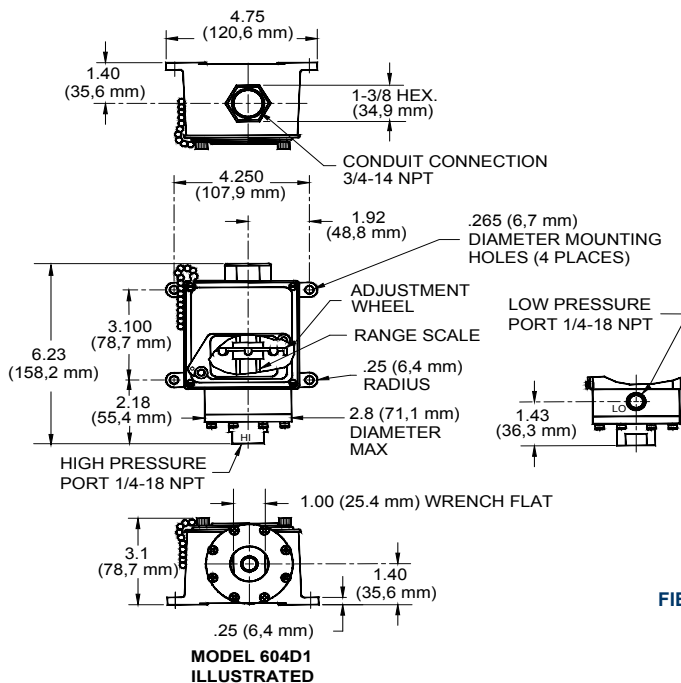
Temperature limits change with o-ring selection.

-40° to 186°F
-40° to 86°C

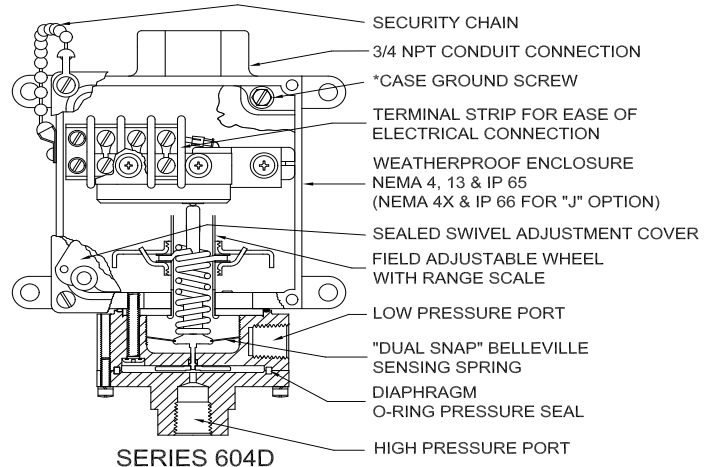
STANDARD FEATURES:

- CE Mark
- CRN
- CCC
- NEMA: 4, 13 / IP65
- Weatherproof
- Internal Case Ground
- U.L. Listed (File No. E72038)

INSTALLATION DRAWING



DESIGN PRINCIPLES



FIELD SETTING: Open access cover. Adjust wheel as illustrated. Clockwise to increase settings. Counterclockwise to decrease settings.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.

DUAL-SNAP®



Models: 604D*, Page 1 of 2
Form 830G, 7.11.13



CustomControlSensors

Non-Hazardous Areas Adjustable Pressure Switch

604D* - Diaphragm Sensor

OPERATING AND ORDERING DATA

SERIES 604D*	WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, POLYIMIDE DIAPHRAGM, VITON O-RING						
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	MAX SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)		
	INCREASING PRESSURE PSID (BAR)	DECREASING PRESSURE PSID (BAR)			BOTH PORTS SIMULT.	HIGH OVER LOW	LOW OVER HIGH
						HIGH	LOW
604D*1	1-18 (0.069-1.24)	4-17.4 (0.02-1.2)	.6 (0.042)	400 (28)	750 (52)	750 (52)	400 (28)
604D*2	6-75 (0.42-5.17)	2-71 (0.14-4.9)	4 (0.28)				
604DM*1	1.4-18 (0.097-1.24)	0.5-17.1 (0.034-1.18)	.9 (0.062)				
604DM*2	6-75 (0.42-5.17)	2-71 (0.14-4.9)	4 (0.28)				
SERIES 604DZ*-7011	WETTED PARTS: 1/4"-18 NPT 300 STAINLESS STEEL PRESSURE PORT, STAINLESS STEEL DIAPHRAGM, VITON O-RING						
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	MAX SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)		
	INCREASING PRESSURE PSID (BAR)	DECREASING PRESSURE PSID (BAR)			BOTH PORTS SIMULT.	HIGH OVER LOW	LOW OVER HIGH
						HIGH	LOW
604DZ*1-7011	2-18 (0.138-1.24)	5-16.5 (0.034-1.14)	1.5 (0.103)	400 (28)	750 (52)	400 (28)	100 (6.9)
604DZ*2-7011	9-75 (0.62-5.2)	3-69 (0.21-4.76)	6 (0.414)				

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 604DM2-7008)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

OPTIONS MODEL CODES

- F:** Ethylene Propylene O-Ring
- J:** CSA Approved (File No. LR22665) (SPDT ONLY)
- M:** DPDT Electrical
- X:** Double Break Switching Element

OPTIONAL STANDARD MODIFIED SUFFIXES

7008: Gold Contacts

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

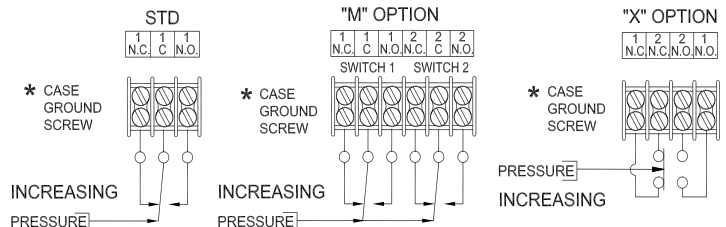
ELECTRICAL CHARACTERISTICS

RATING OF SWITCH ELEMENT

VOLTS	AMPERES		
	SPDT Res.	DPDT "M" Res.	Dbl Brk "X" Res.
125 AC - 50/60 Hz	15	5	15
250 AC - 50/60 Hz	15	5	15
480 AC - 50/60 Hz	15	-	15
28 DC	6	5	-
125 DC	.5	.5	1
250 DC	.2	-	.5
*125 AC - 50/60 Hz	1 max	1 max	-
*30 DC	1 max	1 max	-

*Gold Contacts -7008 Suffix

SCHEMATIC AND WIRING CODE



CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

DUAL-SNAP®

Models: 604D*, Page 2 of 2
Form 830G, 7.11.13



CustomControlSensors

Non-Hazardous Areas Adjustable Pressure Switch

604G* - Diaphragm Sensor



DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, midsize and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-pressure capability. (System and Proof)

- Various options for wetted materials and electrical ratings to meet a wide range of application requirements and media compatibility.

SHIPPING WEIGHT: APPROXIMATELY 39 OUNCES (1092 GRAMS)

SERIES:

604G*

ADJUSTABLE SET POINT RANGE:

0.3 to 5000 PSIG
0.02 to 345 bar
2.07 to 34474 kPa

OPERATING TEMPERATURE:

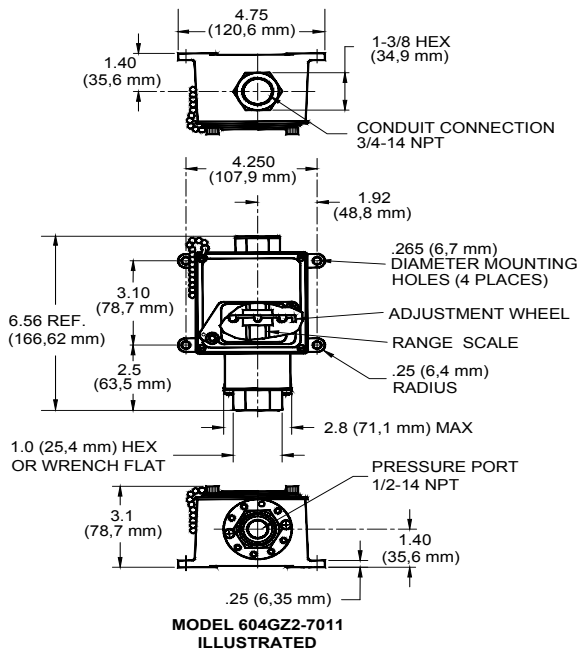
Temperature limits change with O-ring selection.

-40° to 186°F
-40° to 86°C

STANDARD FEATURES:

- CE Mark
- CRN
- CCC
- NACE MR0175 / ISO 15156
- NEMA: 4, 13 / IP65
- Weatherproof
- Internal Case Ground
- U.L. Listed (File No. E72038)

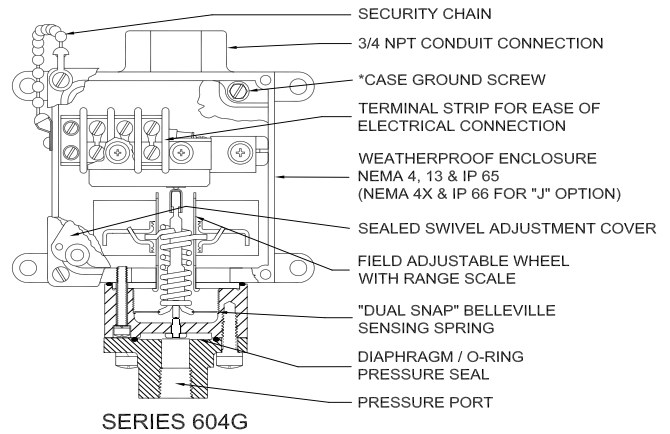
INSTALLATION DRAWING



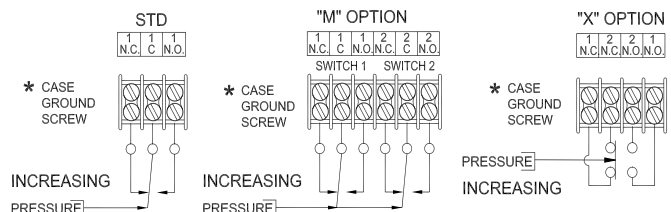
FIELD SETTING: Open access cover. Adjust wheel as illustrated. Clockwise to increase settings. Counterclockwise to decrease settings.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.

DESIGN PRINCIPLES



SCHEMATIC AND WIRING CODE



DUAL-SNAP®



Models: 604G*, Page 1 of 2
Form 830G, 7.12.13



CustomControlSensors

Non-Hazardous Areas Adjustable Pressure Switch

604G* - Diaphragm Sensor

OPERATING AND ORDERING DATA

SERIES 604G*	WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, POLYIMIDE DIAPHRAGM, BUNA N O-RING				
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING PRESSURE PSIG (BAR)	DECREASING PRESSURE PSIG (BAR)			
604G*1	1-16 (0.07-1.1)	3-15.3 (0.02-1.05)	.7 (0.05)	500 (34.5)	750 (51.7)
604G*M*1	1.2-18 (0.08-1.2)	4-17.2 (0.03-1.18)	.8 (0.05)		
604G*2	8-75 (0.6-5.2)	3-70 (0.2-4.8)	5 (0.34)	3000 (207)	5000 (345)
604G*11	20-150 (1.4-10.3)	8-138 (0.6-9.5)	12 (0.8)		
604G*3	50-375 (3.5-25.9)	22-347 (1.5-23.9)	28 (1.9)		
604G*5	330-1000 (22.8-68.9)	265-935 (18.3-64.5)	65 (4.5)		
SERIES 604GZ*	WETTED PARTS: 1/2"-14 NPT 316 STAINLESS STEEL PRESSURE PORT, POLYIMIDE DIAPHRAGM, VITON O-RING				
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING PRESSURE PSIG (BAR)	DECREASING PRESSURE PSIG (BAR)			
604GZ*1	1.2-16 (.08-1.1)	4-15.2 (0.03-1.04)	.8 (0.05)	500 (34.5)	750 (51.7)
604GZ*M*1	1.2-16 (0.08-1.1)	4-15.2 (0.03-1.04)	.8 (0.05)		
604GZ*2	8-75 (0.6-5.2)	3-70 (0.2-4.8)	5 (0.34)	3000 (207)	5000 (345)
604GZ*11	20-150 (1.4-10.3)	8-138 (0.6-9.5)	12 (0.8)		
604GZ*3	50-375 (3.5-25.9)	22-347 (1.5-23.9)	28 (1.9)		
604GZ*5	330-1000 (22.8-68.9)	265-935 (18.3-64.5)	65 (4.5)		
604GZ*7	950-2300 (65.5-159)	775-2125 (53.4-147)	175 (12.1)		
SERIES 604GZ*-7011	WETTED PARTS: 1/2"-14 NPT 316 STAINLESS STEEL PRESSURE PORT & DIAPHRAGM, VITON O-RING				
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING PRESSURE PSIG (BAR)	DECREASING PRESSURE PSIG (BAR)			
604GZ*1-7011	1.4-16 (.09-1.1)	4-15 (0.03-1.03)	1 (0.07)	500 (34.5)	750 (51.7)
604GZ*2-7011	10-75 (.7-5.2)	3-68 (0.2-4.7)	7 (0.5)		
604GZ*11-7011	20-150 (1.4-10.3)	6-136 (0.4-9.4)	14 (0.97)	3000 (207)	5000 (345)
604GZ*3-7011	50-375 (3.5-25.9)	16-341 (1.1-23.5)	34 (2.3)		
604GZ*5-7011	330-1000 (22.8-68.9)	250-920 (17.2-63.4)	80 (5.5)		
604GZ*7-7011	950-2300 (65.5-159)	750-2100 (51.7-145)	200 (13.8)		
604GZ*9-7011	2100-3400 (145-234)	1820-3120 (126-215)	280 (19.3)	5000 (345)	7500 (517)
604GZ*10-7011	3200-5000 (221-345)	2720-4520 (187.5-312)	480 (33.1)		

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 604GM1-7008)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

OPTIONS MODEL CODES

- A:** Viton® O-Ring (STD on GZ models)
- C:** 316 Stainless Steel Welded Capsule (Ranges 9 and 10 not available)
- F:** Ethylene Propylene O-Ring
- J:** CSA Approved (File No. LR22665) (SPDT ONLY)
- M:** DPDT Electrical
- X:** Double Break Switching Element

OPTIONAL STANDARD MODIFIED SUFFIXES

- 7008:** Gold Contacts
- 7023:** Manual Reset after Increasing
- 7032:** Viton Dacron Diaphragm and Viton® O-Ring (GZ models only)
- 7044:** Monel Port and Diaphragm (GC models only)
- 7045:** Hastelloy C-276 Port and Diaphragm (GC models only)
- 7044/7045:** Ranges 1, 9 and 10 not available
- 7063:** 1/4 inch BSP and M20 Electrical Connection

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

ELECTRICAL CHARACTERISTICS RATING OF SWITCH ELEMENT

VOLTS	AMPERES		
	SPDT	DPDT "M"	Dbl Brk "X"
	Res.	Res.	Res.
125 AC - 50/60 Hz	15	5	15
250 AC - 50/60 Hz	15	5	15
480 AC - 50/60 Hz	15	-	15
28 DC	6	5	-
125 DC	.5	.5	1
250 DC	.2	-	.5
*125 AC - 50/60 Hz	1 max	1 max	-
*30 DC	1 max	1 max	-

*Gold Contacts -7008 Suffix

DUAL-SNAP®

Models: 604G*, Page 2 of 2
Form 830G, 7.12.13



CustomControlSensors

Non-Hazardous Areas Adjustable Pressure Switch

604P* - Piston Sensor



DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, midsize and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-pressure capability. (System and Proof)

- Various options for wetted materials and electrical ratings to meet a wide range of application requirements and media compatibility.
- Well suited for high impulse hydraulic applications.

SHIPPING WEIGHT: APPROXIMATELY 35 OUNCES (992 GRAMS)

SERIES:

604P*

ADJUSTABLE SET POINT RANGE:

10 to 5000 PSIG
 0.69 to 345 bar
 68.9 to 34474 kPa

OPERATING TEMPERATURE:

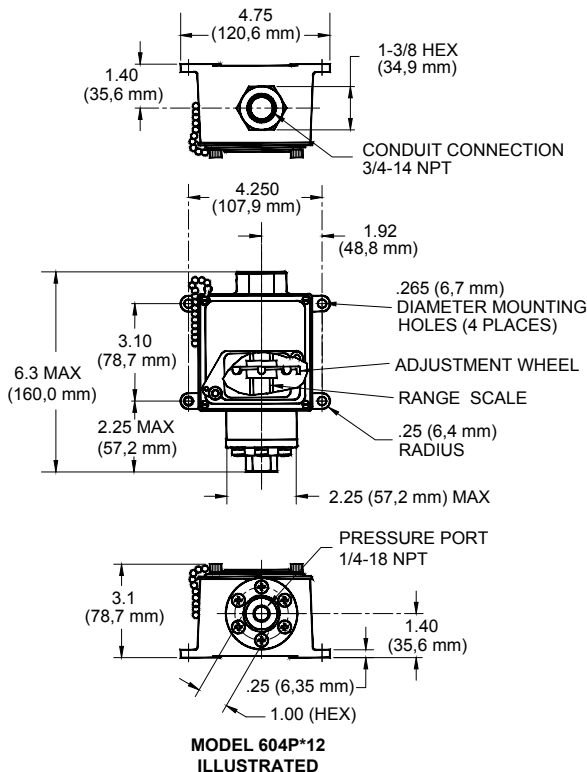
Temperature limits change with O-ring selection.

-40° to 186°F
 -40° to 86°C

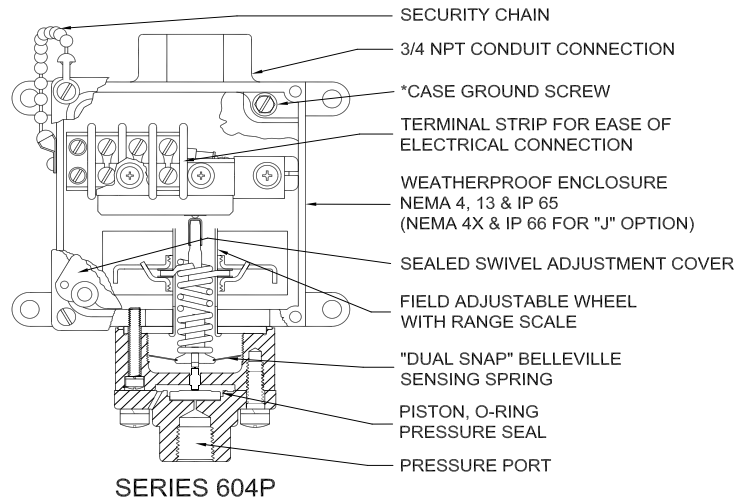
STANDARD FEATURES:

- CE Mark
- CRN
- CCC
- NACE MR0175 / ISO 15156
- NEMA: 4, 13 / IP65
- Weatherproof
- Internal Case Ground
- U.L. Listed (File No. E72038)

INSTALLATION DRAWING



DESIGN PRINCIPLES



FIELD SETTING: Open access cover. Adjust wheel as illustrated. Clockwise to increase settings. Counterclockwise to decrease settings.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.

DUAL-SNAP®



Models: 604P*, Page 1 of 2
Form 830G, 7.11.13



CustomControlSensors

Non-Hazardous Areas Adjustable Pressure Switch

604P* - Piston Sensor

OPERATING AND ORDERING DATA

SERIES 604P*	WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, 400 STAINLESS STEEL PISTON, BUNA N O-RING/TEFLON				
	ADJUSTABLE SET POINT RANGE		APPROXIMATE DEAD BAND PSI (BAR)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING PRESSURE PSIG (BAR)	DECREASING PRESSURE PSIG (BAR)			
604P*12	20-200 (1.4-13.8)	10-188 (0.68-12.9)	10-12 (0.68-0.83)	2000 (138)	3000 (207)
604P*15	170-1400 (11.7-96.5)	90-1230 (6.2-84.8)	80-170 (5.5-11.7)	3000 (207)	5000 (345)
604P*21	300-3000 (20.7-207)	180-2780 (12.4-192)	120-220 (8.3-15.2)	5000 (345)	7500 (517)
604P*31	2500-5000 (172-345)	2220-4520 (153-312)	280-480 (19.3-33.1)	7500 (517)	10,000 (690)

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 604PA31-7008)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

OPTIONAL STANDARD MODIFIED SUFFIXES

- 7008: Gold Contacts
- 7010: MS33649-4 Port
- 7023: Manual Reset after Increasing

OPTIONS MODEL CODES

- A: Viton® O-Ring
- F: Ethylene Propylene O-Ring
- J: CSA Approved (File No. LR22665) (SPDT ONLY)
- M: DPDT Electrical
- X: Double Break Switching Element

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

CERTIFICATIONS AND APPROVALS

Consult CCS website for complete certification and approval listing.

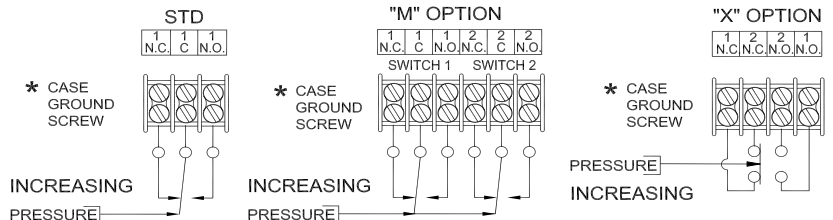
ELECTRICAL CHARACTERISTICS

RATING OF SWITCH ELEMENT

VOLTS	AMPERES		
	SPDT Res.	DPDT "M" Res.	Dbk Brk "X" Res.
125 AC - 50/60 Hz	15	5	15
250 AC - 50/60 Hz	15	5	15
480 AC - 50/60 Hz	15	-	15
28 DC	6	5	-
125 DC	.5	.5	1
250 DC	.2	-	.5
*125 AC - 50/60 Hz	1 max	1 max	-
*30 DC	1 max	1 max	-

*Gold Contacts -7008 Suffix

SCHEMATIC AND WIRING CODE



DUAL-SNAP®

Models: 604P*, Page 2 of 2
Form 830G, 7.11.13

Non-Hazardous Areas Adjustable Temperature Switch

604T* - Probe



DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, midsize and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-temperature capability.
- Various options for electrical ratings to meet a wide range of application requirements.

SHIPPING WEIGHT: APPROXIMATELY 65 OUNCES (1843 GRAMS)

SERIES:

604T*

ADJUSTABLE SET POINT RANGE: TEMPERATURE:

-39° to 420°F

-39° to 216°C

OPERATING TEMPERATURE:

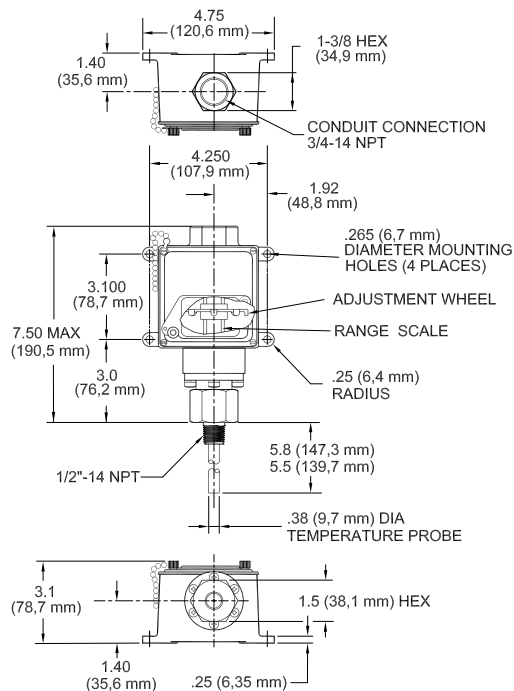
-40° to 186°F

-40° to 86°C

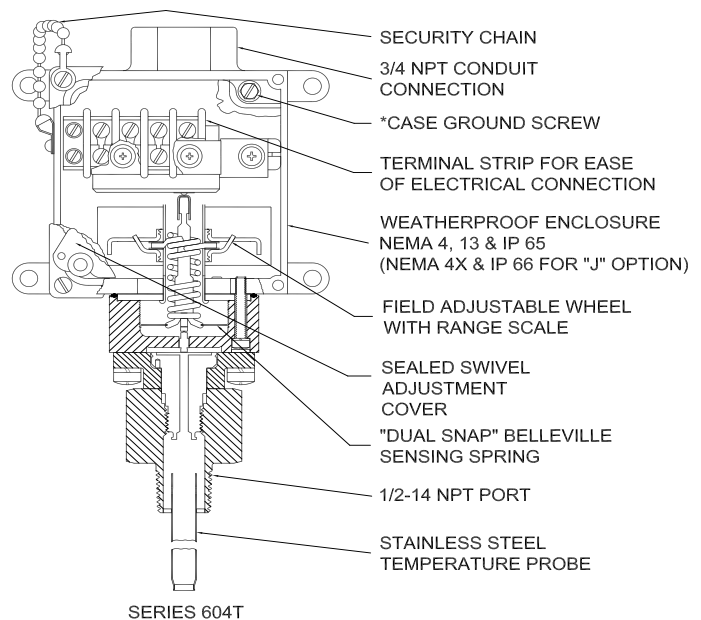
STANDARD FEATURES:

- CE Mark
- CCC
- NACE MR0175 / ISO 15156
- NEMA: 4, 13 / IP65
- Weatherproof
- Internal Case Ground
- U.L. Listed (File No. E72038)

INSTALLATION DRAWING



DESIGN PRINCIPLES



FIELD SETTING: Open access cover. Adjust wheel as illustrated. Clockwise to increase settings. Counterclockwise to decrease settings.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.





CustomControlSensors

Non-Hazardous Areas Adjustable Temperature Switch

604T* - Probe

OPERATING AND ORDERING DATA

SERIES 604T*	WETTED PARTS: 300 STAINLESS STEEL TEMPERATURE PROBE, NICKEL PLATED STEEL, BUNA N O-RING (RANGES 1-3) / SILICONE RUBBER O-RING (RANGES 4&5)				
	ADJUSTABLE SET POINT RANGE		APPROXIMATE DEAD BAND		MAXIMUM PROBE TEMPERATURE DEGREES F (DEGREES C)
	INCREASING TEMPERATURE DEGREES F (DEGREES C)	DECREASING TEMPERATURE DEGREES F (DEGREES C)	AT BOTTOM OF RANGE DEGREES F (DEGREES C)	AT TOP OF RANGE DEGREES F (DEGREES C)	
604T*1	-30° to +55° (-34° to +13°)	-39° to +52° (-39° to +11°)	9° (5°)	3° (2°)	+250° (121°)
604T*2	+35° to +140° (+2° to +60°)	+21° to +135° (-6° to +57°)	14° (4°)	5° (3°)	+300° (+149°)
604T*3	+90° to +210° (+32° to +99°)	+75° to +205° (+24° to +96°)	15° (8°)	5° (3°)	+300° (+149°)
604T*4	+175° to +310° (+80° to +154°)	+159° to +305° (+71° to +152°)	16° (9°)	5° (2°)	+500° (+260°)
604T*5	+275° to +420° (+135° to +216°)	+256° to +414° (+123° to +212°)	19° (12°)	6° (4°)	+500° (+260°)
EXTERNAL PROBE PRESSURE:					
System Pressure: 1250 PSIG (86 bar)			Proof Pressure: 1500 PSIG (103 bar)		

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 604TM5-7008)

TEMPERATURE CONVERSION

32 Deg F = 0 Deg C

OPTIONAL STANDARD MODIFIED SUFFIXES

7008: Gold Contacts

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

OPTIONS MODEL CODES

J: CSA Approved
(File No. LR22665)
(SPDT ONLY)

M: DPDT Electrical

X: Double Break Electrical Assembly

ELECTRICAL CHARACTERISTICS

RATING OF SWITCH ELEMENT

VOLTS	AMPERES		
	SPDT	DPDT "M"	Dbl Brk "X"
	Res.	Res.	Res.
125 AC - 50/60 Hz	15	5	15
250 AC - 50/60 Hz	15	5	15
480 AC - 50/60 Hz	15	-	15
28 DC	6	5	-
125 DC	.5	.5	1
250 DC	.2	-	.5
*125 AC - 50/60 Hz	1 max	1 max	-
*30 DC	1 max	1 max	-

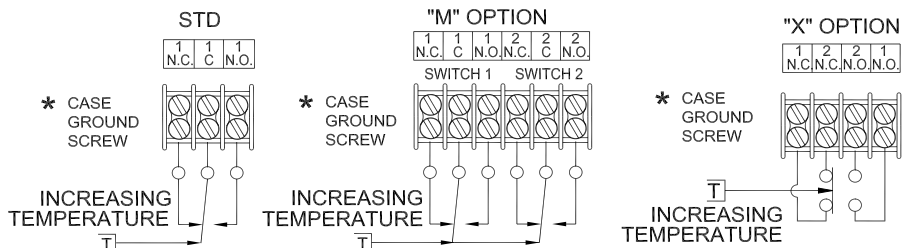
*Gold Contacts -7008 Suffix

THERMOWELLS

Order as separate line items. See accessory page for detailed information.

113-34-2: 1" NPT 316 SST 7.5" "U" Dim.
113-35-2: 3/4" NPT 316 SST 7.5" "U" Dim.

SCHEMATIC AND WIRING CODE



DUAL-SNAP®

Models: 604T*, Page 2 of 2
Form 830G, 9.10.13



CustomControlSensors

Non-Hazardous Areas Adjustable Temperature Switch

604TU* - Capillary

DESCRIPTION



Capillary not shown.

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, midsize and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-temperature capability.
- Various options for electrical ratings to meet a wide range of application requirements.

SHIPPING WEIGHT: APPROXIMATELY 65 OUNCES (1843 GRAMS)

SERIES:

604TU*

ADJUSTABLE SET POINT RANGE: TEMPERATURE:

-39° to 630°F
-39° to 332°C

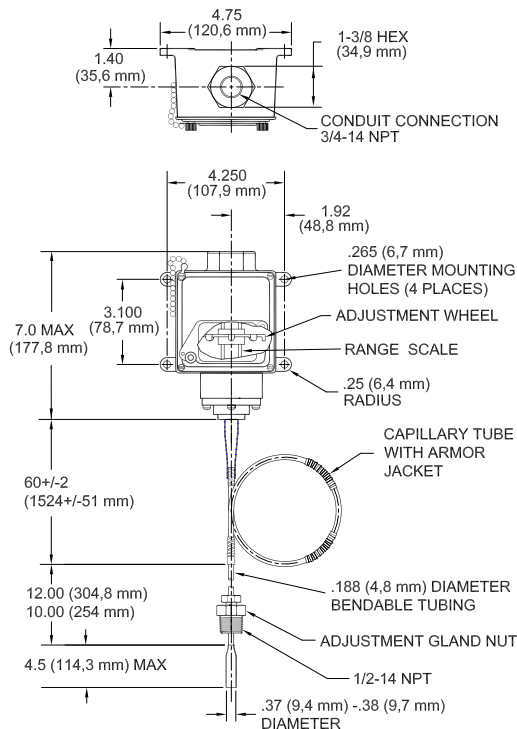
OPERATING TEMPERATURE:

-40° to 186°F
-40° to 86°C

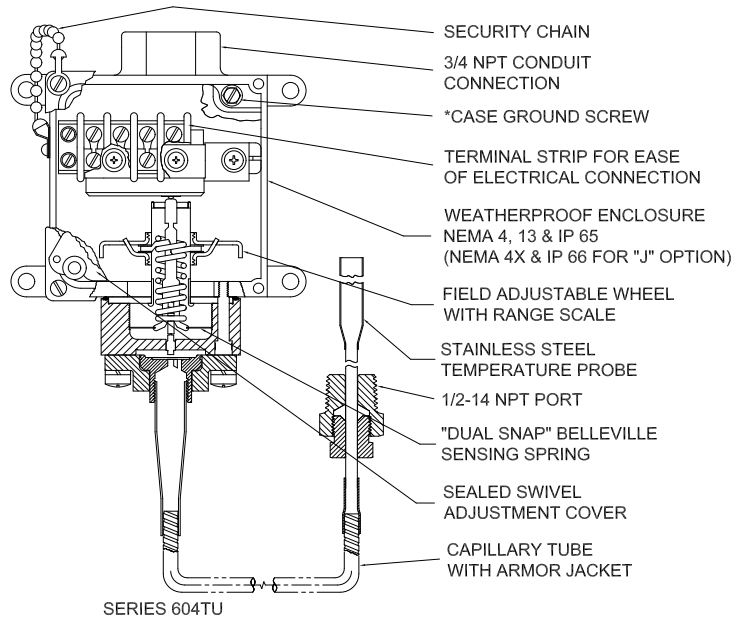
STANDARD FEATURES:

- CE Mark
- CCC
- NACE MR0175 / ISO 15156
- NEMA: 4, 13 / IP65
- Weatherproof
- Internal Case Ground
- U.L. Listed (File No. E72038)

INSTALLATION DRAWING



DESIGN PRINCIPLES



FIELD SETTING: Remove access cover. Adjust wheel as illustrated. Clockwise to increase settings. Counterclockwise to decrease settings.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.

DUAL-SNAP®



Models: 604TU*, Page 1 of 2
Form 830G, 9.10.13



CustomControlSensors

Non-Hazardous Areas Adjustable Temperature Switch

604TU* - Capillary

OPERATING AND ORDERING DATA

SERIES 604TU*	WETTED PARTS: 300 STAINLESS STEEL AND GRAPHITE TEMPERATURE PROBE WITH LUBRICATED GLASS FIBER CAPILLARY TUBE				
	ADJUSTABLE SET POINT RANGE		APPROXIMATE DEAD BAND		MAXIMUM PROBE TEMPERATURE DEGREES F (DEGREES C)
	INCREASING TEMPERATURE DEGREES F (DEGREES C)	DECREASING TEMPERATURE DEGREES F (DEGREES C)	AT BOTTOM OF RANGE DEGREES F (DEGREES C)	AT TOP OF RANGE DEGREES F (DEGREES C)	
604TU*1	-30° to +55° (-34° to +13°)	-39° to +52° (-39° to +11°)	9° (5°)	3° (2°)	+200° (121°)
604TU*2	+35° to +140° (+2° to +60°)	+21° to +135° (-6° to +57°)	14° (4°)	5° (3°)	+300° (+149°)
604TU*3	+90° to +210° (+32° to +99°)	+75° to +205° (+24° to +96°)	15° (8°)	5° (3°)	+300° (+149°)
604TU*4	+175° to +310° (+80° to +154°)	+159° to +305° (+71° to +152)	16° (9°)	5° (2°)	+500° (+260°)
604TU*5	+275° to +420° (+135° to +216°)	+256° to +414° (+123° to +212°)	19° (12°)	6° (4°)	+500° (+260°)
604TU*6	+380° to +525° (+193° to +274°)	+355° to +520° (+179° to +271°)	25° (4°)	5° (3°)	+600° (316°)
604TU*7	+480° to +630° (+249° to +332°)	+456° to +624° (+236° to +329°)	24° (13°)	6° (3°)	+650° (343°)

EXTERNAL PROBE PRESSURE:
System Pressure: 1250 PSIG (86 bar) Proof Pressure: 1500 PSIG (103 bar)

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 604TUM7-7001)

TEMPERATURE CONVERSION

32 Deg F = 0 Deg C

OPTIONAL STANDARD MODIFIED SUFFIXES

- 7001: 10' Capillary
- 7002: 15' Capillary
- 7003: 25' Capillary
- 7008: Gold Contacts

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

OPTIONS MODEL CODES

- J: CSA Approved (File No. LR22665) (SPDT ONLY)
- M: DPDT Electrical
- X: Double Break Electrical Assembly

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

ELECTRICAL CHARACTERISTICS

RATING OF SWITCH ELEMENT

VOLTS	AMPERES		
	SPDT Res.	DPDT "M" Res.	Dbl Brk "X" Res.
125 AC - 50/60 Hz	15	5	15
250 AC - 50/60 Hz	15	5	15
480 AC - 50/60 Hz	15	-	15
28 DC	6	5	-
125 DC	.5	.5	1
250 DC	.2	-	.5
*125 AC - 50/60 Hz	1 max	1 max	-
*30 DC	1 max	1 max	-

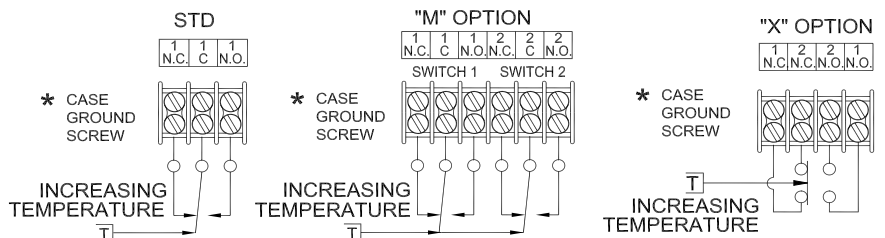
*Gold Contacts -7008 Suffix

THERMOWELLS

Order as separate line items. See accessory page for detailed information.

- 113-34-1: 1" NPT 316 SST 4.5" "U" Dim.
- 113-34-2: 1" NPT 316 SST 7.5" "U" Dim.
- 113-34-3: 1" NPT 316 SST 10.5" "U" Dim.
- 113-34-4: 1" NPT 316 SST 13.5" "U" Dim.
- 113-35-1: 3/4" NPT 316 SST 4.5" "U" Dim.
- 113-35-2: 3/4" NPT 316 SST 7.5" "U" Dim.
- 113-35-3: 3/4" NPT 316 SST 10.5" "U" Dim.
- 113-35-4: 3/4" NPT 316 SST 13.5" "U" Dim.

SCHEMATIC AND WIRING CODE



DUAL-SNAP®

Models: 604TU*, Page 2 of 2
Form 830G, 9.10.13



CustomControlSensors

Non-Hazardous Areas Adjustable Pressure Switch

604V* - 604GV* Diaphragm Sensor



DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
 - Engineering based on aerospace technology.
 - Rigid, midsize and internally adjustable for convenient field set point adjustment.
 - Repeatable and stable set points.
 - Vibration and shock resistant.
 - High cycle life.
 - High over-pressure capability. (System and Proof)
- Various options for wetted materials and electrical ratings to meet a wide range of application requirements and media compatibility.
 - Suitable for ultra low pressure and vacuum to pressure applications.

SHIPPING WEIGHT: APPROXIMATELY 40 OUNCES (1134 GRAMS)

SERIES:

- 604V*
- 604GV*

ADJUSTABLE SET POINT RANGE: VACUUM:

- 1 to 28.5" Hg
- 25 to 724 mm Hg

CROSSOVER:

- 20" Hg Vacuum to 12 PSIG
- 508 mm Hg to 0.83 bar

OPERATING TEMPERATURE:

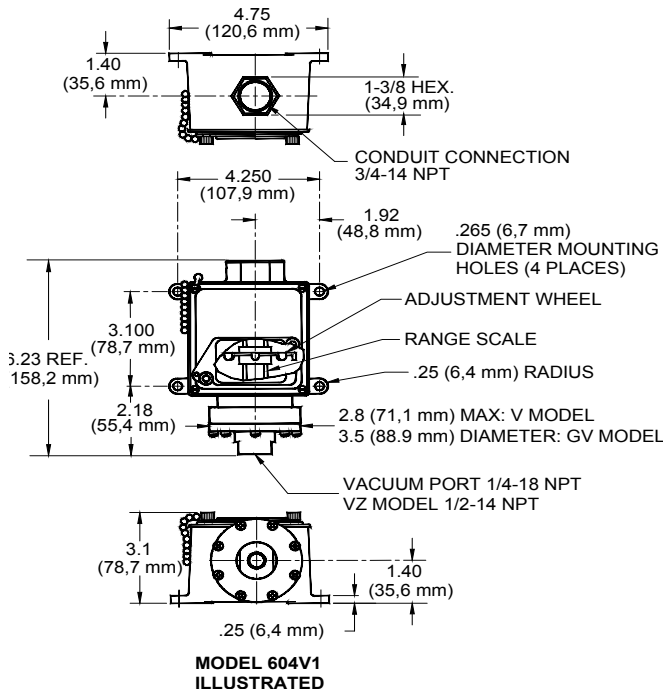
Temperature limits change with o-ring selection.

- 40° to 186°F
- 40° to 86°C

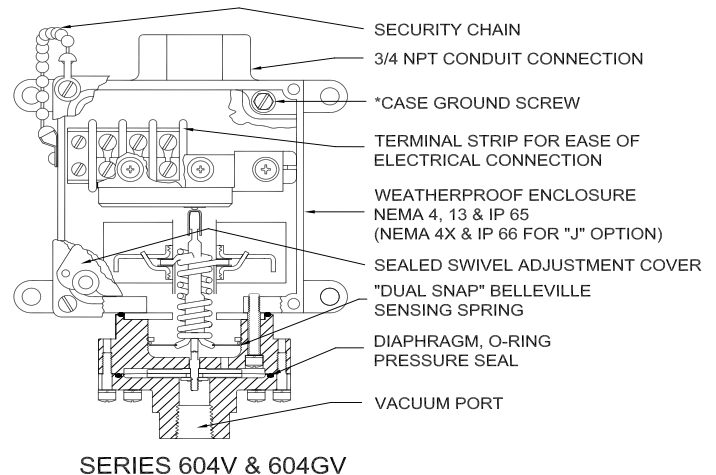
STANDARD FEATURES:

- CE Mark
- CRN
- CCC
- NEMA: 4, 13 / IP65
- Weatherproof
- Internal Case Ground
- U.L. Listed (File No. E72038)
- NACE MR0175 / ISO 15156

INSTALLATION DRAWING



DESIGN PRINCIPLES



FIELD SETTING: Open access cover. Adjust wheel as illustrated. Clockwise to increase settings. Counterclockwise to decrease settings.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.

DUAL-SNAP®



Models: 604V* & 604GV*, Page 1 of 2
Form 830G, 7.12.13



CustomControlSensors

Non-Hazardous Areas Adjustable Pressure Switch

604V* - 604GV* Diaphragm Sensor

OPERATING AND ORDERING DATA

SERIES 604V*	WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, POLYIMIDE DIAPHRAGM, BUNA N O-RING									
	ADJUSTABLE SET POINT RANGE				APPROX. DEAD BAND INCHES Hg (mm Hg)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)			
	INCREASING VACUUM INCHES Hg (mm Hg)		DECREASING VACUUM INCHES Hg (mm Hg)							
604V*1	3.5-28.5 (89-724)		1-26 (25-660)		2.5 (64)	150 (10.3)	250 (17.2)			
SERIES 604VZ*	WETTED PARTS: 1/2"-14 NPT 316 STAINLESS STEEL PRESSURE PORT, POLYIMIDE DIAPHRAGM, VITON O-RING									
	ADJUSTABLE SET POINT RANGE				APPROX. DEAD BAND INCHES Hg (mm Hg)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)			
	INCREASING VACUUM INCHES Hg (mm Hg)		DECREASING VACUUM INCHES Hg (mm Hg)							
604VZ*1	3.5-28.5 (89-724)		1-26 (25-660)		2.5 (64)	150 (10.3)	250 (17.2)			
SERIES 604GV* CROSSOVER (VACUUM TO GAGE)	WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, POLYIMIDE DIAPHRAGM, BUNA N O-RING									
	ADJUSTABLE SET POINT RANGE VACUUM INCHES Hg (mm Hg)		APPROX. DEAD BAND VACUUM INCHES Hg (mm Hg)		ADJUSTABLE SET POINT RANGE GAGE PRESSURE PSIG (BAR)		APPROX. DEAD BAND GAGE PRESSURE PSI (BAR)		SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING VACUUM	DECREASING VACUUM	AT TOP OF RANGE	AT BOTTOM OF RANGE	INCREASING PRESSURE	DECREASING PRESSURE	AT TOP OF RANGE	AT BOTTOM OF RANGE		
604GV*2	1.5-18 (38-457)	0.5-17 (3-493)	1.0 (25)	1.0 (25)	1.0-10 (0.068-0.68)	0.5-9.5 (0.034-0.65)	0.5 (0.034)	0.5 (0.034)	500 (34.5)	750 (52)
SERIES 604GVZ* CROSSOVER (VACUUM TO GAGE)	WETTED PARTS: 1/4"-18 NPT STAINLESS STEEL PRESSURE PORT, POLYIMIDE DIAPHRAGM, VITON O-RING									
	ADJUSTABLE SET POINT RANGE VACUUM INCHES Hg (mm Hg)		APPROX. DEAD BAND VACUUM INCHES Hg (mm Hg)		ADJUSTABLE SET POINT RANGE GAGE PRESSURE PSIG (BAR)		APPROX. DEAD BAND GAGE PRESSURE PSI (BAR)		SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING VACUUM	DECREASING VACUUM	AT TOP OF RANGE	AT BOTTOM OF RANGE	INCREASING PRESSURE	DECREASING PRESSURE	AT TOP OF RANGE	AT BOTTOM OF RANGE		
604GVZ*2	1.5-18 (38-457)	0.5-17 (3-493)	1.0 (25)	1.0 (25)	1.0-10 (0.068-0.68)	0.5-9.5 (0.034-0.65)	0.5 (0.034)	0.5 (0.034)	500 (34.5)	750 (52)

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 604GVZ2-7005)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

OPTIONS MODEL CODES

- A:** Viton® O-Ring (STD on VZ models)
- F:** Ethylene Propylene O-Ring
- J:** CSA Approved (File No. LR22665) (SPDT ONLY)
- M:** DPDT Electrical
- X:** Double Break Switching Element

OPTIONAL STANDARD MODIFIED SUFFIXES

- 7005:** Viton/Dacron Diaphragm, Viton O-Ring & Stainless Steel Port Cap (Z Models only)
- 7008:** Gold Contacts
- 7011:** Stainless Steel Diaphragm

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

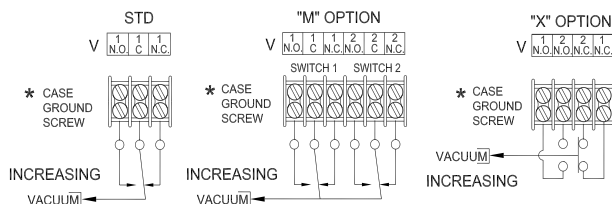
ELECTRICAL CHARACTERISTICS RATING OF SWITCH ELEMENT

VOLTS	AMPERES		
	SPDT Res.	DPDT "M" Res.	Dbl Brk "X" Res.
125 AC - 50/60 Hz	15	5	15
250 AC - 50/60 Hz	15	5	15
480 AC - 50/60 Hz	15	-	15
28 DC	6	5	-
125 DC	.5	.5	1
250 DC	.2	-	.5
*125 AC - 50/60 Hz	1 max	1 max	-
*30 DC	1 max	1 max	-

*Gold Contacts -7008 Suffix

SCHEMATIC AND WIRING CODE

Note: In gage mode, wiring diagram will be in reverse.



DUAL-SNAP®

Models: 604V* & 604GV*, Page 2 of 2
Form 830G, 7.12.13



CustomControlSensors

Non-Hazardous Areas Adjustable Pressure Switch

605D* - Diaphragm Sensor



DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, midsize and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-pressure capability. (System and Proof)

- High - low over high capability.
- Various options for wetted materials and electrical ratings to meet a wide range of application requirements and media compatibility.

SHIPPING WEIGHT: APPROXIMATELY 40 OUNCES (1134 GRAMS)

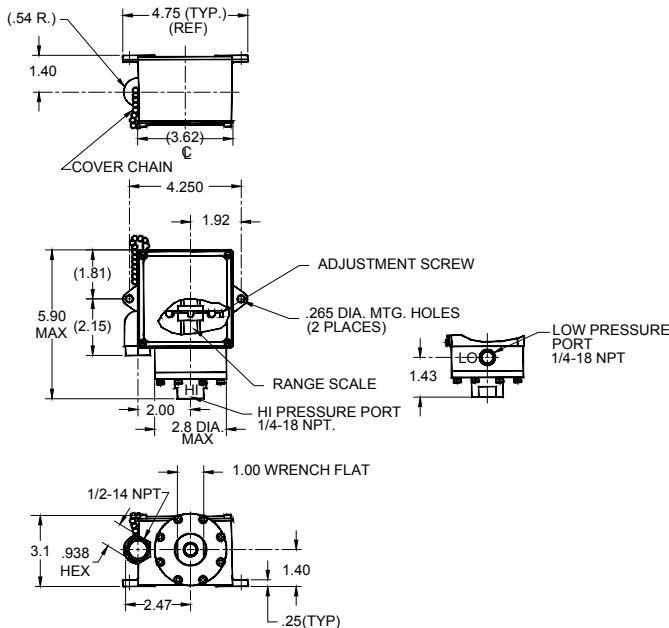
SERIES:
605D*

ADJUSTABLE SET POINT RANGE:
DIFFERENTIAL PRESSURE:
0.4 to 75 PSID
0.02 to 5.17 bar
2.07 to 517 kPa

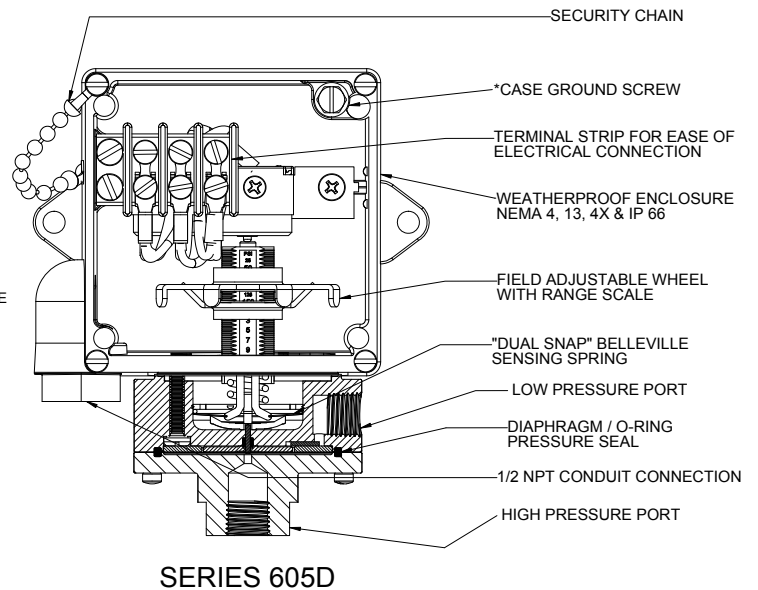
OPERATING TEMPERATURE:
Temperature limits change with o-ring selection.
-40° to 186°F
-40° to 86°C

- STANDARD FEATURES:**
- CE Mark
 - CRN
 - CCC
 - NEMA: 4, 13, 4X / IP66
 - Weatherproof
 - Internal Case Ground

INSTALLATION DRAWING



DESIGN PRINCIPLES



DUAL-SNAP®



Models: 605D*, Page 1 of 2
Form 830G, 6.11.13



CustomControlSensors

Non-Hazardous Areas Adjustable Pressure Switch

605D* - Diaphragm Sensor

OPERATING AND ORDERING DATA

SERIES 605D*	WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, POLYIMIDE DIAPHRAGM, VITON O-RING						
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	MAX SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)		
	INCREASING PRESSURE PSID (BAR)	DECREASING PRESSURE PSID (BAR)			BOTH PORTS SIMULT.	HIGH OVER LOW LOW OVER HIGH	
						HIGH	LOW
605D*1	1-18 (0.069-1.24)	.4-17.4 (0.02-1.19)	.6 (0.042)	400 (28)	750 (52)	750 (52)	400 (28)
605D*2	6-75 (0.42-5.17)	2-71 (0.14-4.9)	4 (0.28)				
605DM*1	1.4-18 (0.097-1.24)	0.5-17.1 (0.034-1.18)	.9 (0.062)				
605DM*2	6-75 (0.42-5.17)	2-71 (0.14-4.9)	4 (0.28)				

SERIES 605DZ*-7011	WETTED PARTS: 1/4"-18 NPT 300 STAINLESS STEEL PRESSURE PORT, STAINLESS STEEL DIAPHRAGM, VITON O-RING						
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	MAX SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)		
	INCREASING PRESSURE PSID (BAR)	DECREASING PRESSURE PSID (BAR)			BOTH PORTS SIMULT.	HIGH OVER LOW LOW OVER HIGH	
						HIGH	LOW
605DZ*1-7011	2-18 (0.138-1.24)	.6-16.6 (0.041-1.14)	1.4 (0.096)	400 (28)	750 (52)	400 (28)	100 (6.9)
605DZ*2-7011	9-75 (0.62-5.2)	3-69 (0.21-4.76)	6 (0.414)				

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 605DM2-7008)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

OPTIONS MODEL CODES

- C:** See 605DC catalog page
- F:** Ethylene Propylene O-Ring
- M:** DPDT Electrical
- X:** Double Break Switching Element

OPTIONAL STANDARD MODIFIED SUFFIXES

7008: Gold Contacts

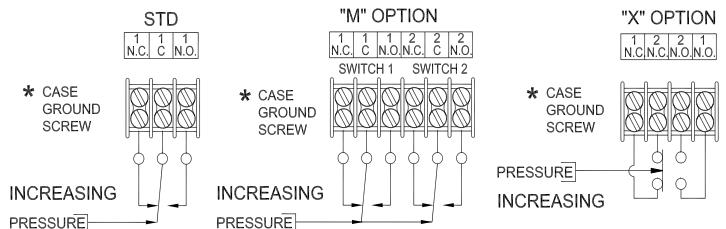
Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

ELECTRICAL CHARACTERISTICS RATING OF SWITCH ELEMENT

VOLTS	AMPERES		
	SPDT	DPDT "M"	Dbl Brk "X"
	Res.	Res.	Res.
125 AC - 50/60 Hz	15	5	15
250 AC - 50/60 Hz	15	5	15
480 AC - 50/60 Hz	15	-	15
28 DC	6	5	-
125 DC	.5	.5	1
250 DC	.2	-	.5
*125 AC - 50/60 Hz	1 max	1 max	-
*30 DC	1 max	1 max	-

*Gold Contacts -7008 Suffix

SCHEMATIC AND WIRING CODE



CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

DUAL-SNAP®

Models: 605D*, Page 2 of 2
Form 830G, 6.11.13



CustomControlSensors

Non-Hazardous Areas Adjustable Pressure Switch

605G* - Diaphragm Sensor



DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, midsize and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-pressure capability. (System and Proof)
- Bottom electrical conduit prevents the entry of ambient moisture and lessens mounting interference.
- Suitable for cable gland entry.
- Various options for wetted materials and electrical ratings to meet a wide range of application requirements and media compatibility.

SHIPPING WEIGHT: APPROXIMATELY 39 OUNCES (1092 GRAMS)

SERIES:

605G*

ADJUSTABLE SET POINT RANGE:

0.3 to 5000 PSIG
0.02 to 345 bar
2.07 to 34474 kPa

OPERATING TEMPERATURE:

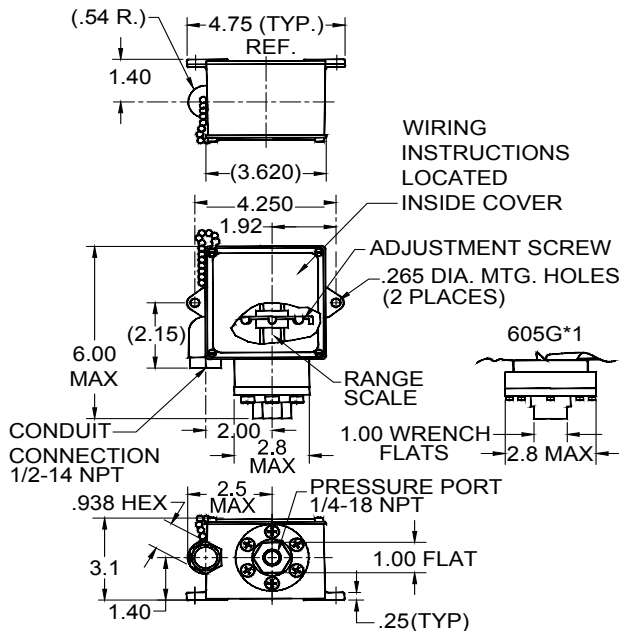
Temperature limits change with O-ring selection.

-40° to 186°F
-40° to 86°C

STANDARD FEATURES:

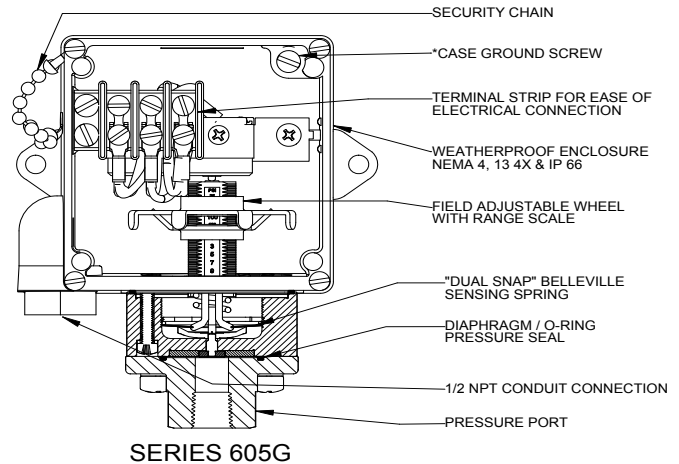
- CE Mark
- NACE MR0175 / ISO 15156
- NEMA: 4, 13, 4X / IP66
- Weatherproof
- Internal Case Ground
- CRN
- CCC

INSTALLATION DRAWING

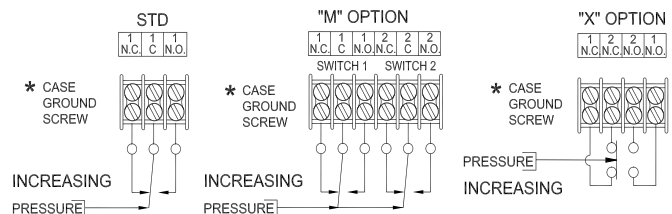


FIELD SETTING: Open access cover. Adjust wheel as illustrated. Clockwise to increase settings. Counterclockwise to decrease settings.

DESIGN PRINCIPLES



SCHEMATIC AND WIRING CODE



DUAL-SNAP®



Models: 605G*, Page 1 of 2
Form 830G, 6.17.13



CustomControlSensors

Non-Hazardous Areas Adjustable Pressure Switch

605G* - Diaphragm Sensor

OPERATING AND ORDERING DATA

SERIES 605G*	WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, POLYIMIDE DIAPHRAGM, BUNA N O-RING				
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING PRESSURE PSIG (BAR)	DECREASING PRESSURE PSIG (BAR)			
605G*1	1-16 (0.07-1.1)	.3-15.3 (0.02-1.05)	.7 (0.05)	500 (34.5)	750 (51.7)
605G*M*1	1.2-18 (0.08-1.24)	.4-17.2 (0.02-1.18)	.8 (0.05)		
605G*2	8-75 (0.6-5.2)	3-70 (0.2-4.8)	5 (0.34)	3000 (207)	5000 (345)
605G*11	20-150 (1.4-10.3)	8-138 (0.6-9.5)	12 (0.8)		
605G*3	50-375 (3.5-25.9)	22-347 (1.5-23.9)	28 (1.9)		
605G*5	330-1000 (22.8-68.9)	265-935 (18.3-64.5)	65 (4.5)		
SERIES 605GZ*	WETTED PARTS: 1/2"-14 NPT 316 STAINLESS STEEL PRESSURE PORT, POLYIMIDE DIAPHRAGM, VITON O-RING				
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING PRESSURE PSIG (BAR)	DECREASING PRESSURE PSIG (BAR)			
605GZ*1	1.2-16 (.08-1.1)	.4-15.2 (0.03-1.04)	.8 (0.06)	500 (34.5)	750 (51.7)
605GZ*M*1	1.2-16 (.08-1.1)	.4-15.2 (0.03-1.04)	.8 (0.06)		
605GZ*2	8-75 (0.6-5.2)	3-70 (0.2-4.8)	5 (0.34)	3000 (207)	5000 (345)
605GZ*11	20-150 (1.4-10.3)	8-138 (0.6-9.5)	12 (0.8)		
605GZ*3	50-375 (3.5-25.9)	22-347 (1.5-23.9)	28 (1.9)		
605GZ*5	330-1000 (22.8-68.9)	265-935 (18.3-64.5)	65 (4.5)		
605GZ*7	950-2300 (65.5-159)	775-2125 (53.4-147)	175 (12.1)		
SERIES 605GZ*-7011	WETTED PARTS: 1/2"-14 NPT 316 STAINLESS STEEL PRESSURE PORT & DIAPHRAGM, VITON O-RING				
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING PRESSURE PSIG (BAR)	DECREASING PRESSURE PSIG (BAR)			
605GZ*1-7011	1.4-16 (.09-1.1)	.4-15 (0.03-1.03)	1 (0.07)	500 (34.5)	750 (51.7)
605GZ*2-7011	10-75 (.7-5.2)	3-68 (0.2-4.7)	7 (0.5)		
605GZ*11-7011	20-150 (1.4-10.3)	6-136 (0.4-9.4)	14 (0.97)	3000 (207)	5000 (345)
605GZ*3-7011	50-375 (3.5-25.9)	16-341 (1.1-23.5)	34 (2.3)		
605GZ*5-7011	330-1000 (22.8-68.9)	250-920 (17.2-63.4)	80 (5.5)		
605GZ*7-7011	950-2300 (65.5-159)	750-2100 (51.7-145)	200 (13.8)		
605GZ*9-7011	2100-3400 (145-234)	1820-3120 (126-215)	280 (19.3)	5000 (345)	7500 (517)
605GZ*10-7011	3200-5000 (221-345)	2720-4520 (187.5-312)	480 (33.1)		

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 605GZM1-7032)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

OPTIONS MODEL CODES

- A:** Viton® O-Ring (STD on GZ models)
- C:** 316 Stainless Steel Welded Capsule (Ranges 9 and 10 not available)
- F:** Ethylene Propylene O-Ring
- M:** DPDT Electrical
- X:** Double Break Switching Element

OPTIONAL STANDARD MODIFIED SUFFIXES

- 7008:** Gold Contacts
- 7023:** Manual Reset after Increasing
- 7032:** Viton Dacron Diaphragm and Viton® O-Ring (GZ models only)
- 7044:** Monel Port and Diaphragm (GC models only)
- 7045:** Hastelloy C-276 Port and Diaphragm (GC models only)
- 7044/7045:** Ranges 1, 9 and 10 not available

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

ELECTRICAL CHARACTERISTICS

RATING OF SWITCH ELEMENT

VOLTS	AMPERES		
	SPDT Res.	DPDT "M" Res.	Dbl Brk "X" Res.
125 AC - 50/60 Hz	15	5	15
250 AC - 50/60 Hz	15	5	15
480 AC - 50/60 Hz	15	-	15
28 DC	6	5	-
125 DC	.5	.5	1
250 DC	.2	-	.5
*125 AC - 50/60 Hz	1 max	1 max	-
*30 DC	1 max	1 max	-

*Gold Contacts -7008 Suffix

DUAL-SNAP®

Models: 605G*, Page 2 of 2
Form 830G, 6.17.13



CustomControlSensors

Non-Hazardous Areas Adjustable Pressure Switch

605P* - Piston Sensor

SERIES:
605P*

ADJUSTABLE SET POINT RANGE:
10 to 5000 PSIG
0.69 to 345 bar
68.9 to 34474 kPa

OPERATING TEMPERATURE:
Temperature limits change with O-ring selection.
-40° to 186°F
-40° to 86°C

STANDARD FEATURES:

- CE Mark
- CRN
- CCC
- NACE MR0175 / ISO 15156
- NEMA: 4, 13, 4X / IP66
- Weatherproof
- Internal Case Ground

DESCRIPTION

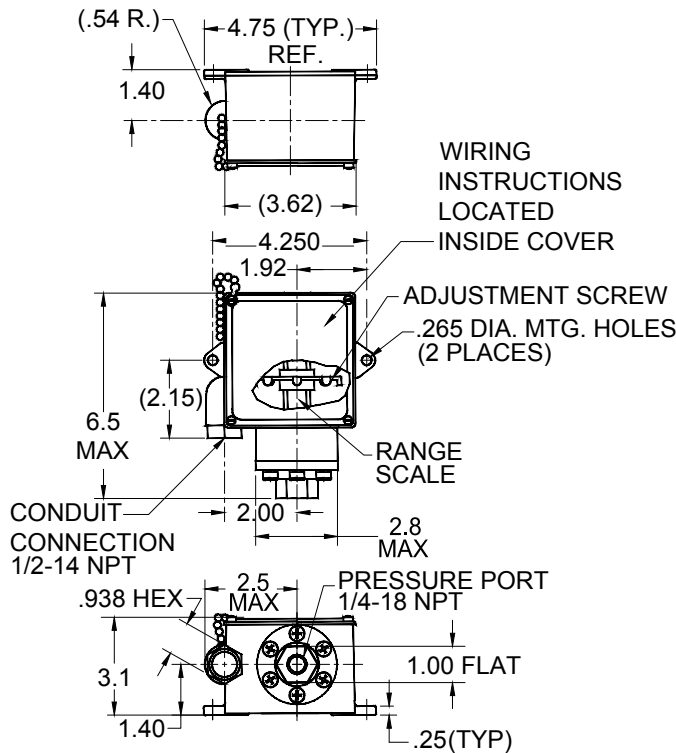
- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, midsize and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-pressure capability. (System and Proof)



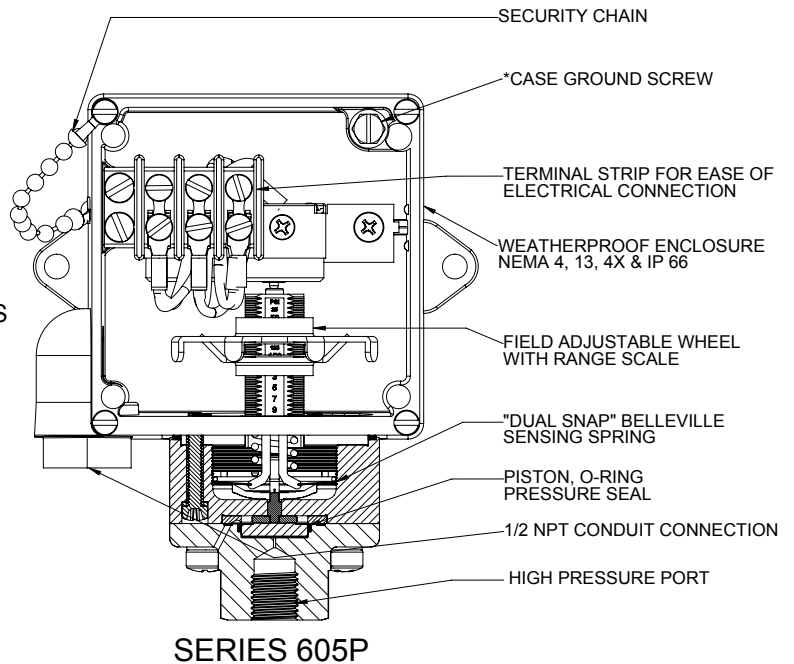
- Various options for wetted materials and electrical ratings to meet a wide range of application requirements and media compatibility.
- Well suited for high impulse hydraulic applications.

SHIPPING WEIGHT: APPROXIMATELY 35 OUNCES (992 GRAMS)

INSTALLATION DRAWING



DESIGN PRINCIPLES



DUAL-SNAP®



Models: 605P*, Page 1 of 2
Form 830G, 6.17.13



CustomControlSensors

Non-Hazardous Areas Adjustable Pressure Switch

605P* - Piston Sensor

OPERATING AND ORDERING DATA

SERIES 605P*	WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, 400 STAINLESS STEEL PISTON, BUNA N O-RING/TEFLON				
	ADJUSTABLE SET POINT RANGE		APPROXIMATE DEAD BAND PSI (BAR)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING PRESSURE PSIG (BAR)	DECREASING PRESSURE PSIG (BAR)			
605P*12	20-200 (1.4-13.8)	10-188 (0.68-12.9)	10-12 (0.68-0.83)	2000 (138)	3000 (207)
605P*15	170-1400 (11.7-96.5)	90-1230 (6.2-84.8)	80-170 (5.5-11.7)	3000 (207)	5000 (345)
605P*21	300-3000 (20.7-207)	180-2780 (12.4-192)	120-220 (8.3-15.2)	5000 (345)	7500 (517)
605P*31	2500-5000 (172-345)	2220-4520 (153-312)	280-480 (19.3-33.1)	7500 (517)	10,000 (690)

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 605PA31-7008)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

OPTIONAL STANDARD MODIFIED SUFFIXES

- 7008: Gold Contacts
- 7010: MS33649-4 Port
- 7023: Manual Reset after Increasing

OPTIONS MODEL CODES

- A: Viton® O-Ring
- F: Ethylene Propylene O-Ring
- M: DPDT Electrical
- X: Double Break Switching Element

CERTIFICATIONS AND APPROVALS

Consult CCS website for complete certification and approval listing.

ELECTRICAL CHARACTERISTICS

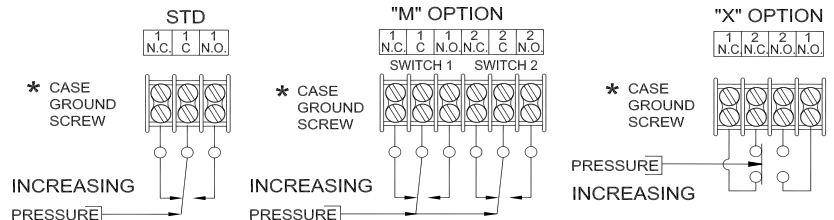
RATING OF SWITCH ELEMENT

VOLTS	AMPERES		
	SPDT	DPDT "M"	DbI Brk "X"
	Res.	Res.	Res.
125 AC - 50/60 Hz	15	5	15
250 AC - 50/60 Hz	15	5	15
480 AC - 50/60 Hz	15	-	15
28 DC	6	5	-
125 DC	.5	.5	1
250 DC	.2	-	.5
*125 AC - 50/60 Hz	1 max	1 max	-
*30 DC	1 max	1 max	-

*Gold Contacts -7008 Suffix

SCHEMATIC AND WIRING CODE

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.



DUAL-SNAP®

Models: 605P*, Page 2 of 2
Form 830G, 6.17.13



CustomControlSensors

Non-Hazardous Areas Adjustable Temperature Switch

605T* - Probe



DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, midsize and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-temperature capability.
- Various options for electrical ratings to meet a wide range of application requirements.

SHIPPING WEIGHT: APPROXIMATELY 65 OUNCES (1843 GRAMS)

SERIES:

605T*

ADJUSTABLE SET POINT RANGE: TEMPERATURE:

-39° to 420°F

-39° to 216°C

OPERATING TEMPERATURE:

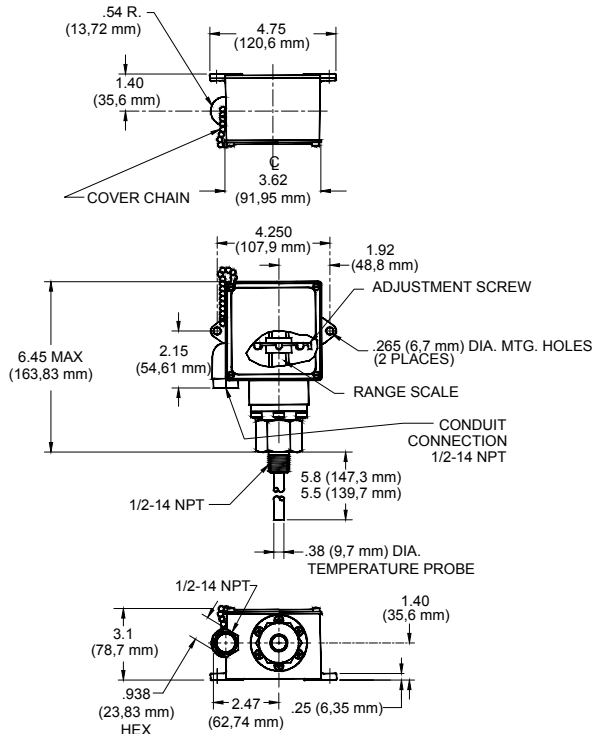
-40° to 186°F

-40° to 86°C

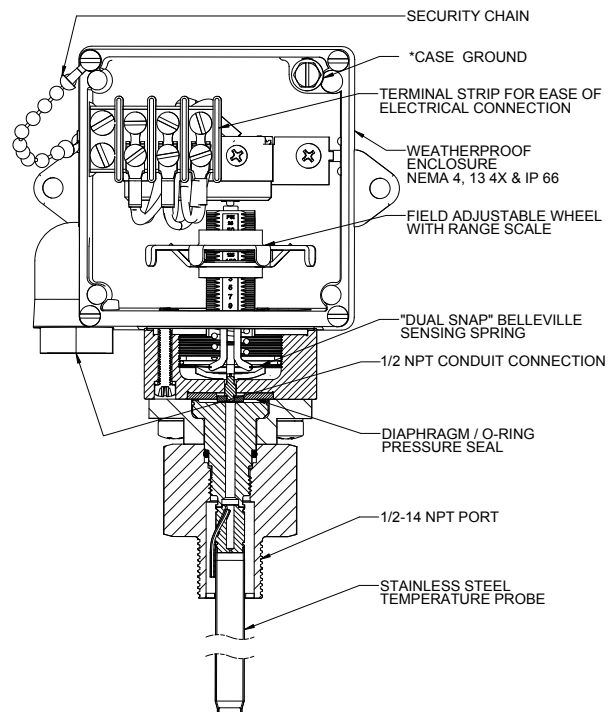
STANDARD FEATURES:

- CE Mark
- CCC
- NACE MR0175 / ISO 15156
- NEMA: 4, 13, 4X / IP66
- Weatherproof
- Internal Case Ground

INSTALLATION DRAWING



DESIGN PRINCIPLES



DUAL-SNAP®



Models: 605T*, Page 1 of 2
Form 830G 9.10.13



CustomControlSensors

Non-Hazardous Areas Adjustable Temperature Switch

605T* - Probe

OPERATING AND ORDERING DATA

SERIES 605T*	WETTED PARTS: 300 STAINLESS STEEL TEMPERATURE PROBE, NICKEL PLATED STEEL, BUNA N O-RING (RANGES 1-3) / SILICONE RUBBER O-RING (RANGES 4&5)				
	ADJUSTABLE SET POINT RANGE		APPROXIMATE DEAD BAND		MAXIMUM PROBE TEMPERATURE DEGREES F (DEGREES C)
	INCREASING TEMPERATURE DEGREES F (DEGREES C)	DECREASING TEMPERATURE DEGREES F (DEGREES C)	AT BOTTOM OF RANGE DEGREES F (DEGREES C)	AT TOP OF RANGE DEGREES F (DEGREES C)	
605T*1	-30° to +55° (-34° to +13°)	-39° to +52° (-39° to +11°)	9° (5°)	3° (2°)	+250° (121°)
605T*2	+35° to +140° (+2° to +60°)	+21° to +135° (-6° to +57°)	14° (4°)	5° (3°)	+300° (+149°)
605T*3	+90° to +210° (+32° to +99°)	+75° to +205° (+24° to +96°)	15° (8°)	5° (3°)	+300° (+149°)
605T*4	+175° to +310° (+79° to +154°)	+159° to +305° (+71° to +152°)	16° (8°)	5° (2°)	+500° (+260°)
605T*5	+275° to +420° (+135° to +216°)	+256° to +414° (+124° to +212°)	19° (11°)	6° (4°)	+500° (+260°)
EXTERNAL PROBE PRESSURE:					
System Pressure: 1250 PSIG (86 bar)			Proof Pressure: 1500 PSIG (103 bar)		

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 605TM5-7008)

TEMPERATURE CONVERSION

32 Deg F = 0 Deg C

OPTIONAL STANDARD MODIFIED SUFFIXES

7008: Gold Contacts

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

OPTIONS MODEL CODES

M: DPDT Electrical

X: Double Break Electrical Assembly

ELECTRICAL CHARACTERISTICS

RATING OF SWITCH ELEMENT

VOLTS	AMPERES		
	SPDT	DPDT "M"	Dbl Brk "X"
	Res.	Res.	Res.
125 AC - 50/60 Hz	15	5	15
250 AC - 50/60 Hz	15	5	15
480 AC - 50/60 Hz	15	-	15
28 DC	6	5	-
125 DC	.5	.5	1
250 DC	.2	-	.5
*125 AC - 50/60 Hz	1 max	1 max	-
*30 DC	1 max	1 max	-

*Gold Contacts -7008 Suffix

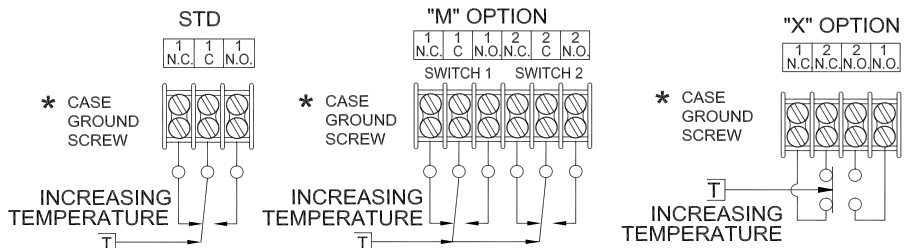
THERMOWELLS

Order as separate line items. See accessory page for detailed information.

113-34-2: 1" NPT 316 SST 7.5" "U" Dim.

113-35-2: 3/4" NPT 316 SST 7.5" "U" Dim.

SCHEMATIC AND WIRING CODE



DUAL-SNAP®

Models: 605T*, Page 2 of 2
Form 830G, 9.10.13



CustomControlSensors

Non-Hazardous Areas Adjustable Temperature Switch

605TU* - Capillary

DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, midsize and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-temperature capability.
- Various options for electrical ratings to meet a wide range of application requirements.

SHIPPING WEIGHT: APPROXIMATELY 65 OUNCES (1843 GRAMS)

SERIES:

605TU*

ADJUSTABLE SET POINT RANGE: TEMPERATURE:

-39° to 630°F
-39° to 332°C

OPERATING TEMPERATURE:

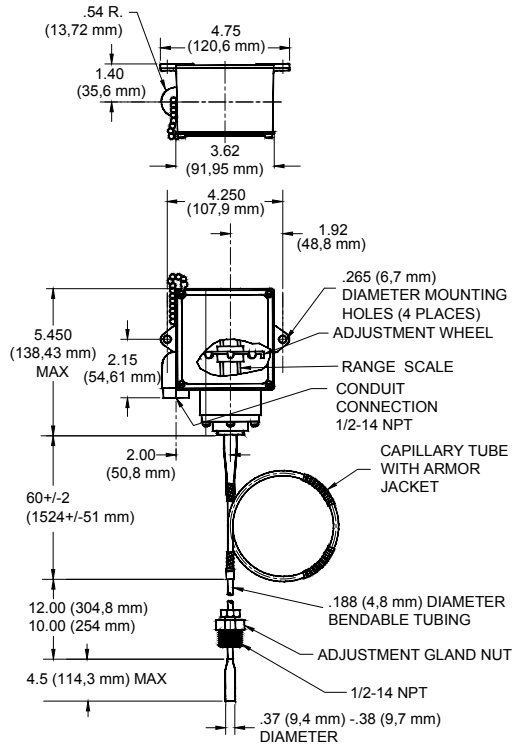
-40° to 186°F
-40° to 86°C

STANDARD FEATURES:

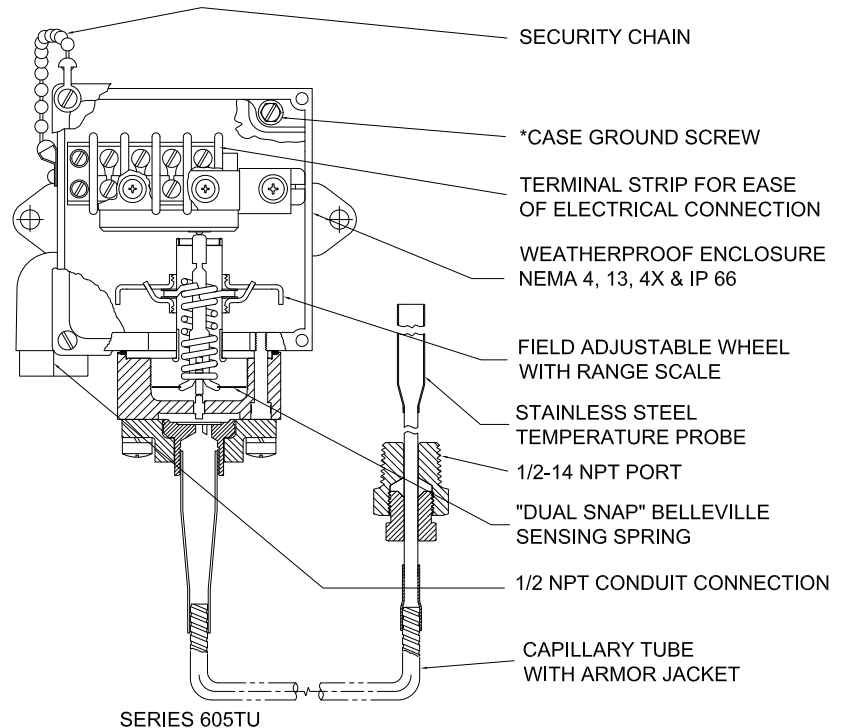
- CE Mark
- CCC
- NACE MR0175 / ISO 15156
- NEMA: 4, 13, 4X / IP66
- Weatherproof
- Internal Case Ground



INSTALLATION DRAWING



DESIGN PRINCIPLES



DUAL-SNAP®



Models: 605TU*, Page 1 of 2
Form 830G, 6.25.13



CustomControlSensors

Non-Hazardous Areas Adjustable Temperature Switch

605TU* - Capillary

OPERATING AND ORDERING DATA

SERIES 605TU*	WETTED PARTS: 300 STAINLESS STEEL AND GRAPHITE TEMPERATURE PROBE WITH LUBRICATED GLASS FIBER CAPILLARY TUBE				
	ADJUSTABLE SET POINT RANGE		APPROXIMATE DEAD BAND		MAXIMUM PROBE TEMPERATURE DEGREES F (DEGREES C)
	INCREASING TEMPERATURE DEGREES F (DEGREES C)	DECREASING TEMPERATURE DEGREES F (DEGREES C)	AT BOTTOM OF RANGE DEGREES F (DEGREES C)	AT TOP OF RANGE DEGREES F (DEGREES C)	
605TU*1	-30° to +55° (-34° to +13°)	-39° to +52° (-39° to +11°)	9° (5°)	3° (2°)	+200° (121°)
605TU*2	+35° to +140° (+2° to +60°)	+21° to +135° (-6° to +57°)	14° (4°)	5° (3°)	+300° (+149°)
605TU*3	+90° to +210° (+32° to +99°)	+75° to +205° (+24° to +96°)	15° (8°)	5° (3°)	+300° (+149°)
605TU*4	+175° to +310° (+80° to +154°)	+159° to +305° (+71° to +151°)	16° (9°)	5° (3°)	+500° (+260°)
605TU*5	+275° to +420° (+135° to +216°)	+256° to +414° (+124° to +212°)	19° (11°)	6° (4°)	+500° (+260°)
605TU*6	+380° to +525° (+193° to +274°)	+355° to +520° (+179° to +271°)	25° (14°)	5° (3°)	+600° (316°)
605TU*7	+480° to +630° (+249° to +332°)	+455° to +624° (+235° to +329°)	24° (14°)	6° (3°)	+650° (343°)

EXTERNAL PROBE PRESSURE:
System Pressure: 1250 PSIG (86 bar) Proof Pressure: 1500 PSIG (103 bar)

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 605TUM7-7001)

TEMPERATURE CONVERSION

32 Deg F = 0 Deg C

OPTIONAL STANDARD MODIFIED SUFFIXES

- 7001: 10' Capillary
- 7002: 15' Capillary
- 7003: 25' Capillary
- 7008: Gold Contacts

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

OPTIONS MODEL CODES

- M: DPDT Electrical
- X: Double Break Electrical Assembly

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

ELECTRICAL CHARACTERISTICS

RATING OF SWITCH ELEMENT

VOLTS	AMPERES		
	SPDT	DPDT "M"	Dbl Brk "X"
	Res.	Res.	Res.
125 AC - 50/60 Hz	15	5	15
250 AC - 50/60 Hz	15	5	15
480 AC - 50/60 Hz	15	-	15
28 DC	6	5	-
125 DC	.5	.5	1
250 DC	.2	-	.5
*125 AC - 50/60 Hz	1 max	1 max	-
*30 DC	1 max	1 max	-

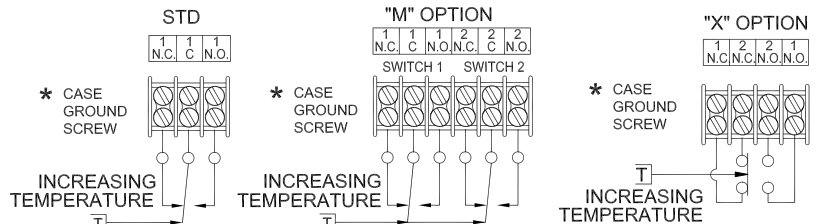
*Gold Contacts -7008 Suffix

THERMOWELLS

Order as separate line items. See accessory page for detailed information.

- 113-34-1: 1" NPT 316 SST 4.5" "U" Dim.
- 113-34-2: 1" NPT 316 SST 7.5" "U" Dim.
- 113-34-3: 1" NPT 316 SST 10.5" "U" Dim.
- 113-34-4: 1" NPT 316 SST 13.5" "U" Dim.
- 113-35-1: 3/4" NPT 316 SST 4.5" "U" Dim.
- 113-35-2: 3/4" NPT 316 SST 7.5" "U" Dim.
- 113-35-3: 3/4" NPT 316 SST 10.5" "U" Dim.
- 113-35-4: 3/4" NPT 316 SST 13.5" "U" Dim.

SCHEMATIC AND WIRING CODE



DUAL-SNAP®

Models: 605TU*, Page 2 of 2
Form 830G, 6.25.13



CustomControlSensors

Non-Hazardous Areas Adjustable Pressure Switch

605V* Diaphragm Sensor



DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, midsize and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-pressure capability. (System and Proof)
- Various options for wetted materials and electrical ratings to meet a wide range of application requirements and media compatibility.
- Suitable for ultra low pressure and vacuum to pressure applications.

SHIPPING WEIGHT: APPROXIMATELY 40 OUNCES (1134 GRAMS)

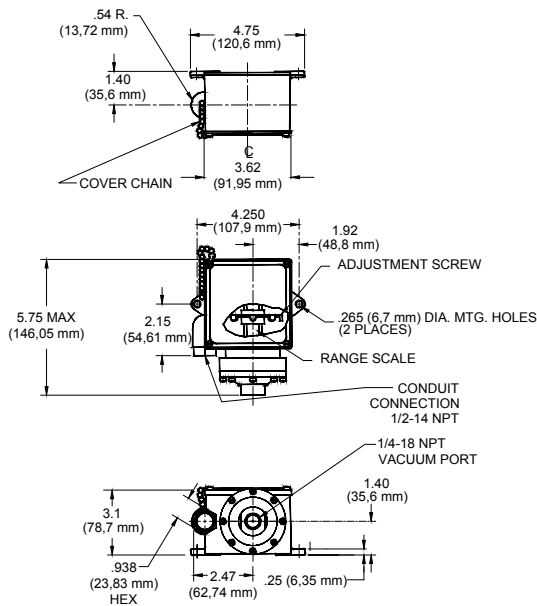
SERIES:
605V*

ADJUSTABLE SET POINT RANGE:
VACUUM:
1 to 28.5" Hg
25 to 724 mm Hg

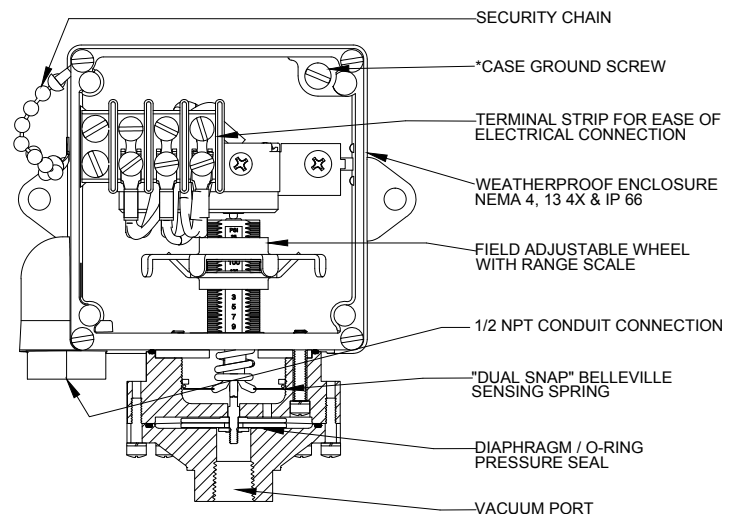
OPERATING TEMPERATURE:
Temperature limits change with o-ring selection.
-40° to 186°F
-40° to 86°C

- STANDARD FEATURES:**
- CE Mark
 - CRN
 - NEMA: 4, 13 / IP65
 - Weatherproof
 - Internal Case Ground
 - U.L. Listed (File No. E72038)
 - NACE MR0175 / ISO 15156

INSTALLATION DRAWING



DESIGN PRINCIPLES



SERIES 605V

FIELD SETTING: Open access cover. Adjust wheel as illustrated. Clockwise to increase settings. Counterclockwise to decrease settings.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.

DUAL-SNAP®



Models: 605V*, Page 1 of 2
Form 830G, 6.13.14



CustomControlSensors

Non-Hazardous Areas Adjustable Pressure Switch

605V* Diaphragm Sensor

OPERATING AND ORDERING DATA

SERIES 605V*	WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, POLYIMIDE DIAPHRAGM, BUNA N O-RING				
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND INCHES Hg (mm Hg)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING VACUUM INCHES Hg (mm Hg)	DECREASING VACUUM INCHES Hg (mm Hg)			
605V*1	3.5-28.5 (89-724)	1-26 (25-660)	2.5 (64)	150 (10.3)	250 (17.2)
SERIES 605VZ*	WETTED PARTS: 1/2"-14 NPT 316 STAINLESS STEEL PRESSURE PORT, POLYIMIDE DIAPHRAGM, VITON O-RING				
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND INCHES Hg (mm Hg)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING VACUUM INCHES Hg (mm Hg)	DECREASING VACUUM INCHES Hg (mm Hg)			
605VZ*1	3.5-28.5 (89-724)	1-26 (25-660)	2.5 (64)	150 (10.3)	250 (17.2)

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 604GVZ2-7005)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

OPTIONAL STANDARD MODIFIED SUFFIXES

- 7005:** Viton/Dacron Diaphragm, Viton O-Ring & Stainless Steel Port Cap (Z Models only)
- 7008:** Gold Contacts
- 7011:** Stainless Steel Diaphragm

OPTIONS MODEL CODES

- A:** Viton® O-Ring (STD on VZ models)
- F:** Ethylene Propylene O-Ring
- J:** CSA Approved (File No. LR22665) (SPDT ONLY)
- M:** DPDT Electrical
- X:** Double Break Switching Element

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

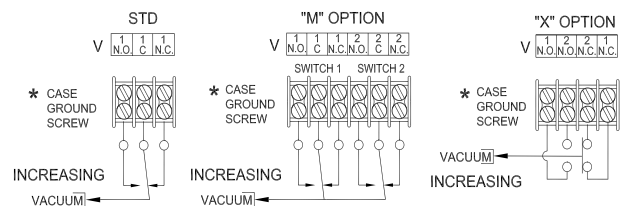
ELECTRICAL CHARACTERISTICS RATING OF SWITCH ELEMENT

VOLTS	AMPERES		
	SPDT Res.	DPDT "M" Res.	Dbl Brk "X" Res.
125 AC - 50/60 Hz	15	5	15
250 AC - 50/60 Hz	15	5	15
480 AC - 50/60 Hz	15	-	15
28 DC	6	5	-
125 DC	.5	.5	1
250 DC	.2	-	.5
*125 AC - 50/60 Hz	1 max	1 max	-
*30 DC	1 max	1 max	-

*Gold Contacts -7008 Suffix

SCHEMATIC AND WIRING CODE

Note: In gage mode, wiring diagram will be in reverse.



CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

DUAL-SNAP®

Models: 605V*, Page 2 of 2
Form 830G, 6.13.14



CustomControlSensors

Non-Hazardous Areas Adjustable / Pre-Set Pressure Switch

611G* & 611V* - Diaphragm Sensor



DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, compact and externally adjustable for factory setting or convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-pressure capability.
- Various options for wetted materials and electrical ratings to meet a wide range of application requirements and media compatibility.

SHIPPING WEIGHT: APPROXIMATELY 10-20 OUNCES (283-567 GRAMS)

SERIES:

- 611G*
- 611GZ*
- 611V*

SET POINT RANGE: GAGE PRESSURE:

- .75 to 180 PSIG
- .052 to 12.4 bar
- 5.17 to 1241 kPa

VACUUM:

- 1.5 to 28.5" Hg
- 38 to 724 mm Hg

OPERATING TEMPERATURE:

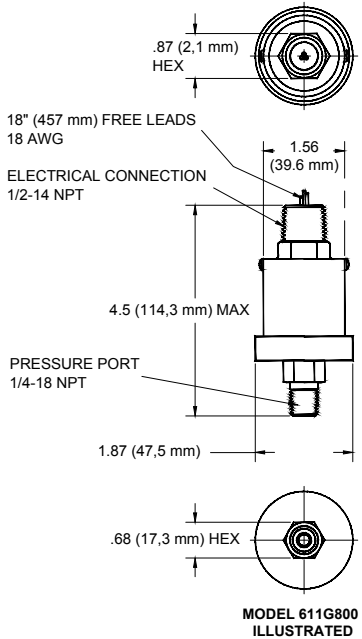
Temperature limits change with o-ring selection.

- 40° to 186°F
- 40° to 86°C

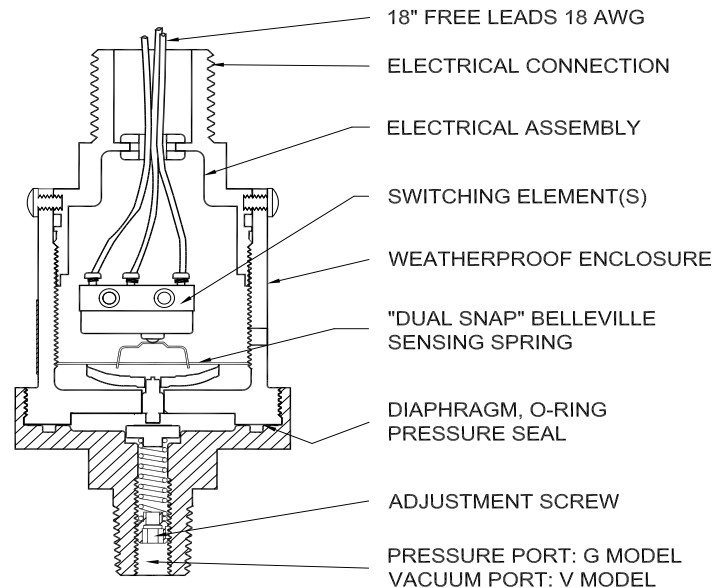
STANDARD FEATURES:

- CE Mark
- CCC
- CRN
- NEMA: 4, 13 / IP65
- NACE MR0175 / ISO 15156 (GZ model only)

INSTALLATION DRAWING



DESIGN PRINCIPLES



FIELD SETTING: Insert 1/8" Allen wrench into adjustment screw (located in pressure port) and turn. Clockwise to decrease settings, short of actuating the electrical. Counterclockwise to increase setting. Do not turn beyond flush with port.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.

DUAL-SNAP®



Models: 611G* & 611V*, Page 1 of 2
Form 830G, 7.25.13



CustomControlSensors

Non-Hazardous Areas Adjustable / Pre-Set Pressure Switch

611G* & 611V* - Diaphragm Sensor

OPERATING AND ORDERING DATA

SERIES 611G*	WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, POLYIMIDE DIAPHRAGM, BUNA N O-RING					
	FIXED SET POINT RANGE (SPECIFY SET POINT ON ORDER)		AVERAGE DEAD BAND PSI (BAR)		SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING PRESSURE PSIG (BAR)	DECREASING PRESSURE PSIG (BAR)	AT BOTTOM OF RANGE	AT TOP OF RANGE		
611G*1	1.5-25 (0.103-1.72)	1-23 (0.069-1.59)	.5 (0.034)	2 (.138)	250 (17.2)	500 (34.5)
611G*2	26-80 (1.79-5.51)	23-73.5 (1.59-5.07)	3 (0.21)	6.5 (0.448)	500 (34.5)	1000 (68.9)
611G*3	81-180 (5.58-12.41)	66-153 (4.55-10.55)	15 (1.03)	27 (1.86)	500 (34.5)	1000 (68.9)
SERIES 611G*800*	WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, POLYIMIDE DIAPHRAGM, BUNA N O-RING					
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)	
	INCREASING PRESSURE PSIG (BAR)	DECREASING PRESSURE PSIG (BAR)				
611G*8001	1.5-12.1 (0.103-0.83)	.75-11.35 (0.052-0.78)	.75 (0.052)	250 (17.2)	500 (34.5)	
611G*8003	12.1-30 (0.83-2.07)	10.1-28 (0.70-1.93)	2 (0.138)	500 (34.5)	1000 (68.9)	
611G*8005	30.1-70 (2.07-4.83)	27.1-67 (1.87-4.62)	3 (0.21)	500 (34.5)	1000 (68.9)	
611G*8007	70.1-180 (4.83-12.4)	63.1-173 (4.35-11.92)	7 (.483)	500 (34.5)	1000 (68.9)	
SERIES 611GZ*800*	WETTED PARTS: 1/4"-18 NPT 316 STAINLESS STEEL PRESSURE PORT & DIAPHRAGM, VITON O-RING					
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)	
	INCREASING PRESSURE PSIG (BAR)	DECREASING PRESSURE PSIG (BAR)				
611GZ*8101	3-12 (0.21-0.827)	1-10 (0.069-0.69)	2 (0.085)	250 (17.2)	500 (34.5)	
611GZ*8103	12-30 (.827-2.07)	9-27 (.62-1.86)	3 (0.21)	500 (34.5)	1000 (68.9)	
611GZ*8105	30-70 (2.07-4.83)	25-65 (1.72-4.48)	5 (0.345)	500 (34.5)	1000 (68.9)	
611GZ*8107	70-180 (4.83-12.41)	60-170 (4.14-11.72)	10 (.69)	500 (34.5)	1000 (68.9)	
SERIES 611V*800*	WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, POLYIMIDE DIAPHRAGM, BUNA N O-RING					
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND INCHES Hg (BAR)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)	
	INCREASING VACUUM INCHES Hg (mm Hg)	DECREASING VACUUM INCHES Hg (mm Hg)				
611V*8000	4-28.5 (102-724)	1.5-26 (38-660)	2.5 (0.085)	150 (10.3)	250 (17.2)	

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 611G8001-7090)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

OPTIONS MODEL CODES

- A:** Viton® O-Ring (STD on GZ models)
- B:** Brass Port (Fixed set point models only)
- C:** 316 Stainless Steel Welded Capsule (G models only - GC*)
- F:** Ethylene Propylene O-Ring
- M:** DPDT Electrical

OPTIONAL STANDARD MODIFIED SUFFIXES

- 7008:** Gold Contacts
- 7075:** Electrical Connector with 4 Blades Conforms to DIN-43650
- 7077:** Electrical Connector with Gold Contacts and 4 Blades Conforms to DIN-43650 (SPDT only)
- 7090:** 2 Meter Free Leads (Non-Hazardous Area Option)
- 7092:** 18 inch Teflon Free Leads (Low Temp Wire)

ACCESSORIES - SOLD SEPARATELY

- 69-102:** Mating Connector
- 57-159:** Sealing Gasket

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

CERTIFICATIONS

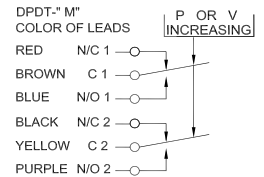
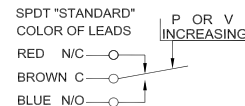
Consult CCS website for complete certification and approval listing.

ELECTRICAL CHARACTERISTICS SCHEMATIC AND WIRING CODE

RATING OF SWITCH ELEMENT

VOLTS	AMPERES	
	SPDT Res.	DPDT "M" Res.
125 AC - 50/60 Hz	11	11
250 AC - 50/60 Hz	11	11
30 DC	5	5
125 DC	.5	.5
*125 AC - 50/60 Hz	1 max	1 max
*30 DC	1 max	1 max

*Gold Contacts - 7008 Suffix



DUAL-SNAP®

Models: 611G* & 611V*, Page 2 of 2
Form 830G, 7.25.13



CustomControlSensors

Hazardous Areas Adjustable / Pre-Set Pressure Switch

611G*E & 611V*E - Diaphragm Sensor



DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, compact and externally adjustable for factory setting or convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-pressure capability.
- (System and Proof)
- Certified explosion proof hermetically sealed electrical assembly for environmental protection.
- Various options for wetted materials and electrical ratings to meet a wide range of application requirements and media compatibility.

SHIPPING WEIGHT: APPROXIMATELY 10-20 OUNCES (283-567 GRAMS)

SERIES:

- 611GE*
- 611GZE*
- 611VE*

SET POINT RANGE:

GAGE PRESSURE:

- .75 to 180 PSIG
- .052 to 12.4 bar
- 5.17 to 1241 kPa

VACUUM:

- 1.5 to 28.5" Hg
- 38 to 724 mm Hg

OPERATING TEMPERATURE:

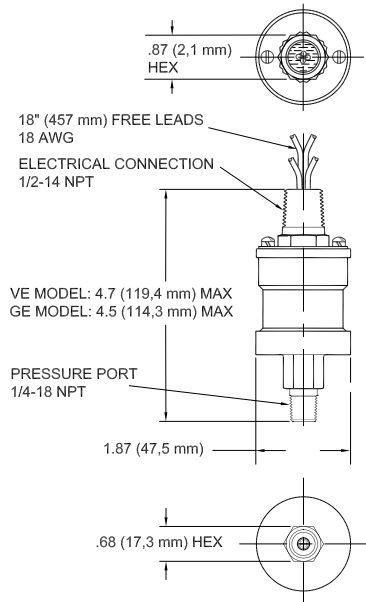
Temperature limits change with o-ring selection.

- 40° to 186°F
- 40° to 86°C

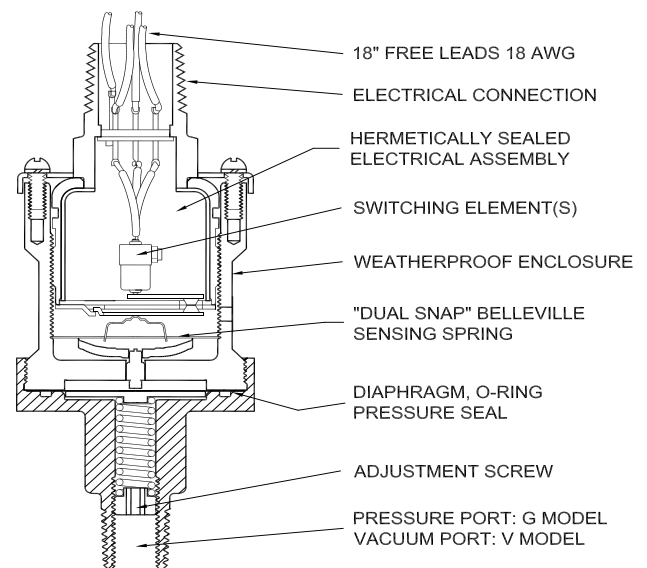
STANDARD FEATURES:

- CE Mark
- CCC
- CRN
- NACE MR0175 / ISO 15156 (GZ & VZ model only)
- NEMA: 4, 7, 9, 13 / IP66
- U.L. / CSA Listed
- Hermetically Sealed Electrical Assembly

INSTALLATION DRAWING



DESIGN PRINCIPLES



SERIES 611GE & 611VE

FIELD SETTING: Insert 1/8" Allen wrench into adjustment screw (located in pressure port) and turn. Clockwise to decrease settings, short of actuating the electrical. Counterclockwise to increase setting. Do not turn beyond flush with port.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.





CustomControlSensors

Hazardous Areas Adjustable / Pre-Set Pressure Switch

611G*E & 611V*E - Diaphragm Sensor

OPERATING AND ORDERING DATA

SERIES 611GE*	WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, POLYIMIDE DIAPHRAGM, BUNA N O-RING					
	FIXED SET POINT RANGE (SPECIFY SET POINT ON ORDER)		AVERAGE DEAD BAND PSI (BAR)		SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING PRESSURE PSIG (BAR)	DECREASING PRESSURE PSIG (BAR)	AT BOTTOM OF RANGE PSI (BAR)	AT TOP OF RANGE PSI (BAR)		
611GE*1	1.5-25 (0.103-1.72)	1-23 (0.069-1.59)	.75 (0.052)	2 (.138)	250 (17.2)	500 (34.5)
611GE*2	26-80 (1.79-5.51)	23-73.5 (1.59-5.07)	3 (0.21)	6.5 (0.448)	500 (34.5)	1000 (68.9)
611GE*3	81-180 (5.58-12.41)	66-153 (4.55-10.55)	15 (1.03)	27 (1.86)	500 (34.5)	1000 (68.9)
SERIES 611GE*800*	WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, POLYIMIDE DIAPHRAGM, BUNA N O-RING					
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)	
	INCREASING PRESSURE PSIG (BAR)	DECREASING PRESSURE PSIG (BAR)				
611GE*8001	1.5-12.1 (0.103-0.83)	.75-11.35 (0.052-0.78)	.75 (0.052)	250 (17.2)	500 (34.5)	
611GE*8003	12.1-30 (0.83-2.07)	10.1-28 (0.70-1.93)	2 (.138)	500 (34.5)	1000 (68.9)	
611GE*8005	30.1-70 (2.075-4.83)	27.1-67 (1.87-4.62)	3 (0.21)	500 (34.5)	1000 (68.9)	
611GE*8007	70.1-180 (4.83-12.4)	63.1-173 (4.35-11.92)	7 (.483)	500 (34.5)	1000 (68.9)	
SERIES 611GZE*800*	WETTED PARTS: 1/4"-18 NPT 316 STAINLESS STEEL PRESSURE PORT & DIAPHRAGM, VITON O-RING					
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)	
	INCREASING PRESSURE PSIG (BAR)	DECREASING PRESSURE PSIG (BAR)				
611GZE*8101	3-12 (0.21-0.827)	1-10 (0.069-0.69)	2 (.138)	250 (17.2)	500 (34.5)	
611GZE*8103	12-30 (.827-2.07)	9-27 (.62-1.86)	3 (0.21)	500 (34.5)	1000 (68.9)	
611GZE*8105	30-70 (2.07-4.83)	25-65 (1.72-4.48)	5 (0.345)	500 (34.5)	1000 (68.9)	
611GZE*8107	70-180 (4.83-12.41)	60-170 (4.14-11.72)	10 (.69)	500 (34.5)	1000 (68.9)	
SERIES 611VE*800*	WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, POLYIMIDE DIAPHRAGM, BUNA N O-RING					
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND INCHES Hg (BAR)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)	
	INCREASING VACUUM INCHES Hg (mm Hg)	DECREASING VACUUM INCHES Hg (mm Hg)				
611VE*8000	4-28.5 (102-724)	1.5-26 (38-660)	2.5 (0.08)	150 (10.3)	250 (17.2)	

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 611GZEFM8105)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

OPTIONAL STANDARD MODIFIED SUFFIXES

- 7008:** Gold Contacts
- 7054:** 2 Meter Free Leads
- 7076:** 18 inch Teflon Free Leads (Low Temp Wire)

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

OPTIONS MODEL CODES

- A:** Viton® O-Ring (STD on GZE models)
 - B:** Brass Port (Fixed set point models only)
 - C:** 316 Stainless Steel Welded Capsule (G models only - GCE*)
 - F:** Ethylene Propylene O-Ring
 - M:** DPDT Electrical
 - Y:** ATEX / GOST Certified Electrical Assembly (Consult CCS Sales Department for GOST options and requirements.)
- Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.*

ELECTRICAL ENCLOSURE CERTIFICATIONS

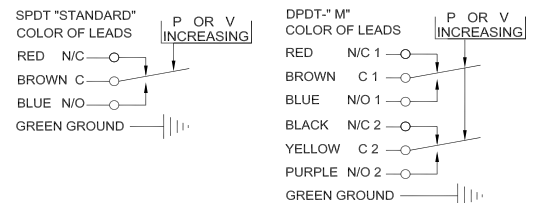
- * c-UL, U.L./CSA Explosion Proof: Div. 1, 2 hermetically sealed electrical assembly P/N 46-1058 (46-1061 for M model option), listed by both Underwriter's Laboratories, Inc. (File No. E32961) and Canadian Standard Association (CSA) Testing Laboratories (File No. LR22921) for hazardous locations, Class 1, Groups A, B, C, and D; Class 2 Groups E, F, and G.
- * ATEX - SIRA certified for potentially explosive atmospheres. Models 6****Y, II 2 GD Ex d IIC, 08ATEX1046X. (Option Y)
- * IECEx - SIRA certified, SIR 10,0193X (Option Y)

ELECTRICAL CHARACTERISTICS SCHEMATIC AND WIRING CODE

RATING OF SWITCH ELEMENT

VOLTS	AMPERES	
	SPDT Res.	DPDT *M* Res.
125 AC - 50/60 Hz	11	11
250 AC - 50/60 Hz	11	11
30 DC	5	5
125 DC	.5	.5
*125 AC - 50/60 Hz	1 max	1 max
*30 DC	1 max	1 max

*Gold Contacts - 7008 Suffix



DUAL-SNAP®

Models: 611G*E & 611V*E, Page 2 of 2
Form 830G, 7.25.13



CustomControlSensors

Hazardous Areas Adjustable / Pre-Set Pressure Switch

642GE* - 642DE* - 642VE* - Diaphragm Sensor

DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, compact and internally adjustable for factory setting or convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-pressure capability. (System and Proof)
- Certified explosion proof hermetically sealed electrical assembly for environmental protection.
- Various options for electrical ratings to meet a wide range of application requirements and media compatibility.

SERIES:

- 642GE*
- 642DE*
- 642VE*

ADJUSTABLE SET POINT RANGE: GAGE & DIFFERENTIAL:

- 1.0 to 80 PSI
- .069 to 5.52 bar
- 6.89 to 552 kPa

VACUUM:

- 2.0 to 28.5" Hg
- 50.8 to 247 mm Hg

OPERATING TEMPERATURE:

Temperature limits change with O-ring selection.

- 40° to 186°F
- 40° to 86°C

STANDARD FEATURES:

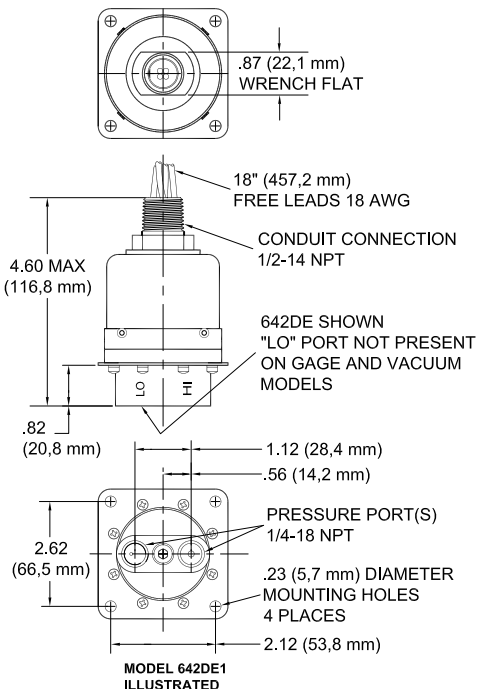
- CE Mark
- CCC
- CRN
- NEMA: 4, 7, 9,13 / IP66
- U.L. / CSA Listed
- Hermetically Sealed Electrical Assembly



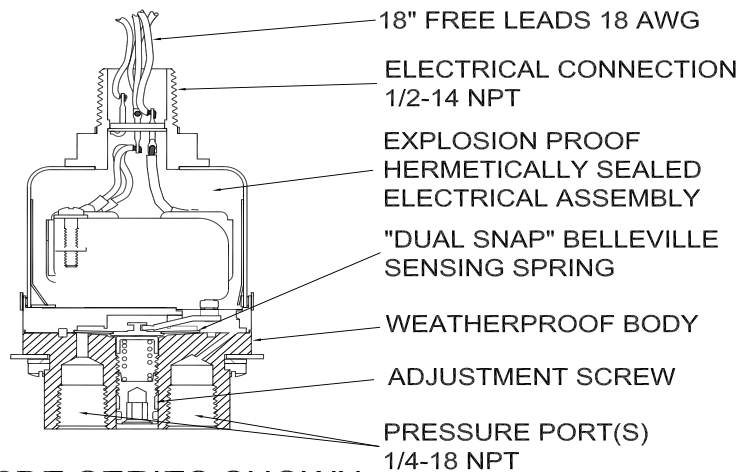
642DE Series Shown.

SHIPPING WEIGHT: APPROXIMATELY 16 OUNCES (453 GRAMS)

INSTALLATION DRAWING



DESIGN PRINCIPLES



642DE SERIES SHOWN

FIELD SETTING (642DE800* Series Only): Insert 3/16" Allen wrench into adjustment screw (located in pressure port). Turn clockwise to decrease settings. Counterclockwise to increase settings.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.

DUAL-SNAP®



Models: 642GE*, DE*, VE*, Page 1 of 2
Form 830G, 8.12.13



CustomControlSensors

Hazardous Areas Adjustable / Pre-Set Pressure Switch

642GE* - 642DE* - 642VE* - Diaphragm Sensor

OPERATING AND ORDERING DATA

SERIES 642GE*	WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, POLYIMIDE DIAPHRAGM, BUNA N O-RING						
	FIXED SET POINT RANGE (SPECIFY RANGE ON ORDER)		APPROXIMATE DEAD BAND PSI (BAR)		SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)	
	INCREASING PRESSURE PSIG (BAR)	DECREASING PRESSURE PSIG (BAR)	AT BOTTOM OF RANGE	AT TOP OF RANGE			
642GE*1	1.5-10 (0.103-0.69)	1.0-9 (0.069-0.62)	0.5 (0.03)	1.0 (0.069)	160 (11.03)	250 (17.24)	
642GE*2	11-80 (0.76-5.52)	9.6-72 (0.66-4.96)	1.4 (0.096)	8 (0.55)	160 (11.03)	250 (17.24)	
SERIES 642DE*	WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, POLYIMIDE DIAPHRAGM, BUNA N O-RING						
	FIXED SET POINT RANGE (SPECIFY RANGE ON ORDER)		APPROXIMATE DEAD BAND PSI (BAR)		SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)	
	INCREASING PRESSURE PSID (BAR)	DECREASING PRESSURE PSID (BAR)	AT BOTTOM OF RANGE	AT BOTTOM OF RANGE		BOTH PORTS SIMULT.	HIGH OVER LOW LOW OVER HIGH
642DE*1	1.5-80 (0.103-5.52)	1.0-72 (0.069-4.96)	0.5 (0.034)	8 (0.55)	160 (11.03)	250 (17.24)	120 (8.27)
SERIES 642DE*800*	WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, POLYIMIDE DIAPHRAGM, BUNA N O-RING						
	ADJUSTABLE SET POINT RANGE		APPROXIMATE DEAD BAND PSI (BAR)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)		
	INCREASING PRESSURE PSID (BAR)	DECREASING PRESSURE PSID (BAR)			BOTH PORTS SIMULT.	HIGH OVER LOW LOW OVER HIGH	
642DE*8101	1.5-5 (0.103-0.34)	1.0-4.5 (0.069-0.31)	0.5 (0.034)	160 (11.03)	250 (17.24)	250 (17.24)	120 (8.27)
642DE*8102	2-13 (0.14-0.89)	0.5-11.5 (0.034-0.79)	1.5 (0.103)	160 (11.03)			
642DE*8103	12-24 (0.83-1.65)	9.5-21.5 (0.66-1.48)	2.5 (0.17)	160 (11.03)			
642DE*8104	23-35 (1.59-2.41)	19-31 (1.31-2.14)	4.0 (0.28)	160 (11.03)			
SERIES 642VE*	WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, POLYIMIDE DIAPHRAGM, BUNA N O-RING						
	FIXED SET POINT RANGE (SPECIFY RANGE ON ORDER)		APPROXIMATE DEAD BAND PSI (BAR)		SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)	
	INCREASING PRESSURE INCHES Hg (mm Hg)	DECREASING PRESSURE INCHES Hg (mm Hg)	AT BOTTOM OF RANGE	AT TOP OF RANGE			
642VE*1	3.0-28.5 (76.2-724)	2-25.5 (50.8-647.7)	1.0 (0.069)	3.0 (0.21)	60 (4.14)	120 (8.27)	

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 642GE1-7054)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

OPTIONS MODEL CODES

A: Viton® O-Ring
M: DPDT Electrical
Y: ATEX / GOST Certified Electrical Assembly (Consult CCS Sales Department for GOST options and requirements.)

OPTIONAL STANDARD MODIFIED SUFFIXES

7054: 2 Meter Free Leads
7076: 18 inch Teflon Free Leads (Low Temp Wire)

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

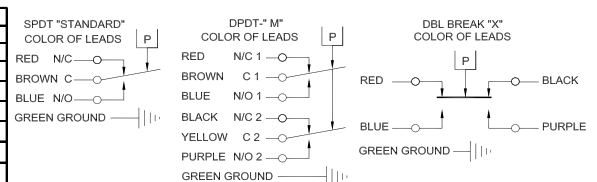
ELECTRICAL ENCLOSURE CERTIFICATIONS

* c-UL, U.L./CSA Explosion Proof: Div. 1, 2 hermetically sealed electrical assembly P/N 17-51 (17-73 for M model option), listed by both Underwriter's Laboratories, Inc. (File No. E32961) and Canadian Standard Association (CSA) Testing Laboratories (File No. LR22921) for hazardous locations, Class 1, Groups A, B, C, and D; Class 2 Groups E, F, and G.
* ATEX - Baseefa certified for potentially explosive atmospheres. Models 642**Y, II 2 GD Ex d IIC, Ex tb IIIC, Baseefa 07ATEX0108X. (Option Y)

ELECTRICAL CHARACTERISTICS SCHEMATIC AND WIRING CODE

VOLTS	AMPERES		
	SPDT Res.	DPDT "M" Res.	Dbl Brk "X" Res.
125 AC - 50/60 Hz	15	5	15
250 AC - 50/60 Hz	15	5	15
480 AC - 50/60 Hz	15	-	15
28 DC	2	5	-
125 DC	.5	.5	.4
250 DC	.2	-	.2
*125 AC - 50/60 Hz	1 max	1 max	-
*30 DC	1 max	1 max	-

*Gold Contacts -7008 Suffix



DUAL-SNAP®

Models: 642GE*, DE*, VE*, Page 2 of 2
Form 830G, 8.12.13



CustomControlSensors

Hazardous Areas Adjustable Pressure Switch

646DZE* - Diaphragm Sensor

DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, midsize and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-pressure capability. (System and Proof)
- Certified explosion proof hermetically sealed electrical assembly for environmental protection.
- Various options for wetted materials and electrical ratings to meet a wide range of application requirements and media compatibility.

SHIPPING WEIGHT: APPROXIMATELY 60 OUNCES (1700 GRAMS)

SERIES:

646DZE*

ADJUSTABLE

SET POINT RANGE:

DIFFERENTIAL PRESSURE:

.4 to 1000 PSID
 .028 to 68.94 bar
 2.76 to 6895 kPa

OPERATING TEMPERATURE:

Temperature limits change with O-ring selection.

-40° to 186°F

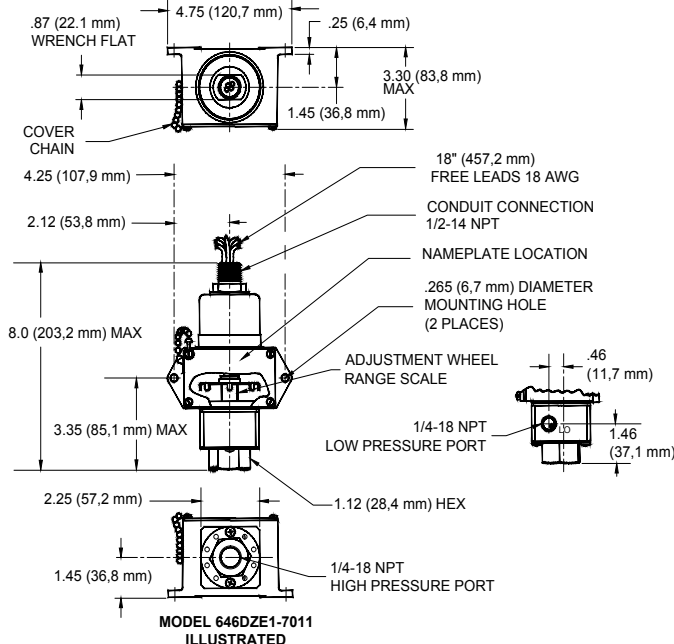
-40° to 86°C

STANDARD FEATURES:

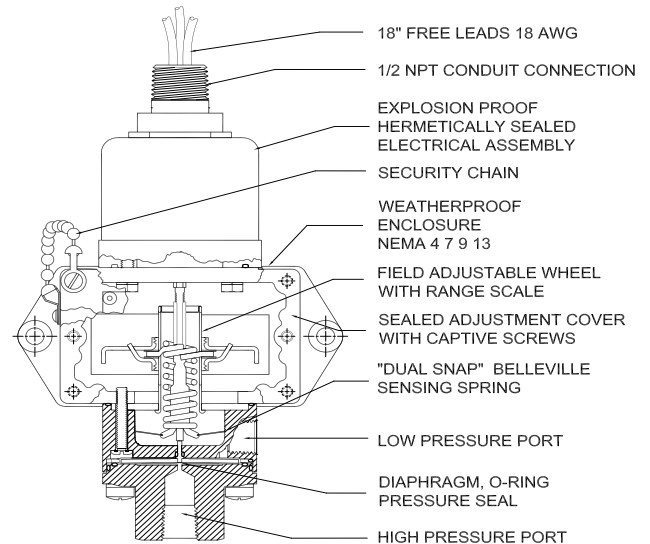
- CE Mark
- CCC
- CRN
- Dual Seal: ANSI/ISA-12.27.01
- NACE MRO175 / ISO 15156
- NEMA: 4, 7, 9, 13 / IP66
- U.L. / CSA Listed
- Hermetically Sealed Electrical Assembly



INSTALLATION DRAWING



DESIGN PRINCIPLES



646DZE SERIES

FIELD SETTING: Open access cover. Adjust wheel as illustrated. Clockwise to increase settings. Counterclockwise to decrease settings.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.

DUAL-SNAP®



Models: 646DZE*, Page 1 of 2
Form 830G, 8.12.13



CustomControlSensors

Hazardous Areas Adjustable Pressure Switch

646DZE* - Diaphragm Sensor

OPERATING AND ORDERING DATA

SERIES 646DZE*	WETTED PARTS: 1/4"-18 NPT 300 STAINLESS STEEL PRESSURE PORT, POLYIMIDE DIAPHRAGM, VITON O-RING						
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	MAX SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)		
	INCREASING PRESSURE PSID (BAR)	DECREASING PRESSURE PSID (BAR)			BOTH PORTS SIMULT.	HIGH OVER LOW LOW OVER HIGH	HIGH
646DZE*1	1.2-18 (0.083-1.24)	0.4-17.2 (0.028-1.19)	.8 (0.055)	400 (28)	750 (52)	750 (52)	400 (28)
646DZEM*1	1.4-18 (0.097-1.24)	0.5-17.1 (0.034-1.18)	.9 (0.062)				
646DZE*2	6-75 (0.414-5.2)	2-71 (0.14-4.9)	4 (0.28)				
SERIES 646DZE*-7011	WETTED PARTS: 1/4"-18 NPT 300 STAINLESS STEEL PRESSURE PORT, STAINLESS STEEL DIAPHRAGM, VITON O-RING						
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	MAX SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)		
	INCREASING PRESSURE PSID (BAR)	DECREASING PRESSURE PSID (BAR)			BOTH PORTS SIMULT.	HIGH OVER LOW LOW OVER HIGH	HIGH
646DZE*1-7011	2-18 (0.138-1.24)	0.5-16.5 (0.034-1.14)	1.5 (0.103)	400 (28)	750 (52)	750 (52)	100 (6.9)
646DZE*2-7011	9-75 (0.62-5.2)	3-69 (0.21-4.76)	6 (0.414)				
646DZE*4-7011	10-75 (0.69-5.2)	3-68 (0.21-4.68)	7 (0.48)				
646DZE*11-7011	20-150 (1.38-10.3)	6-136 (0.414-9.37)	14 (0.97)	3000 (207)	5000 (345)	5000 (345)	3000 (207)
646DZE*3-7011	50-375 (3.45-25.9)	16-341 (1.1-23.5)	34 (2.34)				
646DZE*5-7011	330-1000 (22.8-69)	250-920 (17.24-63.4)	80 (5.52)				

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 646DZEM1-7011)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

OPTIONS MODEL CODES

- F:** Ethylene Propylene O-Ring
- M:** DPDT Electrical
- Y:** ATEX / GOST Certified Electrical Assembly (Consult CCS Sales Department for GOST options and requirements.)
- X:** Double Break Electrical Assembly

OPTIONAL STANDARD MODIFIED SUFFIXES

- 7008:** Gold Contacts
- 7054:** 2 Meter Free Leads
- 7076:** 18 inch Teflon Free Leads (Low Temp Wire)

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

ELECTRICAL ENCLOSURE CERTIFICATIONS

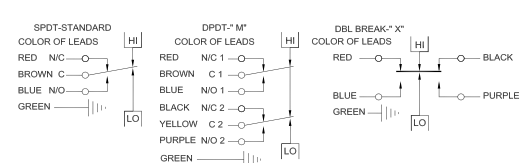
* c-UL, U.L./CSA Explosion Proof: Div. 1, 2 hermetically sealed electrical assembly P/N 17-51 (17-73 for M model option), listed by both Underwriter's Laboratories, Inc. (File No. E32961) and Canadian Standard Association (CSA) Testing Laboratories (File No. LR22921) for hazardous locations, Class 1, Groups A, B, C, and D; Class 2 Groups E, F, and G.
* ATEX - Baseefa certified for potentially explosive atmospheres. Models 646**Y, II 2 GD Ex d IIC, Ex tb IIIC, Baseefa 05ATEX0011X. (Option Y)

ELECTRICAL CHARACTERISTICS RATING OF SWITCH ELEMENT

VOLTS	AMPERES		
	SPDT	DPDT "M"	Dbl Brk "X"
	Res.	Res.	Res.
125 AC - 50/60 Hz	15	5	15
250 AC - 50/60 Hz	15	5	15
480 AC - 50/60 Hz	15	-	15
28 DC	2	5	-
125 DC	.5	.5	1
250 DC	2	-	.5
*125 AC - 50/60 Hz	1 max	1 max	-
*30 DC	1 max	1 max	-

*Gold Contacts -7008 Suffix

SCHEMATIC AND WIRING CODE



DUAL-SNAP®

Models: 646DZE*, Page 2 of 2
Form 830G, 8.12.13



CustomControlSensors

Hazardous Areas Adjustable Pressure Switch

646DCE* - Diaphragm Sensor

DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, midsize and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-pressure capability. (System and Proof)
- Certified explosion proof hermetically sealed electrical assembly for environmental protection.
- Various options for wetted materials and electrical ratings to meet a wide range of application requirements and media compatibility.

SHIPPING WEIGHT: APPROXIMATELY 60 OUNCES (1700 GRAMS)

SERIES:

646DCE*

ADJUSTABLE

SET POINT RANGE:

DIFFERENTIAL PRESSURE:

2.0 to 75 PSID
0.138 to 5.2 bar
13.8 to 520 kPa

OPERATING TEMPERATURE:

Temperature limits change with O-ring selection.

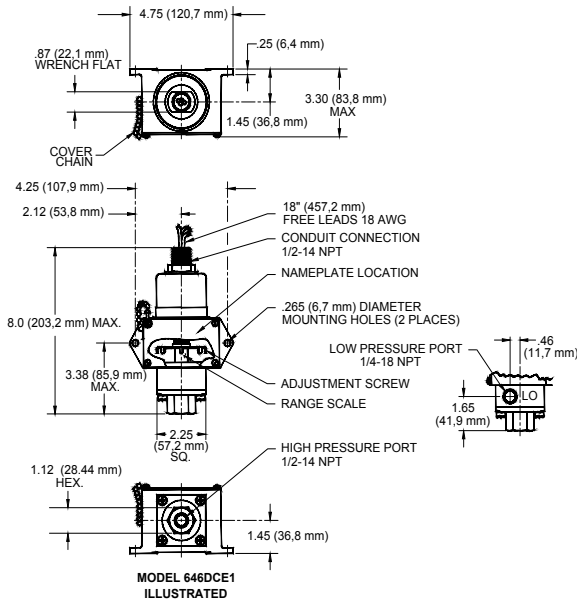
-40° to 186°F
-40° to 86°C

STANDARD FEATURES:

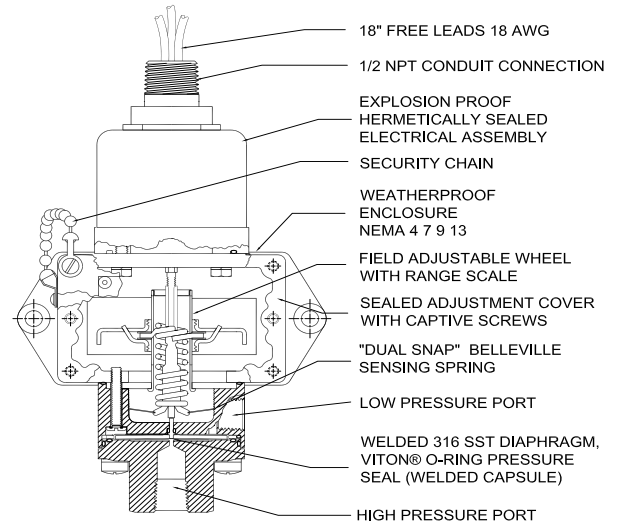
- CE Mark
- CCC
- CRN
- Dual Seal: ANSI/ISA-12.27.01
- NACE MRO175 / ISO 15156
- NEMA: 4, 7, 9, 13 / IP66
- U.L. / CSA Listed
- Hermetically Sealed Electrical Assembly



INSTALLATION DRAWING



DESIGN PRINCIPLES



646DCE SERIES

FIELD SETTING: Open access cover. Adjust wheel as illustrated. Clockwise to increase settings. Counterclockwise to decrease settings.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.

DUAL-SNAP®



Models: 646DCE*, Page 1 of 2
Form 830G, 6.25.14



CustomControlSensors

Hazardous Areas Adjustable Pressure Switch

646DCE* - Diaphragm Sensor

OPERATING AND ORDERING DATA

SERIES 646DCE*	WETTED PARTS: 1/2"-14 NPT 300 STAINLESS STEEL PRESSURE PORT, 300 SERIES STAINLESS STEEL DIAPHRAGM WELDED CAPSULE. LOW SIDE PRESSURE SEAL VITON O-RING						
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	MAX SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)		
	INCREASING PRESSURE PSID (BAR)	DECREASING PRESSURE PSID (BAR)			BOTH PORTS SIMULT.	HIGH OVER LOW	LOW OVER HIGH
646DCE*1	2-18 (0.138-1.24)	0.5-16.5 (0.035-1.14)	1.5 (0.103)	750 (52)	1000 (69)	1000 (69)	500 (34.5)
646DCEM*1						HIGH	LOW
646DCE*2	9-75 (0.62-5.2)	4-69 (0.21-4.78)	6 (0.414)				

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 646DZEM1-7011)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

OPTIONAL STANDARD MODIFIED SUFFIXES

- 7008:** Gold Contacts
- 7054:** 2 Meter Free Leads
- 7076:** 18 inch Teflon Free Leads (Low Temp Wire)

ELECTRICAL ENCLOSURE CERTIFICATIONS

* c-UL, U.L./CSA Explosion Proof: Div. 1, 2 hermetically sealed electrical assembly P/N 17-51 (17-73 for M model option), listed by both Underwriter's Laboratories, Inc. (File No. E32961) and Canadian Standard Association (CSA) Testing Laboratories (File No. LR22921) for hazardous locations, Class 1, Groups A, B, C, and D; Class 2 Groups E, F, and G.
* ATEX - Baseefa certified for potentially explosive atmospheres. Models 646**Y, II 2 GD Ex d IIC, Ex tb IIIC, Baseefa 05ATEX0011X. (Option Y)

OPTIONS MODEL CODES

- F:** Ethylene Propylene O-Ring
- M:** DPDT Electrical
- Y:** ATEX / GOST Certified Electrical Assembly (Consult CCS Sales Department for GOST options and requirements.)
- X:** Double Break Electrical Assembly

ELECTRICAL CHARACTERISTICS RATING OF SWITCH ELEMENT

VOLTS	AMPERES		
	SPDT	DPDT "M"	Dbl Brk "X"
	Res.	Res.	Res.
125 AC - 50/60 Hz	15	5	15
250 AC - 50/60 Hz	15	5	15
480 AC - 50/60 Hz	15	-	15
28 DC	2	5	-
125 DC	.5	.5	1
250 DC	.2	-	.5
*125 AC - 50/60 Hz	1 max	1 max	-
*30 DC	1 max	1 max	-

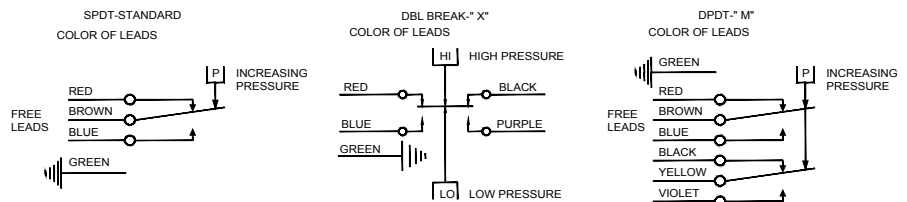
*Gold Contacts -7008 Suffix

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

SCHEMATIC AND WIRING CODE





CustomControlSensors

Hazardous Areas Adjustable Pressure Switch

646G*E* - Diaphragm Sensor

DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, midsize and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-pressure capability. (System and Proof)
- Certified explosion proof hermetically sealed electrical assembly for environmental protection.
- Various options for wetted materials and electrical ratings to meet a wide range of application requirements and media compatibility.

SHIPPING WEIGHT: APPROXIMATELY 60 OUNCES (1700 GRAMS)

SERIES:

- 646GE*
- 646GZE*

ADJUSTABLE SET POINT RANGE:

- .4 to 5000 PSIG
- .028 to 345 bar
- 2.76 to 34474 kPa

OPERATING TEMPERATURE:

Temperature limits change with O-ring selection.

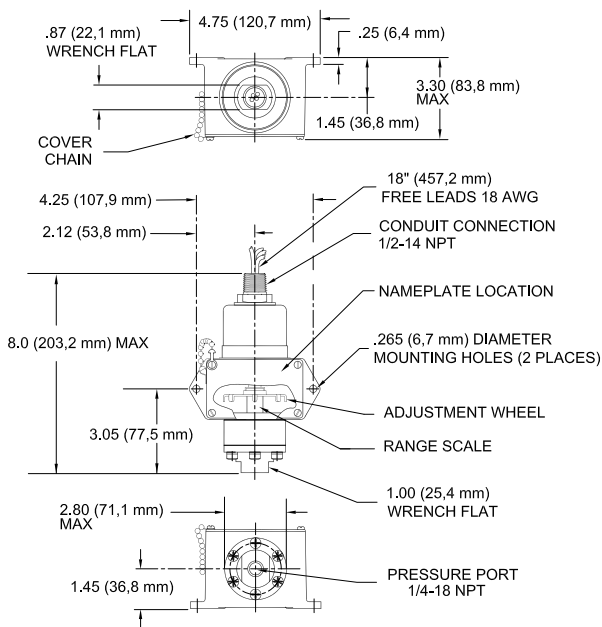
- 40° to 186°F
- 40° to 86°C

STANDARD FEATURES:

- CE Mark
- CCC
- CRN
- Dual Seal: ANSI/ISA-12.27.01
- NACE MR0175 / ISO 15156
- NEMA: 4, 7, 9, 13 / IP66
- U.L. / CSA Listed
- Hermetically Sealed Electrical Assembly

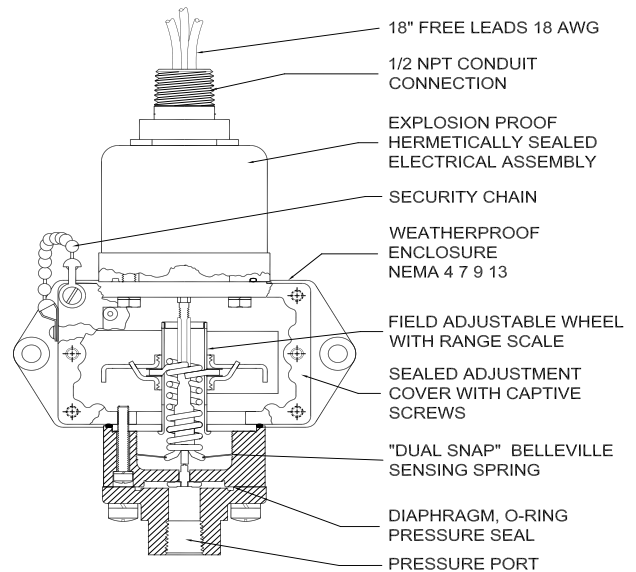


INSTALLATION DRAWING



MODEL 646GE1 ILLUSTRATED

DESIGN PRINCIPLES



646GE SERIES

FIELD SETTING: Open access cover. Adjust wheel as illustrated. Clockwise to increase settings. Counterclockwise to decrease settings.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.

DUAL-SNAP®



Models: 646G*E*, Page 1 of 2
Form 830G, 8.21.13



CustomControlSensors

Hazardous Areas Adjustable Pressure Switch

646G*E*- Diaphragm Sensor

OPERATING AND ORDERING DATA

SERIES 646GE*	WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, POLYIMIDE DIAPHRAGM, BUNA N O-RING				
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING PRESSURE PSIG (BAR)	DECREASING PRESSURE PSIG (BAR)			
646GE*1	1.2-16 (0.07-1.1)	.4-15.2 (.03-1.04)	.8 (0.06)	500 (35)	750 (52)
646GE*2	8-75 (0.6-5.2)	3-70 (0.2-4.8)	5 (0.34)	3000 (207)	5000 (345)
646GE*11	20-150 (1.4-10.3)	8-138 (0.6-9.5)	12 (0.8)		
646GE*3	50-375 (3.5-25.9)	22-347 (1.5-23.9)	28 (1.9)		
646GE*5	330-1000 (22.8-68.9)	265-935 (18.3-64.5)	65 (4.5)		
SERIES 646GZE*	WETTED PARTS: 1/2"-14 NPT 316 STAINLESS STEEL PRESSURE PORT, POLYIMIDE DIAPHRAGM, VITON O-RING				
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING PRESSURE PSIG (BAR)	DECREASING PRESSURE PSIG (BAR)			
646GZE*1	1.2-16 (0.07-1.1)	.4-15.2 (.03-1.04)	.8 (0.06)	500 (35)	750 (52)
646GZE*2	8-75 (0.6-5.2)	3-70 (0.2-4.8)	5 (0.34)	3000 (207)	5000 (345)
646GZE*11	20-150 (1.4-10.3)	8-138 (0.6-9.5)	12 (0.8)		
646GZE*3	50-375 (3.5-25.9)	22-347 (1.5-23.9)	28 (1.9)		
646GZE*5	330-1000 (22.8-68.9)	265-935 (18.3-64.5)	65 (4.5)		
646GZE*7	950-2300 (65.5-158.6)	775-2125 (53.4-146.5)	175 (12.1)		
SERIES 646GZ*-7011	WETTED PARTS: 1/2"-14 NPT 316 STAINLESS STEEL PRESSURE PORT & DIAPHRAGM, VITON O-RING				
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING PRESSURE PSIG (BAR)	DECREASING PRESSURE PSIG (BAR)			
646GZE*1-7011	1.4-16 (.09-1.1)	.4-15 (0.03-1.03)	1 (0.07)	500 (35)	750 (52)
646GZE*2-7011	10-75 (.7-5.2)	3-68 (0.2-4.7)	7 (0.5)	3000 (207)	5000 (345)
646GZE*11-7011	20-150 (1.4-10.3)	6-136 (0.4-9.4)	14 (0.97)		
646GZE*3-7011	50-375 (3.5-25.9)	16-341 (1.1-23.5)	34 (2.3)		
646GZE*5-7011	330-1000 (22.8-68.9)	250-920 (17.2-63.4)	80 (5.5)		
646GZE*7-7011	950-2300 (65.5-158.6)	750-2100 (51.7-144.8)	200 (13.8)		
646GZE*9-7011	2100-3400 (144.8-234.4)	1820-3120 (125.5-215.1)	280 (19.3)	5000 (345)	7500 (517)
646GZE*10-7011	3200-5000 (220.6-344.7)	2720-4520 (187.5-311.6)	480 (33.1)		

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 646GZE2-7076)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

OPTIONS MODEL CODES

- A:** Viton® O-Ring (STD on GZE models)
- C:** 316 Stainless Steel Welded Capsule (Ranges 9-10 not available)
- F:** Ethylene Propylene O-Ring
- M:** DPDT Electrical
- Y:** ATEX / GOST Certified Electrical Assembly (Consult CCS Sales Department for GOST options and requirements.)
- X:** Double Break Electrical Assembly

OPTIONAL STANDARD MODIFIED SUFFIXES

- 7005:** Viton/Dracon Diaphragm, Viton O-Ring & Stainless Steel Port Cap (GZ models only)
- 7008:** Gold Contacts
- 7023:** Manual Reset After Increasing
- 7044:** Monel Port and Diaphragm (GC models only) (Ranges 1, 9 and 10 not available)
- 7045:** Hastelloy C-276 Port and Diaphragm (GC models only) (Ranges 1, 9 and 10 not available)
- 7054:** 2 Meter Free Leads
- 7076:** 18 inch Teflon Free Leads (Low Temp Wire)

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

ELECTRICAL ENCLOSURE CERTIFICATIONS

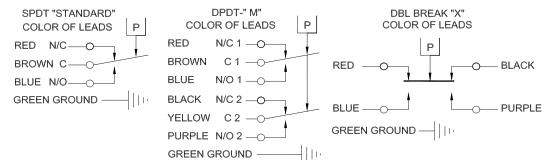
* c-UL, U.L./CSA Explosion Proof: Div. 1, 2 hermetically sealed electrical assembly P/N 17-51 (17-73 for M model option), listed by both Underwriter's Laboratories, Inc. (File No. E32961) and Canadian Standard Association (CSA) Testing Laboratories (File No. LR22921) for hazardous locations, Class 1, Groups A, B, C, and D; Class 2 Groups E, F, and G.

* ATEX - Baseefa certified for potentially explosive atmospheres. Models 646**Y, II 2 GD Ex d IIC, Ex tb IIIC, Baseefa 05ATEX0011X. (Option Y)

ELECTRICAL CHARACTERISTICS SCHEMATIC AND WIRING CODE

VOLTS	AMPERES		
	SPDT Res.	DPDT "M" Res.	Dbl Brk "X" Res.
125 AC - 50/60 Hz	15	5	15
250 AC - 50/60 Hz	15	5	15
480 AC - 50/60 Hz	15	-	15
28 DC	2	5	-
125 DC	.5	.5	1
250 DC	.2	-	.5
*125 AC - 50/60 Hz	1 max	1 max	-
*30 DC	1 max	1 max	-

*Gold Contacts -7008 Suffix



DUAL-SNAP®

Models: 646G*E*, Page 2 of 2
Form 830G, 8.21.13



CustomControlSensors

Hazardous Areas Adjustable Pressure Switch

646PE*- Piston Sensor



DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, midsize and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-pressure capability. (System and Proof)
- Certified explosion proof hermetically sealed electrical assembly for environmental protection.
- Various options for wetted materials and electrical ratings to meet a wide range of application requirements and media compatibility.
- Well suited for high impulse hydraulic applications.

SHIPPING WEIGHT: APPROXIMATELY 39 OUNCES (1105 GRAMS)

SERIES:

646PE*

ADJUSTABLE SET POINT RANGE:

10 to 5000 PSIG
.069 to 345 bar
68.9 to 34474 kPa

OPERATING TEMPERATURE:

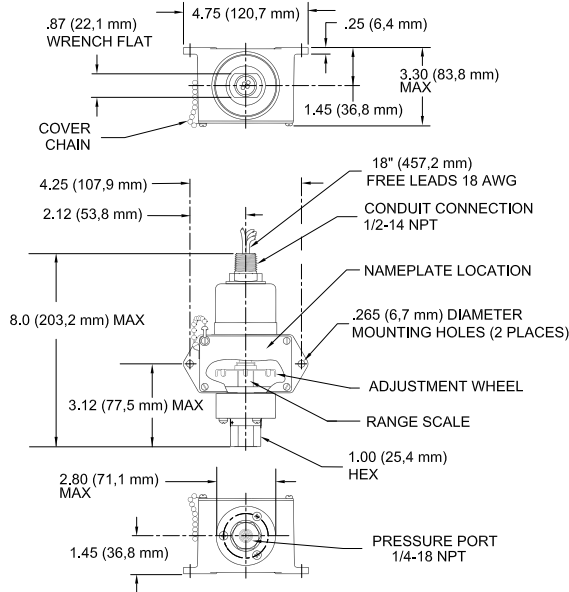
Temperature limits change with O-ring selection.

-40° to 186°F
-40° to 86°C

STANDARD FEATURES:

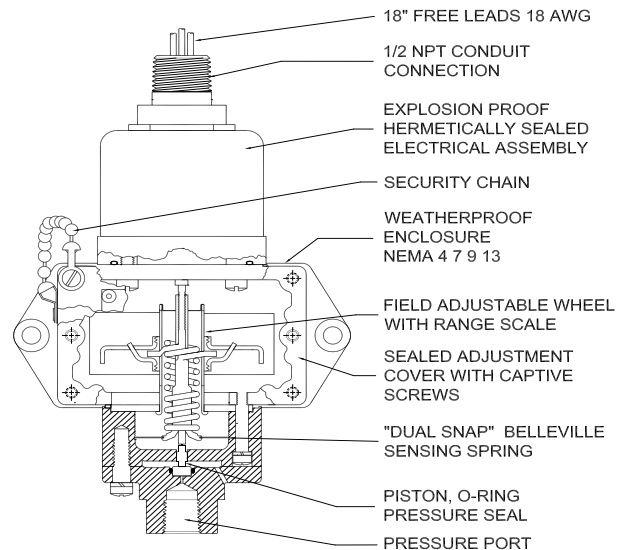
- CE Mark
- CCC
- CRN
- Dual Seal: ANSI/ISA-12.27.01
- NACE MR0175 / ISO 15156
- NEMA: 4, 7, 9, 13 / IP66
- U.L. / CSA Listed
- Hermetically Sealed Electrical Assembly

INSTALLATION DRAWING



MODEL 646PE21 ILLUSTRATED

DESIGN PRINCIPLES



646PE SERIES

FIELD SETTING: Open access cover. Adjust wheel as illustrated. Clockwise to increase settings. Counterclockwise to decrease settings.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.

DUAL-SNAP®



Models: 646PE*, Page 1 of 2
Form 830G, 8.21.13



CustomControlSensors

Hazardous Areas Adjustable Pressure Switch

646PE*- Piston Sensor

OPERATING AND ORDERING DATA

SERIES 646PE*	WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, 400 STAINLESS STEEL PISTON, BUNA N O-RING/TEFLON				
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING PRESSURE PSIG (BAR)	DECREASING PRESSURE PSIG (BAR)			
646PE*12	20-200 (1.4-13.8)	10-188 (0.68-12.9)	10-12 (0.68-0.83)	2000 (138)	3000 (207)
646PE*15	170-1400 (11.7-96.5)	90-1230 (6.2-84.8)	80-170 (5.5-11.7)	3000 (207)	5000 (345)
646PE*21	300-3000 (20.7-206.8)	180-2780 (12.4-191.6)	120-220 (8.3-15.2)	5000 (345)	7500 (517)
646PE*31	2500-5000 (172.4-344.7)	2220-4520 (153.1-311.6)	280-480 (19.3-33.1)	7500 (517)	10,000 (690)

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 646PE31-7023)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

OPTIONAL STANDARD MODIFIED SUFFIXES

- 7008:** Gold Contacts
- 7023:** Manual Reset After Increasing
- 7054:** 2 Meter Free Leads
- 7076:** 18 inch Teflon Free Leads (Low Temp Wire)

OPTIONS MODEL CODES

- A:** Viton® O-Ring
- F:** Ethylene Propylene O-Ring
- M:** DPDT Electrical
- Y:** ATEX / GOST Certified Electrical Assembly (Consult CCS Sales Department for GOST options and requirements.)
- X:** Double Break Electrical Assembly

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

CERTIFICATIONS AND APPROVALS

Consult CCS website for complete certification and approval listing.

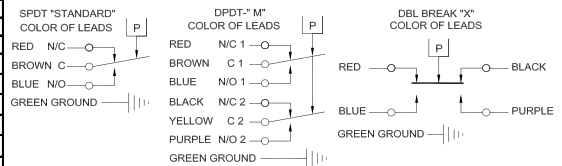
ELECTRICAL ENCLOSURE CERTIFICATIONS

- * c-UL, U.L./CSA Explosion Proof: Div. 1, 2 hermetically sealed electrical assembly P/N 17-51 (17-73 for M model option), listed by both Underwriter's Laboratories, Inc. (File No. E32961) and Canadian Standard Association (CSA) Testing Laboratories (File No. LR22921) for hazardous locations, Class 1, Groups A, B, C, and D; Class 2 Groups E, F, and G.
- * ATEX - Baseefa certified for potentially explosive atmospheres. Models 646**Y, II 2 GD Ex d IIC, Ex tb IIIC, Baseefa 05ATEX0011X. (Option Y)

ELECTRICAL CHARACTERISTICS RATING OF SWITCH ELEMENT

VOLTS	AMPERES		
	SPDT Res.	DPDT "M" Res.	Dbl Brk "X" Res.
125 AC - 50/60 Hz	15	5	15
250 AC - 50/60 Hz	15	5	15
480 AC - 50/60 Hz	15	-	15
28 DC	2	5	-
125 DC	.5	.5	1
250 DC	2	-	.5
*125 AC - 50/60 Hz	1 max	1 max	-
*30 DC	1 max	1 max	-

*Gold Contacts -7008 Suffix



DUAL-SNAP®

Models: 646PE*, Page 2 of 2
Form 830G, 8.21.13



CustomControlSensors

Hazardous Areas Adjustable Temperature Switch

646TE* - Probe



DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-temperature capability.
- Certified explosion proof hermetically sealed electrical assembly for environmental protection.
- Various options for electrical ratings to meet a wide range of application requirements.

SHIPPING WEIGHT: APPROXIMATELY 71 OUNCES (2013 GRAMS)

SERIES:

646TE*

ADJUSTABLE SET POINT RANGE: TEMPERATURE:

-39° to 420°F

-39° to 215°C

OPERATING TEMPERATURE:

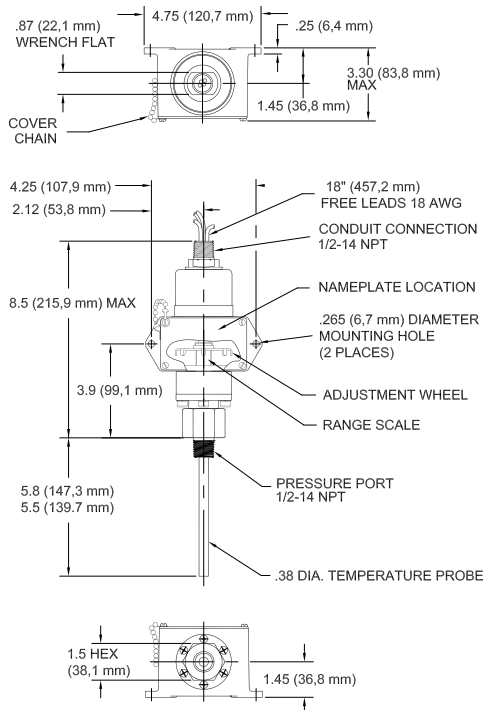
-40° to 186°F

-40° to 86°C

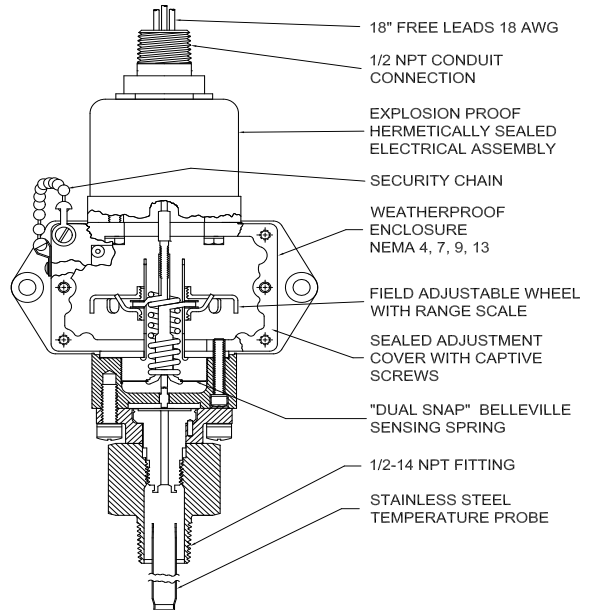
STANDARD FEATURES:

- CE Mark
- CCC
- Dual Seal: ANSI/ISA-12.27.01
- NACE MR0175 / ISO 15156
- NEMA: 4, 7, 9, 13 / IP66
- U.L. / CSA Listed
- Hermetically Sealed Electrical Assembly

INSTALLATION DRAWING



DESIGN PRINCIPLES



646TE SERIES

FIELD SETTING: Open access cover. Adjust wheel as illustrated. Clockwise to increase settings. Counterclockwise to decrease settings.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.

DUAL-SNAP®



Models: 646TE*, Page 1 of 2
Form 830G, 12.10.13



CustomControlSensors

Hazardous Areas Adjustable Temperature Switch

646TE* - Probe

OPERATING AND ORDERING DATA

SERIES 646TE*	WETTED PARTS: 300 STAINLESS STEEL TEMPERATURE PROBE, NICKEL PLATED STEEL, BUNA N O-RING (RANGES 1-3) / SILICONE RUBBER O-RING (RANGES 4&5)				
	ADJUSTABLE SET - POINT RANGE		APPROXIMATE DEAD BAND		MAXIMUM PROBE TEMPERATURE DEGREES F (DEGREES C)
	INCREASING TEMPERATURE DEGREES F (DEGREES C)	DECREASING TEMPERATURE DEGREES F (DEGREES C)	AT BOTTOM OF RANGE DEGREES F (DEGREES C)	AT TOP OF RANGE DEGREES F (DEGREES C)	
646TE*1	-30° to +55° (-34° to +13°)	-39° to +52° (-39° to +11°)	9° (5°)	3° (2°)	+250° (121°)
646TE*2	+35° to +140° (+2° to +60°)	+21° to +135° (-6° to +57°)	14° (8°)	5° (3°)	+300° (+149°)
646TE*3	+90° to +210° (+32° to +99°)	+75° to +205° (+24° to +96°)	15° (8°)	5° (3°)	+300° (+149°)
646TE*4	+175° to +310° (+79° to +154°)	+159° to +305° (+71° to +152)	16° (8°)	5° (2°)	+500° (+260°)
646TE*5	+275° to +420° (+135° to +216°)	+256° to +414° (+124° to +212°)	19° (11)	6° (4)	+500° (+260°)
EXTERNAL PROBE PRESSURE:					
System Pressure: 1250 PSIG (86 bar)			Proof Pressure: 1500 PSIG (103 bar)		

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 646TEM4-7076)

TEMPERATURE CONVERSION

32 Deg F = 0 Deg C

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

OPTIONAL STANDARD MODIFIED SUFFIXES

- 7008: Gold Contacts
- 7076: 18 inch Teflon Free Leads (Low Temp Wire)

OPTIONS MODEL CODES

- M: DPDT Electrical
- Y: ATEX / GOST Certified Electrical Assembly (Consult CCS Sales Department for GOST options and requirements.)
- X: Double Break Electrical Assembly

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

THERMOWELLS

Order as separate line items. See accessory page for detailed information.

- 113-34-2: 1" NPT 316 SST 7.5" "U" Dim.
- 113-35-2: 3/4" NPT 316 SST 7.5" "U" Dim.

ELECTRICAL CHARACTERISTICS

* c-UL, U.L./CSA Explosion Proof: Div. 1, 2 hermetically sealed electrical assembly P/N 17-51 (17-73 for M model option), listed by both Underwriter's Laboratories, Inc. (File No. E32961) and Canadian Standard Association (CSA) Testing Laboratories (File No. LR22921) for hazardous locations, Class 1, Groups A, B, C, and D; Class 2 Groups E, F, and G.

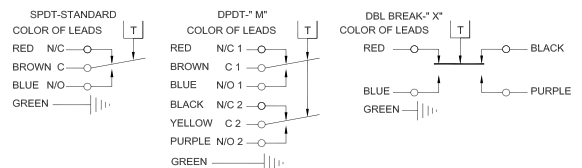
* ATEX - Baseefa certified for potentially explosive atmospheres. Models 646**Y, II 2 GD Ex d IIC, Ex tb IIC, Baseefa 05ATEX0011X. (Option Y)

ELECTRICAL CHARACTERISTICS SCHEMATIC AND WIRING CODE

RATING OF SWITCH ELEMENT

VOLTS	AMPERES		
	SPDT Res.	DPDT "M" Res.	Dbl Brk "X" Res.
125 AC - 50/60 Hz	15	5	15
250 AC - 50/60 Hz	15	5	15
480 AC - 50/60 Hz	15	-	15
28 DC	2	5	-
125 DC	.5	.5	1
250 DC	.2	-	.5
*125 AC - 50/60 Hz	1 max	1 max	-
*30 DC	1 max	1 max	-

*Gold Contacts -7008 Suffix



DUAL-SNAP®

Models: 646TE*, Page 2 of 2
Form 830G, 12.10.13



CustomControlSensors

Hazardous Areas Adjustable Temperature Switch

646TUE* - Capillary



Capillary not shown.

DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-temperature capability.
- Certified explosion proof hermetically sealed electrical assembly for environmental protection.
- Various options for electrical ratings to meet a wide range of application requirements.

SHIPPING WEIGHT: APPROXIMATELY 68 OUNCES (1928 GRAMS)

SERIES:

646TUE*

ADJUSTABLE SET POINT RANGE: TEMPERATURE:

-39° to 630°F
-39° to 332°C

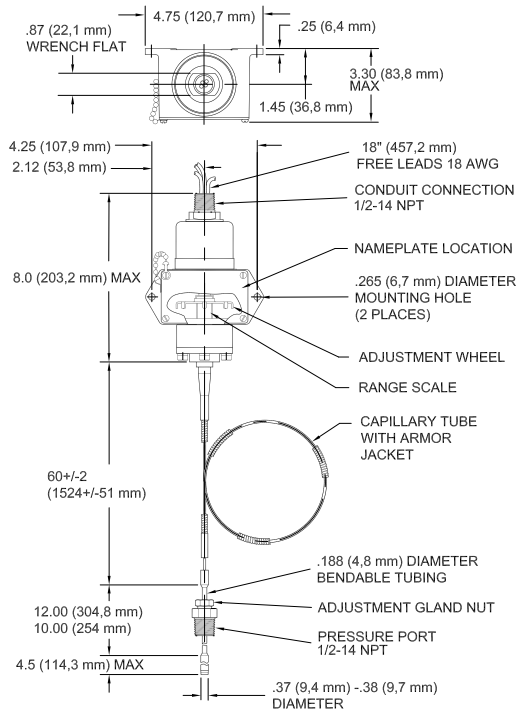
OPERATING TEMPERATURE:

-40° to 186°F
-40° to 86°C

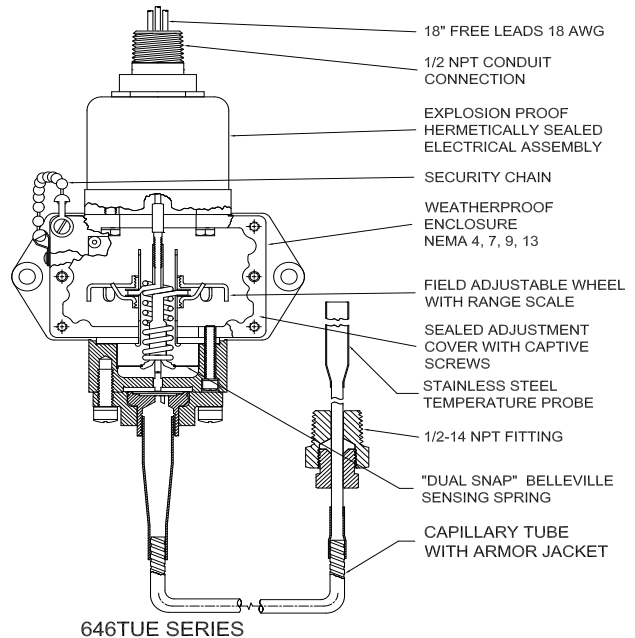
STANDARD FEATURES:

- CE Mark
- CCC
- NACE MR0175 / ISO 15156
- NEMA: 4, 7, 9, 13 / IP66
- U.L. / CSA Listed
- Hermetically Sealed Electrical Assembly

INSTALLATION DRAWING



DESIGN PRINCIPLES



FIELD SETTING: Open access cover. Adjust wheel as illustrated. Clockwise to increase settings. Counterclockwise to decrease settings.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.

DUAL-SNAP®



Models: 646TUE*, Page 1 of 2
Form 830G, 9.10.13



CustomControlSensors

Hazardous Areas Adjustable Temperature Switch

646TUE* - Capillary

OPERATING AND ORDERING DATA

SERIES 646TUE*	WETTED PARTS: 300 STAINLESS STEEL AND GRAPHITE TEMPERATURE PROBE WITH LUBRICATED GLASS FIBER CAPILLARY TUBE				
	ADJUSTABLE SET POINT RANGE		APPROXIMATE DEAD BAND		MAXIMUM PROBE TEMPERATURE DEGREES F (DEGREES C)
	INCREASING TEMPERATURE DEGREES F (DEGREES C)	DECREASING TEMPERATURE DEGREES F (DEGREES C)	AT BOTTOM OF RANGE DEGREES F (DEGREES C)	AT TOP OF RANGE DEGREES F (DEGREES C)	
646TUE*1	-30° to +55° (-34° to +13°)	-39° to +52° (-39° to +11°)	9° (5°)	3° (2°)	+200° (93°)
646TUE*2	+35° to +140° (+2° to +60°)	+21° to +135° (-6° to +57°)	14° (8°)	5° (3°)	+300° (+149°)
646TUE*3	+90° to +210° (+32° to +99°)	+75° to +205° (+24° to +96°)	15° (8°)	5° (3°)	+300° (+149°)
646TUE*4	+175° to +310° (+79° to +154°)	+159° to +305° (+71° to +152°)	16° (8°)	5° (2°)	+500° (+260°)
646TUE*5	+275° to +420° (+135° to +216°)	+256° to +414° (+124° to +212°)	19° (11°)	6° (4°)	+500° (+260°)
646TUE*6	+380° to +525° (+193° to +274°)	+355° to +520° (+179° to +271°)	25° (14°)	5° (3°)	+600° (316°)
646TUE*7	+480° to +630° (+249° to +332°)	+456° to +624° (+236° to +329°)	24° (13°)	6° (7°)	+650° (343°)

EXTERNAL PROBE PRESSURE:

System Pressure: 1250 PSIG (86 bar) Proof Pressure: 1500 PSIG (103 bar)

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 646TUEM4-7002)

TEMPERATURE CONVERSION

32 Deg F = 0 Deg C

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

OPTIONAL STANDARD MODIFIED SUFFIXES

- 7001:** 10' Capillary
- 7002:** 15' Capillary
- 7003:** 25' Capillary
- 7008:** Gold Contacts
- 7076:** 18 inch Teflon Free Leads Standard 5' Capillary (Low Temp Wire)

OPTIONS MODEL CODES

- M:** DPDT Electrical
- Y:** ATEX / GOST Certified Electrical Assembly (Consult CCS Sales Department for GOST options and requirements.)
- X:** Double Break Electrical Assembly

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

THERMOWELLS

Order as separate line items. See accessory page for detailed information.

- 113-34-1:** 1" NPT 316 SST 4.5" "U" Dim.
- 113-34-2:** 1" NPT 316 SST 7.5" "U" Dim.
- 113-34-3:** 1" NPT 316 SST 10.5" "U" Dim.
- 113-34-4:** 1" NPT 316 SST 13.5" "U" Dim.
- 113-35-1:** 3/4" NPT 316 SST 4.5" "U" Dim.
- 113-35-2:** 3/4" NPT 316 SST 7.5" "U" Dim.
- 113-35-3:** 3/4" NPT 316 SST 10.5" "U" Dim.
- 113-35-4:** 3/4" NPT 316 SST 13.5" "U" Dim.

ELECTRICAL CHARACTERISTICS

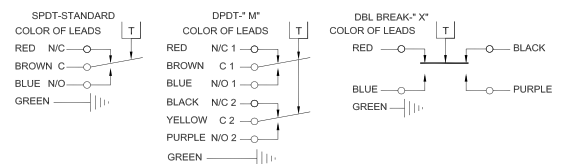
* c-UL, U.L./CSA Explosion Proof: Div. 1, 2 hermetically sealed electrical assembly P/N 17-51 (17-73 for M model option), listed by both Underwriter's Laboratories, Inc. (File No. E32961) and Canadian Standard Association (CSA) Testing Laboratories (File No. LR22921) for hazardous locations, Class 1, Groups A, B, C, and D; Class 2 Groups E, F, and G.

* ATEX - Baseefa certified for potentially explosive atmospheres. Models 646**Y, II 2 GD Ex d IIC, Ex tb IIIC, Baseefa 05ATEX0011X. (Option Y)

ELECTRICAL CHARACTERISTICS SCHEMATIC AND WIRING CODE

VOLTS	AMPERES		
	SPDT Res.	DPDT "M" Res.	DBl Brk "X" Res.
125 AC - 50/60 Hz	15	5	15
250 AC - 50/60 Hz	15	5	15
480 AC - 50/60 Hz	15	-	15
28 DC	2	5	-
125 DC	.5	.5	1
250 DC	.2	-	.5
*125 AC - 50/60 Hz	1 max	1 max	-
*30 DC	1 max	1 max	-

*Gold Contacts -7008 Suffix



DUAL-SNAP®

Models: 646TUE*, Page 2 of 2
Form 830G, 9.10.13



CustomControlSensors

Hazardous Areas Adjustable Pressure Switch

646V*E* & 646GV*E - Diaphragm Sensor

DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, midsize and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-pressure capability. (System and Proof)
- Certified explosion proof hermetically sealed electrical assembly for environmental protection.
- Various options for wetted materials and electrical ratings to meet a wide range of application requirements and media compatibility.
- Suitable for ultra low pressure and vacuum to pressure applications.

SHIPPING WEIGHT: APPROXIMATELY 56 OUNCES (1587 GRAMS)

SERIES:

646V*E*
646GV*E*

ADJUSTABLE SET POINT RANGE:

VACUUM:

1 to 28.5" Hg
25 to 724 mm Hg

CROSSOVER:

20" Hg Vacuum to 12 PSIG
508 mm Hg to 0.83 bar

OPERATING TEMPERATURE:

Temperature limits change with O-ring selection.

-40° to 186°F

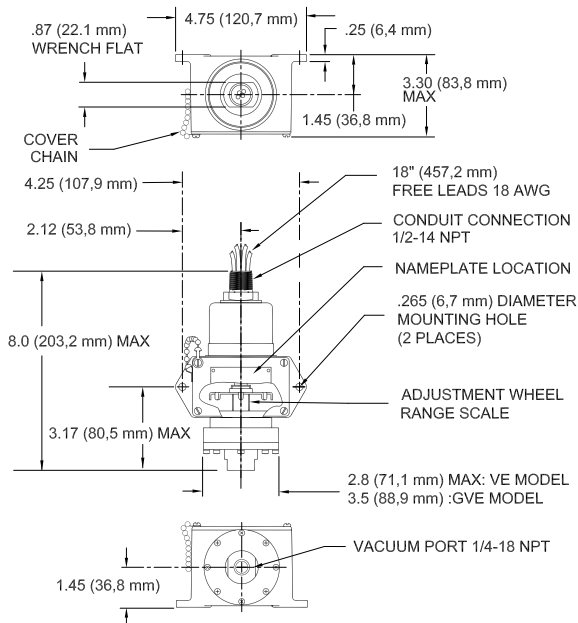
-40° to 86°C

STANDARD FEATURES:

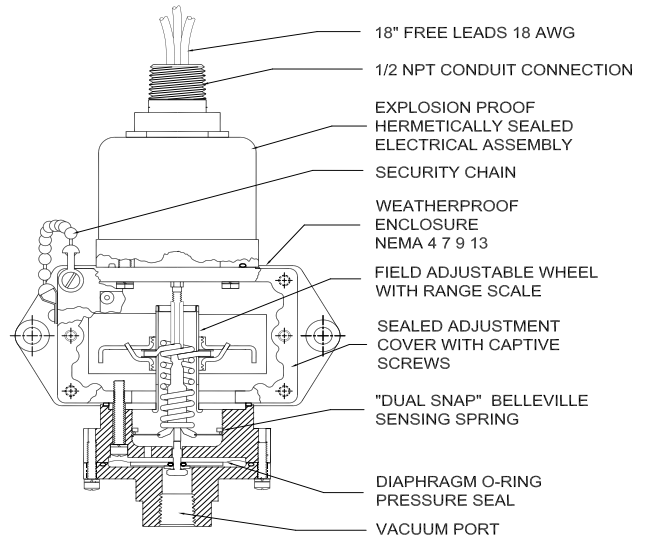
- Hermetically Sealed Electrical Assembly
- CE Mark
- Dual Seal: ANSI/ISA-12.27.01
- NACE MRO175 / ISO 15156
- NEMA: 4, 7, 9, 13 / IP66
- CRN
- U.L. / CSA Listed



INSTALLATION DRAWING



DESIGN PRINCIPLES



646VE & GVE SERIES

FIELD SETTING: Open access cover. Turn clockwise to increase settings. Counterclockwise to decrease settings.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.

DUAL-SNAP®

Models: 646V*E* & 646GV*E*, Page 1 of 2
Form 830G, 9.20.12



CustomControlSensors

Hazardous Areas Adjustable Pressure Switch

646V*E* & 646GV*E - Diaphragm Sensor

OPERATING AND ORDERING DATA

SERIES 646VE*	WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, POLYIMIDE DIAPHRAGM, BUNA N O-RING									
	ADJUSTABLE SET POINT RANGE				APPROX. DEAD BAND INCHES Hg (mm Hg)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)			
	INCREASING VACUUM INCHES Hg (mm Hg)		DECREASING VACUUM INCHES Hg (mm Hg)							
646VE*1	3.5-28.5 (89-724)		1-26 (25-660)		2.5 (64)	150 (10.3)	250 (17.2)			
SERIES 646VZE*	WETTED PARTS: 1/2"-14 NPT 316 STAINLESS STEEL PRESSURE PORT, POLYIMIDE DIAPHRAGM, VITON O-RING									
	ADJUSTABLE SET POINT RANGE				APPROX. DEAD BAND INCHES Hg (mm Hg)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)			
	INCREASING VACUUM INCHES Hg (mm Hg)		DECREASING VACUUM INCHES Hg (mm Hg)							
646VZE*1	3.5-28.5 (89-724)		1-26 (25-660)		2.5 (64)	150 (10.3)	250 (17.2)			
SERIES 646GVE* CROSSOVER (VACUUM TO GAGE)	WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, POLYIMIDE DIAPHRAGM, BUNA N O-RING									
	ADJUSTABLE SET POINT RANGE VACUUM		APPROX. DEAD BAND INCHES Hg (mm Hg)		ADJUSTABLE SET POINT RANGE GAGE PRESSURE		APPROX. DEAD BAND PSI (BAR) GAGE PRESSURE		SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING VACUUM INCHES Hg (mm Hg)	DECREASING VACUUM INCHES Hg (mm Hg)	AT TOP OF RANGE	AT BOTTOM OF RANGE	INCREASING PRESSURE PSI (BAR)	DECREASING PRESSURE PSI (BAR)	AT TOP OF RANGE	AT BOTTOM OF RANGE		
646GVE*2	1.5-18 (38-457)	0.5-17 (3-493)	1.0 (25)	1.0 (25)	1.0-10 (0.068-0.68)	0.5-9.5 (0.034-0.65)	0.5 (0.034)	0.5 (0.034)	500 (34.5)	750 (52)
SERIES 646GVZE* CROSSOVER (VACUUM TO GAGE)	WETTED PARTS: 1/4"-18 NPT STAINLESS STEEL PRESSURE PORT, POLYIMIDE DIAPHRAGM, VITON O-RING									
	ADJUSTABLE SET POINT RANGE VACUUM		APPROX. DEAD BAND INCHES Hg (mm Hg)		ADJUSTABLE SET POINT RANGE GAGE PRESSURE		APPROX. DEAD BAND PSI (BAR) GAGE PRESSURE		SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING VACUUM INCHES Hg (mm Hg)	DECREASING VACUUM INCHES Hg (mm Hg)	AT TOP OF RANGE	AT BOTTOM OF RANGE	INCREASING PRESSURE PSI (BAR)	DECREASING PRESSURE PSI (BAR)	AT TOP OF RANGE	AT BOTTOM OF RANGE		
646GVZE*2	1.5-18 (38-457)	0.5-17 (3-493)	1.0 (25)	1.0 (25)	1.0-10 (0.068-0.68)	0.5-9.5 (0.034-0.65)	0.5 (0.034)	0.5 (0.034)	500 (34.5)	750 (52)

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 646GVZE2-7008)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

OPTIONAL STANDARD MODIFIED SUFFIXES

- 7005:** Viton/Dacron Diaphragm, Viton O-Ring & Stainless Steel Port Cap (VZ Models only)
- 7008:** Gold Contacts
- 7011:** Stainless Steel Port and Diaphragm
- 7054:** 2 Meter Free Leads
- 7076:** 18 inch Teflon Free Leads (Low Temp Wire)

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

ELECTRICAL ENCLOSURE CERTIFICATIONS

* c-UL, U.L./CSA Explosion Proof: Div. 1, 2 hermetically sealed electrical assembly P/N 17-51 (17-73 for M model option), listed by both Underwriter's Laboratories, Inc. (File No. E32961) and Canadian Standard Association (CSA) Testing Laboratories (File No. LR22921) for hazardous locations, Class 1, Groups A, B, C, and D; Class 2 Groups E, F, and G.
* ATEX - Baseefa certified for potentially explosive atmospheres. Models 646**Y, II 2 GD Ex d IIC, Baseefa 05ATEX0011X. (Option Y)

OPTIONS MODEL CODES

- A:** Viton® O-Ring (STD on GVZE models)
- F:** Ethylene Propylene O-Ring
- M:** DPDT Electrical
- Y:** ATEX / GOST Certified Electrical Assembly (Consult CCS Sales Department for GOST options and requirements.)
- X:** Double Break Electrical Assembly

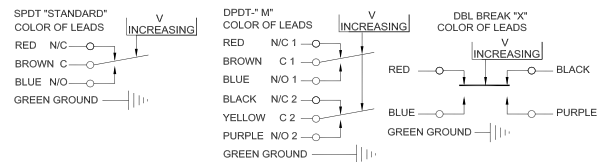
ELECTRICAL CHARACTERISTICS RATING OF SWITCH ELEMENT

VOLTS	AMPERES		
	SPDT Res.	DPDT "M" Res.	Dbl Brk "X" Res.
125 AC - 50/60 Hz	15	5	15
250 AC - 50/60 Hz	15	5	15
480 AC - 50/60 Hz	15	-	15
28 DC	-	5	-
125 DC	.5	.5	1
250 DC	.2	-	.5
*125 AC - 50/60 Hz	1 max	1 max	-
*30 DC	1 max	1 max	-

*Gold Contacts -7008 Suffix

SCHEMATIC AND WIRING CODE

Note: In gage mode, wiring diagram will be in reverse.



DUAL-SNAP®

Models: 646V*E* & 646GV*E*, Page 2 of 2
Form 830G, 9.20.12



CustomControlSensors

Hazardous Areas Adjustable Pressure Switch

672DE* - Diaphragm Sensor



DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers .
- Engineering based on aerospace technology.
- Rigid, midsize and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-pressure capability. (System and Proof)

- Certified explosion proof hermetically sealed electrical assembly for environmental protection.
- Various options for wetted materials and electrical ratings to meet a wide range of application requirements and media compatibility.

SHIPPING WEIGHT: APPROXIMATELY 67 OUNCES (1899 GRAMS)

SERIES:

672DE*

ADJUSTABLE SET POINT RANGE:

DIFFERENTIAL PRESSURE:

2 to 150 PSID
0.14 to 10.3 bar
13.79 to 1034 kPa

OPERATING TEMPERATURE:

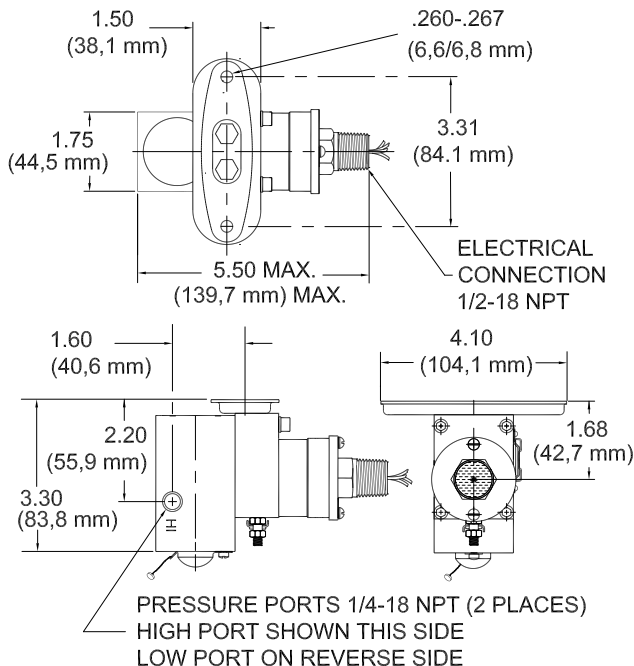
Temperature limits change with o-ring selection.

-40° to 186°F
-40° to 86°C

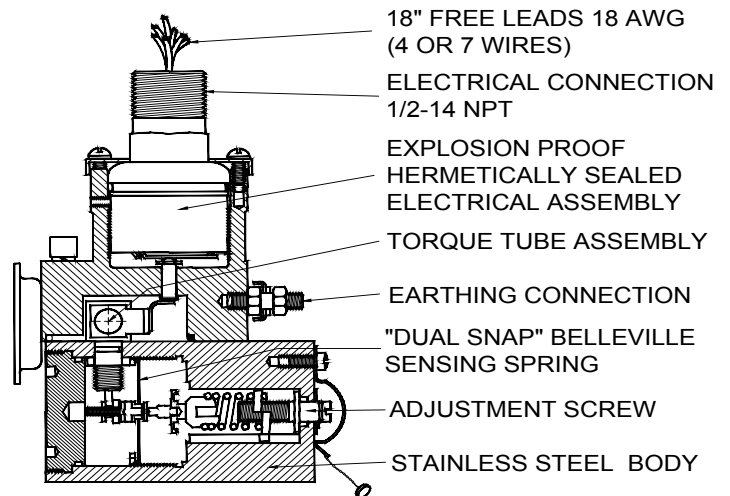
STANDARD FEATURES:

- CE Mark
- CCC
- CRN
- CSA / U.L. Listed
- NACE MR0125 (Y Option) / ISO 15156
- NEMA: 4, 4X, 7, 9,13 / IP67
- Hermetically Sealed Electrical Assembly
- 316 SST Electrical Assembly

INSTALLATION DRAWING



DESIGN PRINCIPLES



SERIES 672 DE

FIELD SETTING: Loosen access cover. Adjust screwdriver adjustment slot. Clockwise to decrease settings. Counterclockwise to increase settings.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.

DUAL-SNAP®



Models: 672DE*, Page 1 of 2
Form 830G, 12.18.13



CustomControlSensors

Hazardous Areas Adjustable Pressure Switch

672DE* - Diaphragm Sensor

OPERATING AND ORDERING DATA

SERIES 672DE*	WETTED PARTS: 1/4"-18 NPT 316 STAINLESS STEEL PRESSURE PORT & DIAPHRAGM, VITON O-RING						
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	MAX SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)		
	INCREASING PRESSURE PSID (BAR)	DECREASING PRESSURE PSID (BAR)			BOTH PORTS SIMULT.	HIGH OVER LOW LOW OVER HIGH	
			HIGH	LOW			
672DE*1	7-65 (0.48-4.48)	2-60 (0.14-4.14)	5 (0.345)	3000 (207)	4500 (310)	2000 (138)	1000 (68.9)
672DEM*1	9-65 (0.62-4.48)	2-60 (0.14-4.14)	6 (0.41)				
672DE*4	60-150 (4.1-10.3)	40-130 (2.8-9.0)	20 (1.38)				

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 672DEM1-7076)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

OPTIONAL STANDARD MODIFIED SUFFIXES

- 7008:** Gold Contacts
- 7054:** 2 Meter Free Leads
- 7076:** 18 inch Teflon Free Leads (Low Temp Wire)

OPTIONS MODEL CODES

- F:** Ethylene Propylene O-Ring
- M:** DPDT Electrical
- Y:** ATEX / GOST Certified Electrical Assembly (Consult CCS Sales Department for GOST options and requirements.)

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

ELECTRICAL ENCLOSURE CERTIFICATIONS

* c-UL, U.L./CSA Explosion Proof: Div. 1, 2 hermetically sealed electrical assembly P/N 46-1058 (46-1061 for M model option), listed by both Underwriter's Laboratories, Inc. (File No. E32961) and Canadian Standard Association (CSA) Testing Laboratories (File No. LR22921) for hazardous locations, Class 1, Groups A, B, C, and D; Class 2 Groups E, F, and G. ATEX - Baseefa certified for potentially explosive atmospheres. Certificate 04ATEX0114X. IECEx - SIRA certified, Sira 08ATEX1046X. (Option Y)

PRESSURE SWITCH CERTIFICATIONS

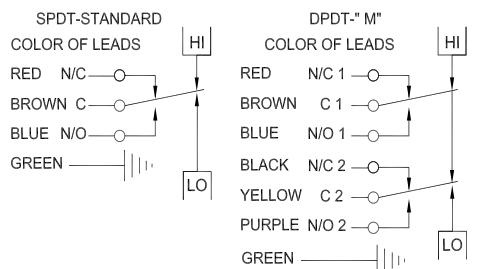
* ATEX - Certificate No. Baseefa 03ATEX0700X. Baseefa certified equipment or protective system intended for potentially explosive atmospheres Directive 94/9/EC. In compliance with EN60079-0:2012, EN 60079-1:2007, EN 60079-31:2009.

ELECTRICAL CHARACTERISTICS RATING OF SWITCH ELEMENT

VOLTS	AMPERES	
	SPDT	DPDT "M"
	Res.	Res.
125 AC - 50/60 Hz	11	11
250 AC - 50/60 Hz	11	11
30 DC	5	5
125 DC	.5	.5
*125 AC - 50/60 Hz	1 max	1 max
*30 DC	1 max	1 max

*Gold Contacts -7008 Suffix

SCHEMATIC AND WIRING CODE





CustomControlSensors

Hazardous Areas Adjustable Pressure Switch

673DE* - Diaphragm Sensor



DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, midsize and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-pressure capability. (System and Proof)

- Certified explosion proof hermetically sealed electrical assembly for environmental protection.
- Various options for wetted materials and electrical ratings to meet a wide range of application requirements and media compatibility.

SHIPPING WEIGHT: APPROXIMATELY 67 OUNCES (1899 GRAMS)

SERIES:

673DE*

ADJUSTABLE SET POINT RANGE:

DIFFERENTIAL PRESSURE:

2 to 60 PSID
0.14 to 4.14 bar
13.79 to 414 kPa

OPERATING TEMPERATURE:

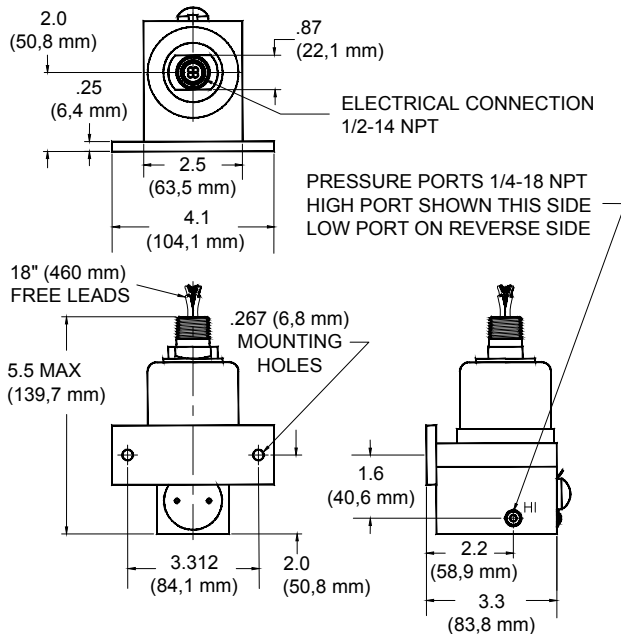
Temperature limits change with o-ring selection.

-40° to 186°F
-40° to 86°C

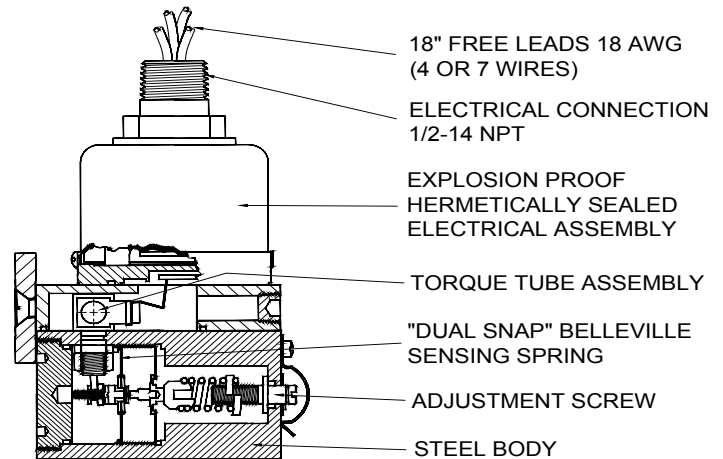
STANDARD FEATURES:

- Hermetically Sealed Electrical Assembly
- CE Mark
- CRN
- NEMA: 4, 4X, 7, 9, 13 / IP67
- U.L. / CSA Listed

INSTALLATION DRAWING



DESIGN PRINCIPLES



SERIES 673 DE

FIELD SETTING: Loosen access cover. Adjust screwdriver adjustment slot. Clockwise to decrease settings. Counterclockwise to increase settings.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.



CustomControlSensors

Hazardous Areas Adjustable Pressure Switch

673DE* - Diaphragm Sensor

OPERATING AND ORDERING DATA

SERIES 673DE*	WETTED PARTS: 1/4"-14 NPT 300 STAINLESS STEEL PRESSURE PORT & DIAPHRAGM, VITON O-RING						
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	MAX SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)		
	INCREASING PRESSURE PSID (BAR)	DECREASING PRESSURE PSID (BAR)			BOTH PORTS SIMULT.	HIGH OVER LOW LOW OVER HIGH	
			HIGH	LOW			
673DE*8011	7-60 (0.483-4.14)	2-55 (0.14-3.79)	5 (0.345)	3000 (207)	4500 (310)	2000 (138)	1000 (68.9)
673DEM*8011	9-60 (0.62-4.14)	2-55 (0.14-3.79)	7 (0.482)				

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 673DEM8011-7076)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

OPTIONAL STANDARD MODIFIED SUFFIXES

- 7008:** Gold Contacts
- 7054:** 2 Meter Free Leads
- 7076:** 18 inch Teflon Free Leads (Low Temp Wire)

OPTIONS MODEL CODES

- F:** Ethylene Propylene O-Ring
- M:** DPDT Electrical

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

ELECTRICAL ENCLOSURE CERTIFICATIONS

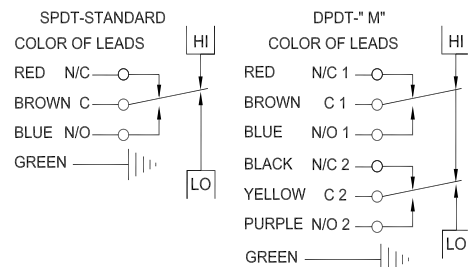
* c-UL, U.L./CSA Explosion Proof: Div. 1, 2 hermetically sealed electrical assembly P/N 17-51 (17-73 for M model option), listed by both Underwriter's Laboratories, Inc. (File No. E32961) and Canadian Standard Association (CSA) Testing Laboratories (File No. LR22921) for hazardous locations, Class 1, Groups A, B, C, and D; Class 2 Groups E, F, and G.

ELECTRICAL CHARACTERISTICS RATING OF SWITCH ELEMENT

VOLTS	AMPERES	
	SPDT	DPDT "M"
	Res.	Res.
125 AC - 50/60 Hz	15	5
250 AC - 50/60 Hz	15	5
480 AC - 50/60 Hz	15	-
28 DC	-	5
125 DC	.5	.5
250 DC	.2	-
*125 AC - 50/60 Hz	1 max	1 max
*30 DC	1 max	1 max

*Gold Contacts -7008 Suffix

SCHEMATIC AND WIRING CODE



Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

DUAL-SNAP®

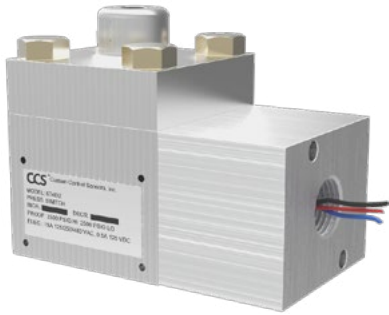
Models: 673DE*, Page 2 of 2
Form 830G, 2.18.13



CustomControlSensors

Non-Hazardous Areas Pre-Set Pressure Switch

674D* - Diaphragm Sensor



DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers .
- Engineering based on aerospace technology.
- Rigid, midsize and internally adjustable for factory setting.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-pressure capability. (System and Proof)

SHIPPING WEIGHT: APPROXIMATELY 45 OUNCES (1275 GRAMS)

SERIES:

674D*

SET POINT RANGE:

DIFFERENTIAL PRESSURE:

2 to 800 PSID
0.14 to 55.16 bar
13.8 to 5515 kPa

OPERATING TEMPERATURE:

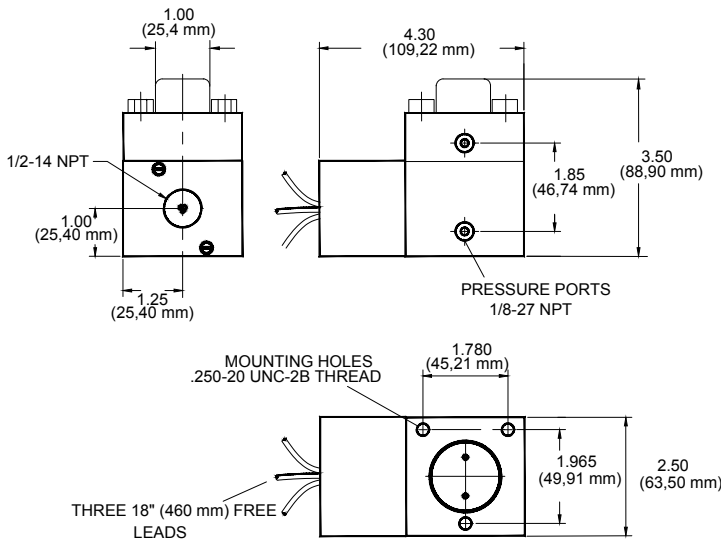
Temperature limits change with o-ring selection.

-40° to 186°F
-40° to 86°C

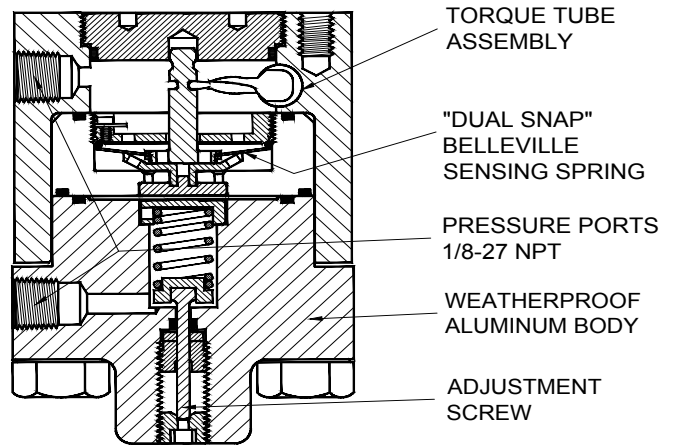
STANDARD FEATURES:

- CE Mark
- CCC
- CRN
- NEMA: 4,13 / IP66
- Weatherproof

INSTALLATION DRAWING



DESIGN PRINCIPLES



SERIES 674D

FIELD SETTING: Loosen access cover. Adjust screwdriver adjustment slot. Clockwise to decrease settings. Counterclockwise to increase settings.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.

DUAL-SNAP®



Models: 674D*, Page 1 of 2
Form 830G, 10.2.13



CustomControlSensors

Non-Hazardous Areas Pre-Set Pressure Switch

674D* - Diaphragm Sensor

OPERATING AND ORDERING DATA

SERIES 674D*	WETTED PARTS: 1/8"-27 NPT ALUMINUM PRESSURE PORT & POLYIMIDE DIAPHRAGM, VITON O-RING							
	FIX SET POINT RANGE (SPECIFY SET POINT ON ORDER)		APPROXIMATE DEAD BAND PSI (BAR)		MAX SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)		
	INCREASING PRESSURE PSID (BAR)	DECREASING PRESSURE PSID (BAR)	AT BOTTOM OF RANGE	AT TOP OF RANGE		BOTH PORTS SIMULT.	HIGH OVER LOW LOW OVER	
					HIGH		LOW	
674D*1	5-80 (0.34-5.52)	2-68 (0.14-4.68)	3 (0.21)	12 (0.83)	3000 (207)	4500 (310)	2500 (172)	2500 (172)
674D*2	81-350 (5.58-24.13)	67-297 (4.62-20.48)	14 (.97)	53 (3.65)				
674D*3	351-800 (24.2-55.15)	299-680 (20.61-46.88)	60 (4.13)	120 (8.27)				

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 674DF1-7008)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

OPTIONAL STANDARD MODIFIED SUFFIXES

7008: Gold Contacts

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

ELECTRICAL CHARACTERISTICS

RATING OF SWITCH ELEMENT

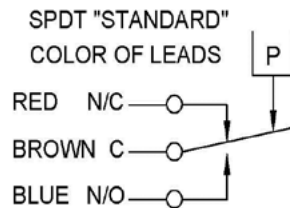
VOLTS	AMPERES	
	SPDT	Res.
125 AC - 50/60 Hz	15	
250 AC - 50/60 Hz	15	
480 AC - 50/60 Hz	15	
250 DC	.2	
125 DC	.5	
28 DC	2	
*125 AC	1 max	
*30 DC	1 max	
*Gold Contacts -7008 Suffix		

OPTIONS MODEL CODES

F: Ethylene Propylene O-Ring

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

SCHEMATIC AND WIRING CODE

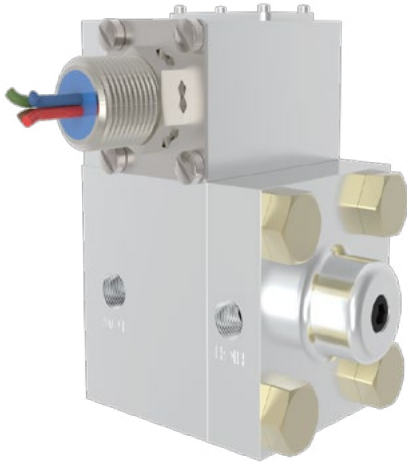




CustomControlSensors

Hazardous Areas Pre-Set Pressure Switch

674DE* - Diaphragm Sensor



DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers .
- Engineering based on aerospace technology.
- Rigid, midsize and internally adjustable for factory setting.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-pressure capability. (System and Proof)

- Certified explosion proof hermetically sealed electrical assembly for environmental protection.
- Various options for wetted materials and electrical ratings to meet a wide range of application requirements and media compatibility.

SHIPPING WEIGHT: APPROXIMATELY 47 OUNCES (1332 GRAMS)

SERIES:

674DE*

SET POINT RANGE:

DIFFERENTIAL PRESSURE:

2 to 800 PSID
0.14 to 55.16 bar
13.79 to 551.5 kPa

OPERATING TEMPERATURE:

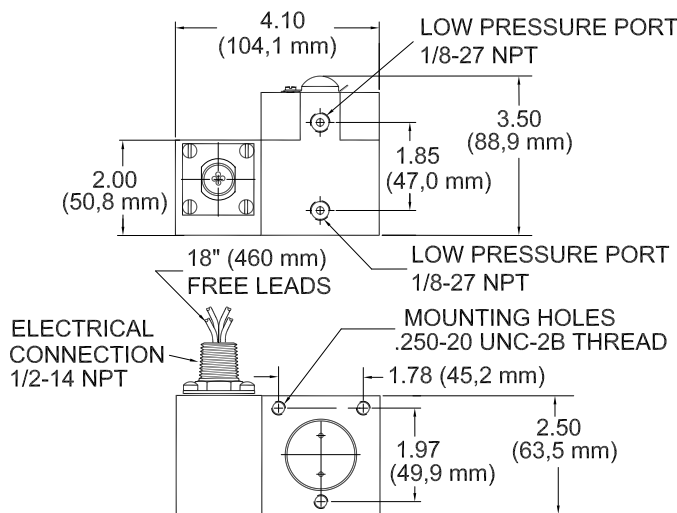
Temperature limits change with o-ring selection.

-40° to 186°F
-40° to 86°C

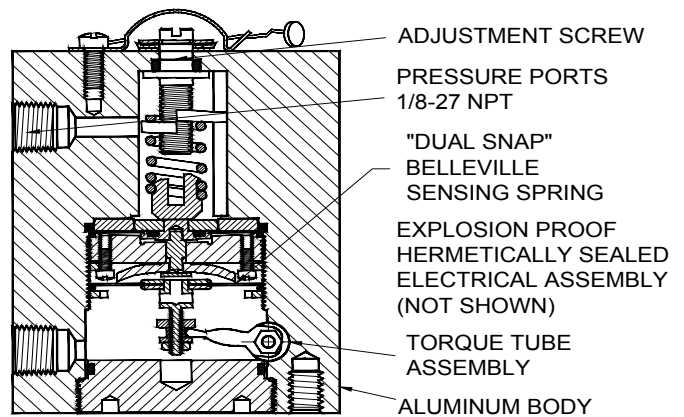
STANDARD FEATURES:

- CE Mark
- CCC
- CRN
- NEMA: 4, 7, 9,13 / IP66
- U.L. / CSA Listed
- Hermetically Sealed Electrical Assembly

INSTALLATION DRAWING



DESIGN PRINCIPLES



SERIES 674DE

FIELD SETTING: Loosen access cover. Adjust screwdriver adjustment slot. Clockwise to decrease settings. Counterclockwise to increase settings.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.





CustomControlSensors

Hazardous Areas Pre-Set Pressure Switch

674DE* - Diaphragm Sensor

OPERATING AND ORDERING DATA

SERIES 674DE*	WETTED PARTS: 1/8"-27 NPT ALUMINUM PRESSURE PORT & POLYIMIDE DIAPHRAGM, VITON O-RING							
	FIX SET POINT RANGE (SPECIFY SET POINT ON ORDER)		APPROXIMATE DEAD BAND PSI (BAR)		MAX SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)		
	INCREASING PRESSURE PSID (BAR)	DECREASING PRESSURE PSID (BAR)	AT BOTTOM OF RANGE	AT TOP OF RANGE		BOTH PORTS SIMULT.	HIGH OVER LOW LOW OVER	
					HIGH		LOW	
674DE*1	7-80 (0.48-5.52)	2-68 (0.14-4.68)	5 (0.345)	12 (0.83)	3000 (207)	4500 (310)	2500 (172)	2500 (172)
674DE*2	81-350 (5.58-24.13)	66-297 (4.55-20.48)	14 (.97)	52 (3.59)				
674DE*3	351-800 (24.2-55.15)	291-680 (20.06-46.88)	60 (4.13)	120 (8.23)				

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 674DEMY3-7054)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

OPTIONAL STANDARD MODIFIED SUFFIXES

- 7008:** Gold Contacts
- 7054:** 2 Meter Free Leads
- 7076:** 18 inch Teflon Free Leads (Low Temp Wire)

OPTIONS MODEL CODES

- F:** Ethylene Propylene O-Ring
- M:** DPDT Electrical
- Y:** ATEX / GOST Certified Electrical Assembly (Consult CCS Sales Department for GOST options and requirements.)

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

ELECTRICAL ENCLOSURE CERTIFICATIONS

* c-UL, U.L./CSA Explosion Proof: Div. 1, 2 hermetically sealed electrical assembly P/N 46-1058 (46-1061 for M model option), listed by both Underwriter's Laboratories, Inc. (File No. E32961) and Canadian Standard Association (CSA) Testing Laboratories (File No. LR22921) for hazardous locations, Class 1, Groups A, B, C, and D; Class 2 Groups E, F, and G.

* ATEX certified for potentially explosive atmospheres electrical assembly series 46-XXXXXXX, Models 6*****, Ex d IIC T6, Directive 94/9/EC Sira 08ATEX1046X. (Option Y). Consult CCS Sales Department for certification requirements.

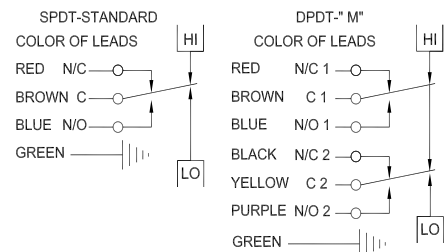
* IECEx - SIRA certified, SIR 10,0193X (Option Y)

ELECTRICAL CHARACTERISTICS RATING OF SWITCH ELEMENT

VOLTS	AMPERES	
	SPDT Res.	DPDT "M" Res.
125 AC - 50/60 Hz	11	11
250 AC - 50/60 Hz	11	11
30 DC	5	5
125 DC	.5	.5
*125 AC - 50/60 Hz	1 max	1 max
*30 DC	1 max	1 max

*Gold Contacts -7008 Suffix

SCHEMATIC AND WIRING CODE



Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.



CustomControlSensors

Non-Hazardous Areas Adjustable Pressure Switch

675D*800* - Diaphragm Sensor

DESCRIPTION



- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology. Rigid, midsize and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-pressure capability. (System and Proof)

SHIPPING WEIGHT: APPROXIMATELY 19 OUNCES (538 GRAMS)

SERIES:

675D*800*

ADJUSTABLE SET POINT RANGE:

DIFFERENTIAL PRESSURE:

- .7 to 31" H₂O
- 1.7 to 77.2 mbar
- 0.17 to 7.72 kPa

OPERATING TEMPERATURE:

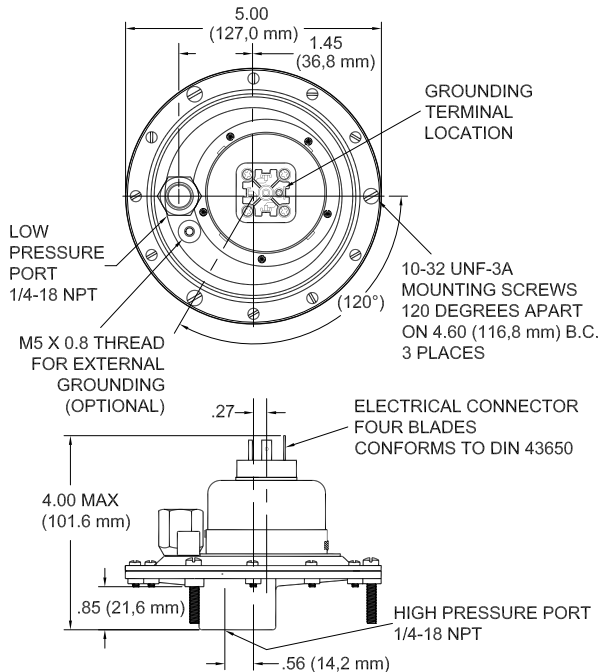
Temperature limits change with o-ring selection.

- 40° to 186°F
- 40° to 86°C

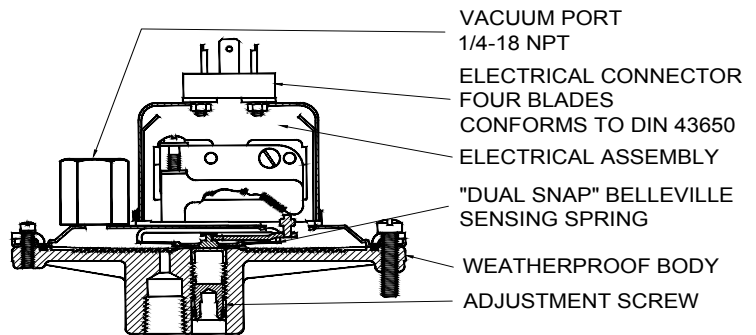
STANDARD FEATURES:

- NEMA: 4,13 / IP65
- Electrical Connector Conforms to DIN 43650

INSTALLATION DRAWING



DESIGN PRINCIPLES



SERIES 675D800

FIELD SETTING: Insert 3/16" Allen wrench into adjustment screw (located in pressure port). Clockwise to decrease settings. Counterclockwise to increase settings.

DUAL-SNAP®



Models: 675D800* Page 1 of 2
Form 830G, 3.24.14



CustomControlSensors

Non-Hazardous Areas Adjustable Pressure Switch

675D*800* - Diaphragm Sensor

OPERATING AND ORDERING DATA

SERIES 675D*800*	WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, POLYIMIDE DIAPHRAGM, BUNA N O-RING						
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND INCHES H2O (mbar)	MAX SYSTEM PRESSURE PSI (mbar)	PROOF PRESSURE PSI (mbar)		
	INCREASING PRESSURE INCHES H2O (mbar)	DECREASING PRESSURE INCHES H2O (mbar)			BOTH PORTS SIMULT.	HIGH OVER LOW LOW OVER HIGH	
			HIGH	LOW			
675D*8001	1.5-6.9 (3.7-17.2)	0.7-6.1 (1.8-15.3)	0.8 (1.9)	14.75 (1017)	25 (1724)	25 (1724)	14.75 (1017)
675D*8002	7-12.9 (17.4-32.1)	5.5-11.4 (13.7-28.4)	1.5 (3.7)				
675D*8003	13-18.9 (32.4-47.1)	11-16.9 (27.4-42.1)	2.0 (5.0)				
675D*8004	19-24.9 (47.3-62)	16.5-22.4 (41.1-55.8)	2.5 (6.2)				
675D*8005	25-31 (62.3-77.2)	22-28 (54.8-69.8)	3.0 (7.5)				

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 675DA8001)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

OPTIONAL STANDARD MODIFIED SUFFIXES

7008: Gold Contacts

OPTIONS MODEL CODES

A: Viton® O-Ring

ACCESSORIES - SOLD SEPARATELY

89-130: Optional Switch Mounting Bracket Kit

69-102: Mating Connector

57-159: Sealing Gasket

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

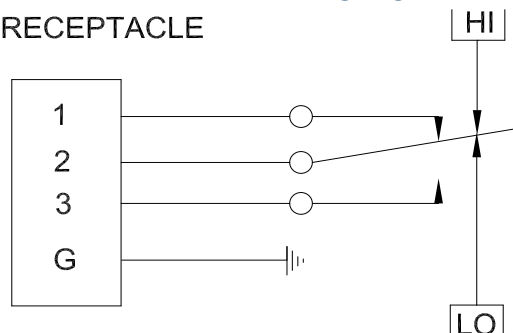
ELECTRICAL CHARACTERISTICS

RATING OF SWITCH ELEMENT

VOLTS	AMPERES
	SPDT
	Res.
125 AC - 50/60 Hz	15
250 AC - 50/60 Hz	15
480 AC - 50/60 Hz	15
28 DC	-
125 DC	.5
250 DC	.2

SCHEMATIC AND WIRING CODE

RECEPTACLE



DUAL-SNAP®

Models: 675D800* Page 2 of 2
Form 830G, 3.24.14



CustomControlSensors

Hazardous Areas Pre-Set / Adjustable Pressure Switch

675DE* & 675DE*800* - Diaphragm Sensor

DESCRIPTION



- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
 - Engineering based on aerospace technology.
 - Rigid, midsize and internally adjustable for factory setting or convenient field set point adjustment.
 - Repeatable and stable set points.
 - Vibration and shock resistant.
 - High cycle life.
 - High over-pressure capability. (System and Proof)
- Certified explosion proof hermetically sealed electrical assembly for environmental protection.

SHIPPING WEIGHT: APPROXIMATELY 22 OUNCES (624 GRAMS)

SERIES:

- 675DE*
- 675DE*800*

SET POINT RANGE:

DIFFERENTIAL PRESSURE:

- .7 to 31" H₂O
- 1.7 to 77.2 mbar
- 0.17 to 7.72 kPa

OPERATING TEMPERATURE:

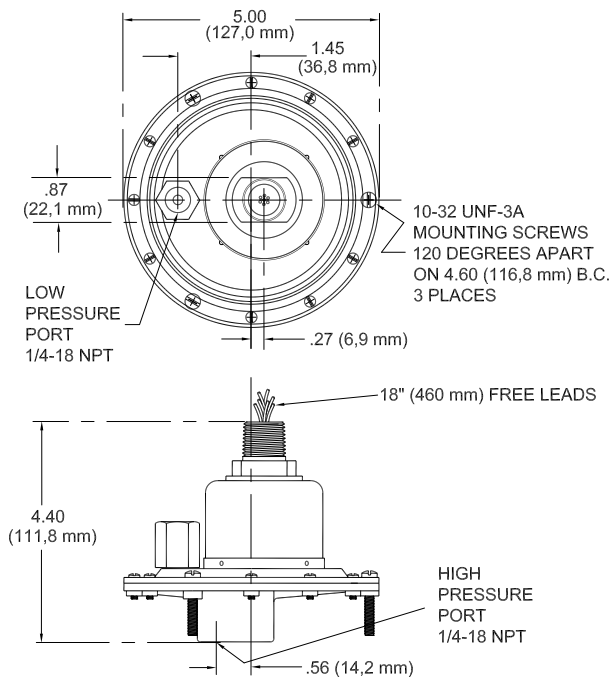
Temperature limits change with o-ring selection.

- 40° to 186°F
- 40° to 86°C

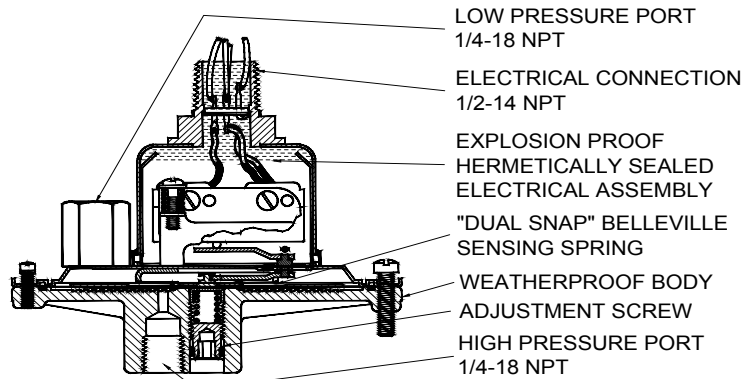
STANDARD FEATURES:

- CE Mark
- Dual Seal ANSI/ISA -12.27.01
- NEMA: 4, 7, 9,13 / IP66
- U.L. / CSA Listed
- Hermetically Sealed Electrical Assembly

INSTALLATION DRAWING



DESIGN PRINCIPLES



SERIES 675DE & 675DE800

FIELD SETTING: Insert 3/16" Allen wrench into adjustment screw (located in pressure port). Clockwise to decrease settings. Counterclockwise to increase settings.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.

DUAL-SNAP®



Models: 675DE* & 675DE800* Page 1 of 2
Form 830G, 3.24.14



CustomControlSensors

Hazardous Areas Pre-Set / Adjustable Pressure Switch

675DE* & 675DE*800* - Diaphragm Sensor

OPERATING AND ORDERING DATA

SERIES 675DE*	WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, POLYIMIDE DIAPHRAGM, BUNA N O-RING							
	FIXED SET POINT RANGE (SPECIFY SET POINT ON ORDER)		APPROXIMATE DEAD BAND INCHES H ₂ O (mbar)		MAX SYSTEM PRESSURE PSIG (mbar)	PROOF PRESSURE PSIG (mbar)		
	INCREASING PRESSURE INCHES H ₂ O (mbar)	DECREASING PRESSURE INCHES H ₂ O (mbar)	AT BOTTOM OF RANGE	AT TOP OF RANGE		BOTH PORTS SIMULT.	HIGH OVER LOW LOW OVER HIGH	
					HIGH		LOW	
675DE*1	1.5-30 (3.7-75)	0.8-27 (1.99-67.2)	0.7 (1.7)	3.0 (7.5)	10 (689)	15 (1034)	15 (1034)	10 (689)
675DEM*1	1.5-30 (3.7-75)	0.8-27 (1.99-67.2)	0.7 (1.7)	3.0 (7.5)				

SERIES 675DE*800*	WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, POLYIMIDE DIAPHRAGM, BUNA N O-RING							
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND INCHES H ₂ O (mbar)	MAX SYSTEM PRESSURE PSIG (mbar)	PROOF PRESSURE PSIG (mbar)			
	INCREASING PRESSURE INCHES H ₂ O (mbar)	DECREASING PRESSURE INCHES H ₂ O (mbar)			BOTH PORTS SIMULT.	HIGH OVER LOW LOW OVER HIGH		
			HIGH	LOW				
675DE*8001	1.5-6.9 (3.7-17.2)	0.7-6.1 (1.8-15.3)	0.8 (1.9)	10 (689)	15 (1034)	15 (1034)	10 (689)	
675DE*M8001	2-6.9 (4.9-17.2)	0.7-5.6 (1.7-14)	1.3(3.2)					
675DE*8002	7-12.9 (17.4-32.1)	5.5-11.4 (13.7-28.4)	1.5 (3.7)					
675DE*M8002	7-12.9 (17.4-32.1)	5-10.9 (12.4-27.2)	2.0 (5.0)					
675DE*8003	13-18.9 (32.4-47.1)	11-16.9 (27.4-42.1)	2.0 (5.0)					
675DE*M8003	13-18.9 (32.4-47.1)	10.8-16.7 (26.9-41.6)	2.2 (5.5)					
675DE*8004	19-24.9 (47.3-62)	16.5-22.4 (41.1-55.8)	2.5 (6.2)					
675DE*M8004	19-24.9 (47.3-62)	16.5-22.4 (41.1-55.8)	2.5 (6.2)					
675DE*8005	25-31 (62.3-77.2)	22-28 (54.8-69.8)	3.0 (7.5)					
675DE*M8005	25-31 (62.3-77.2)	22-28 (54.8-69.8)	3.0 (7.5)					

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 675DEY1-7054)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

OPTIONAL STANDARD MODIFIED SUFFIXES

- 7008:** Gold Contacts
- 7054:** 2 Meter Free Leads
- 7076:** 18 inch Teflon Free Leads (Low Temp Wire)

OPTIONS MODEL CODES

- A:** Viton® O-Ring
- M:** DPDT Electrical
- Y:** ATEX / GOST Certified Electrical Assembly (Consult CCS Sales Department for GOST options and requirements.)
- * Y Model Proof Pressure: 25 PSIG**
- * Y Model System Pressure: 14.75 PSIG**

ACCESSORIES - SOLD SEPARATELY

- 89-130:** Optional Switch Mounting Bracket Kit

ELECTRICAL ENCLOSURE CERTIFICATIONS

* c-UL, U.L./CSA Explosion Proof: Div. 1, 2 hermetically sealed electrical assembly P/N 17-51 (17-73 for M model option), listed by both Underwriter's Laboratories, Inc. (File No. E32961) and Canadian Standard Association (CSA) Testing Laboratories (File No. LR22921) for hazardous locations, Class 1, Groups A, B, C, and D; Class 2 Groups E, F, and G.

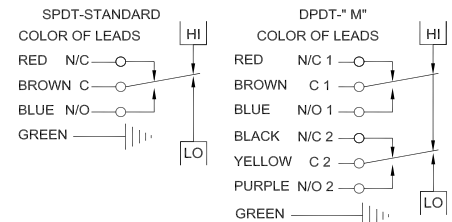
* ATEX - Baseefa certified for potentially explosive atmospheres. Models 675**Y, II 2 GD Ex d IIC, Baseefa 08ATEX0347X. (Option Y).

ELECTRICAL CHARACTERISTICS SCHEMATIC AND WIRING CODE

RATING OF SWITCH ELEMENT

VOLTS	AMPERES	
	SPDT	DPDT "M"
125 AC - 50/60 Hz	15	5
250 AC - 50/60 Hz	15	5
480 AC - 50/60 Hz	15	-
28 DC	-	5
125 DC	.5	.5
250 DC	.2	-
*125 AC - 50/60 Hz	1 max	1 max
*30 DC	1 max	1 max

*Gold Contacts -7008 Suffix



DUAL-SNAP®

Models: 675DE* & 675DE800* Page 2 of 2
Form 830G, 3.24.14



CustomControlSensors

Non-Hazardous Areas Adjustable Pressure Switch

675G*800* - Diaphragm Sensor



DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, midsize and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-pressure capability. (System and Proof)

SHIPPING WEIGHT: APPROXIMATELY 19 OUNCES (538 GRAMS)

SERIES:

675G*800*

ADJUSTABLE SET POINT RANGE:

.7 to 31" H₂O
1.7 to 77.2 mbar
0.17 to 7.72 kPa

OPERATING TEMPERATURE:

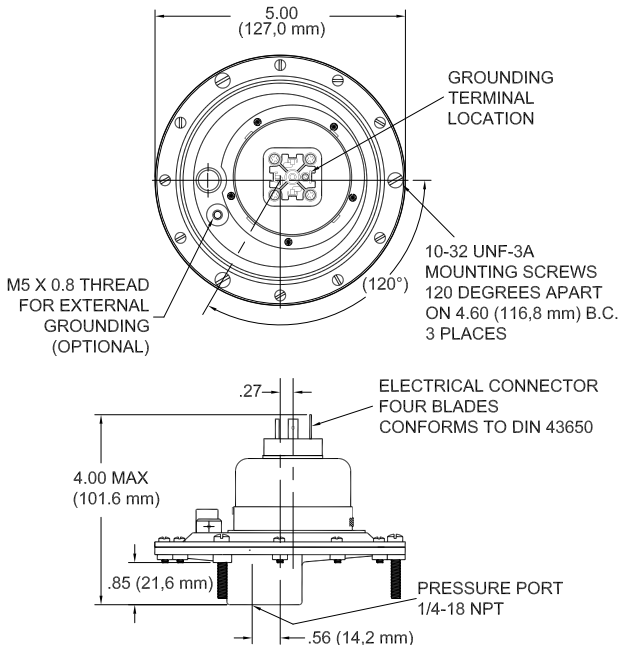
Temperature limits change with o-ring selection.

-40° to 186°F
-40° to 86°C

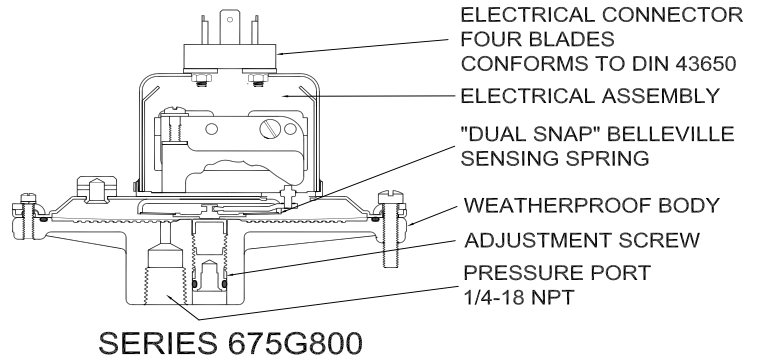
STANDARD FEATURES:

- NEMA: 4, 13 / IP65
- Electrical Connector
Conforms to DIN 43650

INSTALLATION DRAWING



DESIGN PRINCIPLES



FIELD SETTING: Insert 3/16" Allen wrench into adjustment screw (located in pressure port). Clockwise to decrease settings. Counterclockwise to increase settings.

DUAL-SNAP®



Models: 675G800* Page 1 of 2
Form 830G, 3.24.14



CustomControlSensors

Non-Hazardous Areas Adjustable Pressure Switch

675G*800* - Diaphragm Sensor

OPERATING AND ORDERING DATA

SERIES 675G*800*	WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, POLYIMIDE DIAPHRAGM, BUNA N O-RING				
	ADJUSTABLE SET POINT RANGE		APPROXIMATE DEAD BAND INCHES H2O (mbar)	MAX SYSTEM PRESSURE PSIG (mbar)	PROOF PRESSURE PSIG (mbar)
	INCREASING PRESSURE INCHES H2O (mbar)	DECREASING PRESSURE INCHES H2O (mbar)			
675G*8001	1.5-6.9 (3.7-17.2)	0.7-6.1 (1.8-15.3)	0.8 (1.9)	14.75 (1017)	25 (1724)
675G*8002	7-12.9 (17.4-32.1)	5.5-11.4 (13.7-28.4)	1.5 (3.7)		
675G*8003	13-18.9 (32.4-47.1)	11-16.9 (27.4-42.1)	2.0 (5.0)		
675G*8004	19-24.9 (47.3-62)	16.5-22.4 (41.1-55.8)	2.5 (6.2)		
675G*8005	25-31 (62.3-77.2)	22-28 (54.8-69.8)	3.0 (7.5)		

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 675GA8003)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

OPTIONAL STANDARD MODIFIED SUFFIXES

7008: Gold Contacts

OPTIONS MODEL CODES

A: Viton® O-Ring

ACCESSORIES - SOLD SEPARATELY

89-130: Optional Switch Mounting Bracket Kit

69-102: Mating Connector

57-159: Sealing Gasket

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

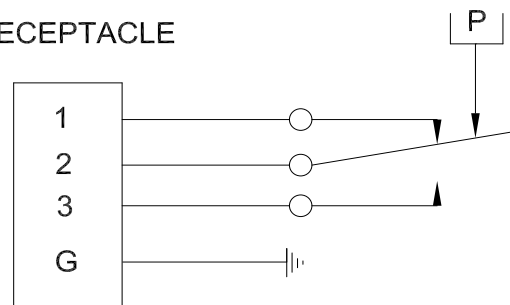
ELECTRICAL CHARACTERISTICS

RATING OF SWITCH ELEMENT

VOLTS	AMPERES	
	SPDT	
	Res.	
125 AC - 50/60 Hz	15	
250 AC - 50/60 Hz	15	
480 AC - 50/60 Hz	15	
28 DC	-	
125 DC	.5	
250 DC	.2	

SCHEMATIC AND WIRING CODE

RECEPTACLE



DUAL-SNAP®

Models: 675G800* Page 2 of 2
Form 830G, 3.24.14



CustomControlSensors

Hazardous Areas Pre-Set / Adjustable Pressure Switch

675GE* & 675GE*800* - Diaphragm Sensor

DESCRIPTION



- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, midsize and internally adjustable for factory setting or convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-pressure capability. (System and Proof)
- Certified explosion proof hermetically sealed electrical assembly for environmental protection.

SHIPPING WEIGHT: APPROXIMATELY 22 OUNCES (624 GRAMS)

SERIES:

- 675GE*
- 675GE*800*

SET POINT RANGE:

- .7 to 31" H₂O
- 1.7 to 77.2 mbar
- 0.17 to 7.72 kPa

OPERATING TEMPERATURE:

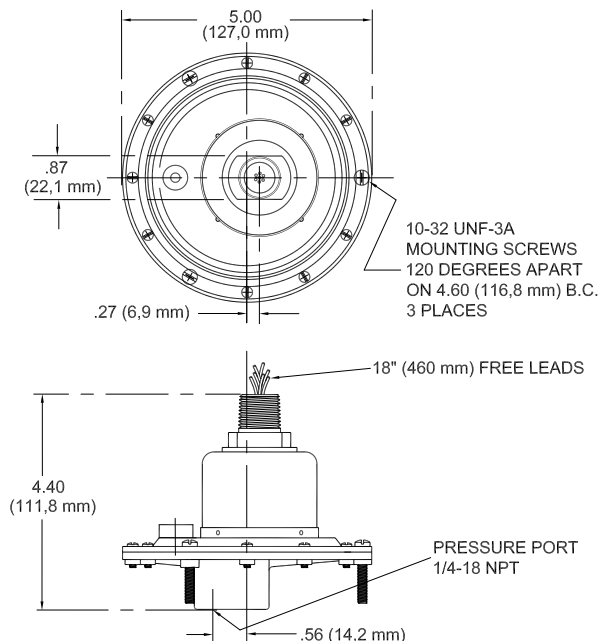
Temperature limits change with o-ring selection.

- 40° to 186°F
- 40° to 86°C

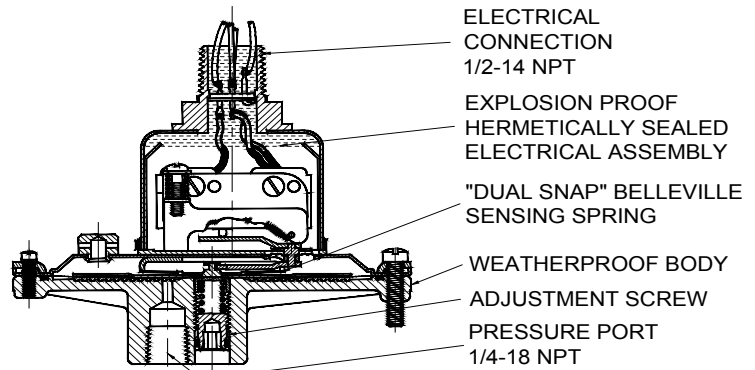
STANDARD FEATURES:

- CE Mark
- NEMA: 4, 7, 9, 13 / IP66
- U.L. / CSA Listed
- Dual Seal: ANSI/ISA-12.27.01
- Hermetically Sealed Electrical Assembly

INSTALLATION DRAWING



DESIGN PRINCIPLES



SERIES 675GE & 675GE8000

FIELD SETTING: Insert 3/16" Allen wrench into adjustment screw (located in pressure port). Clockwise to decrease settings. Counterclockwise to increase settings.

DUAL-SNAP®



Models: 675GE* & 675GE800* Page 1 of 2
Form 830G, 3.24.14



CustomControlSensors

Hazardous Areas Pre-Set / Adjustable Pressure Switch

675GE* & 675GE*800* - Diaphragm Sensor

OPERATING AND ORDERING DATA

SERIES 675GE*	WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, POLYIMIDE DIAPHRAGM, BUNA N O-RING					MAX SYSTEM PRESSURE PSIG (mbar)	PROOF PRESSURE PSIG (mbar)
	FIXED SET POINT RANGE (SPECIFY SET POINT ON ORDER)		APPROXIMATE DEAD BAND INCHES H ₂ O (mbar)				
	INCREASING PRESSURE INCHES H ₂ O (mbar)	DECREASING PRESSURE INCHES H ₂ O (mbar)	AT BOTTOM OF RANGE	AT TOP OF RANGE			
675GE*1	1.5-30 (3.7-75)	0.8-27 (1.99-67.2)	0.7 (1.7)	3.0 (7.5)	10 (689)	15 (1034)	
675GEM*1	1.5-30 (3.7-75)	0.8-27 (1.99-67.2)	0.7 (1.7)	3.0 (7.5)			
SERIES 675GE*800*	WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, POLYIMIDE DIAPHRAGM, BUNA N O-RING					MAX SYSTEM PRESSURE PSIG (mbar)	PROOF PRESSURE PSIG (mbar)
	ADJUSTABLE SET POINT RANGE		APPROXIMATE DEAD BAND INCHES H ₂ O (mbar)				
	INCREASING PRESSURE INCHES H ₂ O (mbar)	DECREASING PRESSURE INCHES H ₂ O (mbar)					
675GE*8001	1.5-6.9 (3.7-17.2)	0.7-6.1 (1.8-15.3)	0.8 (1.9)		10 (689)	15 (1034)	
675GE*M8001	2-6.9 (4.9-17.2)	0.7-5.6 (1.7-14)	1.3(3.2)				
675GE*8002	7-12.9 (17.4-32.1)	5.5-11.4 (13.7-28.4)	1.5 (3.7)				
675GE*M8002	7-12.9 (17.4-32.1)	5-10.9 (12.4-27.2)	2.0 (5.0)				
675GE*8003	13-18.9 (32.4-47.1)	11-16.9 (27.4-42.1)	2.0 (5.0)				
675GE*M8003	13-18.9 (32.4-47.1)	10.8-16.7 (26.9-41.6)	2.2 (5.5)				
675GE*8004	19-24.9 (47.3-62)	16.5-22.4 (41.1-55.8)	2.5 (6.2)				
675GE*M8004	19-24.9 (47.3-62)	16.5-22.4 (41.1-55.8)	2.5 (6.2)				
675GE*8005	25-31 (62.3-77.2)	22-28 (54.8-69.8)	3.0 (7.5)				
675GE*M8005	25-31 (62.3-77.2)	22-28 (54.8-69.8)	3.0 (7.5)				

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 675GEAM8002)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

OPTIONAL STANDARD MODIFIED SUFFIXES

- 7008:** Gold Contacts
- 7054:** 2 Meter Free Leads
- 7076:** 18 inch Teflon Free Leads (Low Temp Wire)

OPTIONS MODEL CODES

- A:** Viton® O-Ring
- M:** DPDT Electrical
- Y:** ATEX / GOST Certified
Electrical Assembly
(Consult CCS Sales Department for GOST options and requirements.)
*** Y Model Proof Pressure: 25 PSIG**
*** Y Model System Pressure: 14.75 PSIG**

ACCESSORIES - SOLD SEPARATELY

- 89-130:** Optional Switch Mounting Bracket Kit

ELECTRICAL ENCLOSURE CERTIFICATIONS

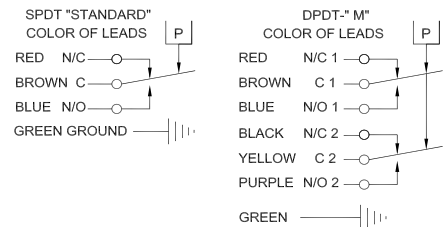
* c-UL, U.L./CSA Explosion Proof: Div. 1, 2 hermetically sealed electrical assembly P/N 17-51 (17-73 for M model option), listed by both Underwriter's Laboratories, Inc. (File No. E32961) and Canadian Standard Association (CSA) Testing Laboratories (File No. LR22921) for hazardous locations, Class 1, Groups A, B, C, and D; Class 2 Groups E, F, and G.
* ATEX - Baseefa certified for potentially explosive atmospheres. Models 675**Y, II 2 GD Ex d IIC, Baseefa 08ATEX0347X. (Option Y)

ELECTRICAL CHARACTERISTICS RATING OF SWITCH ELEMENT

VOLTS	AMPERES	
	SPDT Res.	DPDT "M" Res.
125 AC - 50/60 Hz	15	5
250 AC - 50/60 Hz	15	5
480 AC - 50/60 Hz	15	-
28 DC	-	5
125 DC	.5	.5
250 DC	.2	-
*125 AC - 50/60 Hz	1 max	1 max
*30 DC	1 max	1 max

*Gold Contacts -7008 Suffix

SCHEMATIC AND WIRING CODE



DUAL-SNAP®

Models: 675GE* & 675GE800* Page 2 of 2
Form 830G, 3.24.14



CustomControlSensors

Non-Hazardous Areas Adjustable Pressure Switch

675V*800* - Diaphragm Sensor

DESCRIPTION



- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, midsize and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-pressure capability. (System and Proof)

SHIPPING WEIGHT: APPROXIMATELY 19 OUNCES (538 GRAMS)

SERIES:

675V*800*

ADJUSTABLE SET POINT RANGE:

VACUUM:

.7 to 31" H₂O
 1.7 to 77.2 mbar
 0.17 to 7.72 kPa

OPERATING TEMPERATURE:

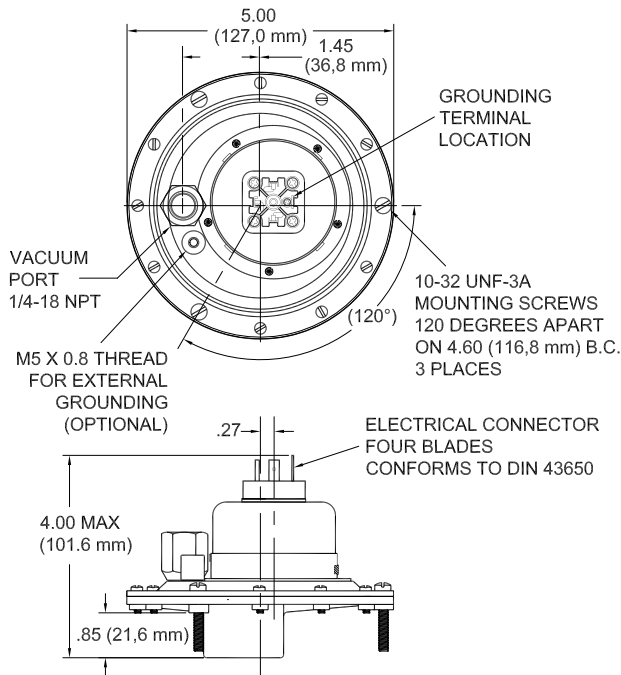
Temperature limits change with o-ring selection.

-40° to 186°F
 -40° to 86°C

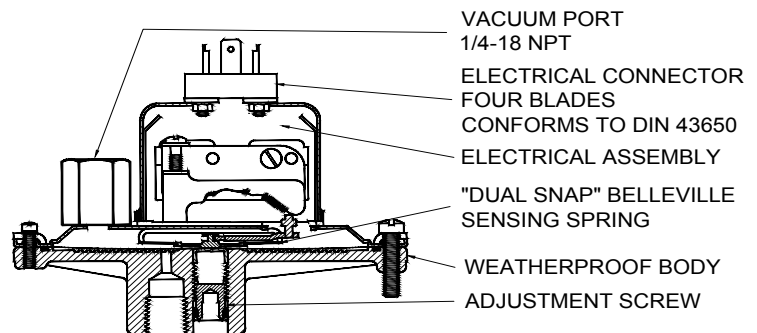
STANDARD FEATURES:

- CRN
- NEMA: 4, 13 / IP65
- Electrical Connector Conforms to DIN 43650

INSTALLATION DRAWING



DESIGN PRINCIPLES



SERIES 675V800

FIELD SETTING: Insert 3/16" Allen wrench into adjustment screw (located in pressure port). Clockwise to decrease settings. Counterclockwise to increase settings.

DUAL-SNAP®



Models: 675V800* Page 1 of 2
Form 830G, 3.24.14



CustomControlSensors

Non-Hazardous Areas Adjustable Pressure Switch

675V*800* - Diaphragm Sensor

OPERATING AND ORDERING DATA

SERIES 675V*800*	WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, POLYIMIDE DIAPHRAGM, BUNA N O-RING				
	ADJUSTABLE SET POINT RANGE		APPROXIMATE DEAD BAND INCHES H ₂ O (mbar)	MAX SYSTEM PRESSURE PSIG (mbar)	PROOF PRESSURE PSIG (mbar)
	INCREASING PRESSURE INCHES H ₂ O (mbar)	DECREASING PRESSURE INCHES H ₂ O (mbar)			
675V*8001	1.5-6.9 (3.7-17.2)	0.7-6.1 (1.8-15.3)	0.8 (1.9)	14.75 (1017)	25 (1724)
675V*8002	7-12.9 (17.4-32.1)	5.5-11.4 (13.7-28.4)	1.5 (3.7)		
675V*8003	13-18.9 (32.4-47.1)	11-16.9 (27.4-42.1)	2.0 (5.0)		
675V*8004	19-24.9 (47.3-62)	16.5-22.4 (41.1-55.8)	2.5 (6.2)		
675V*8005	25-31 (62.3-77.2)	22-28 (54.8-69.8)	3.0 (7.5)		

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 675VM8005-7008)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

OPTIONAL STANDARD MODIFIED SUFFIXES

7008: Gold Contacts

OPTIONS MODEL CODES

A: Viton® O-Ring

ACCESSORIES - SOLD SEPARATELY

89-130: Optional Switch Mounting Bracket Kit

69-102: Mating Connector

57-159: Sealing Gasket

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

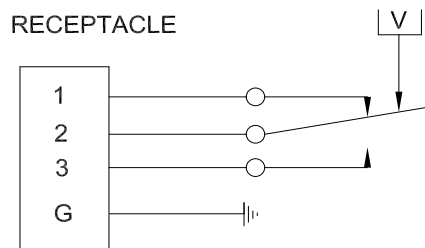
Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

ELECTRICAL CHARACTERISTICS

RATING OF SWITCH ELEMENT

VOLTS	AMPERES	
	SPDT	Res.
	125 AC - 50/60 Hz	15
250 AC - 50/60 Hz	15	
480 AC - 50/60 Hz	15	
28 DC	-	
125 DC	.5	
250 DC	.2	

SCHEMATIC AND WIRING CODE



DUAL-SNAP®

Models: 675V800* Page 2 of 2
Form 830G, 3.24.14



CustomControlSensors

Hazardous Areas Pre-Set / Adjustable Pressure Switch

675VE* & 675VE*800* - Diaphragm Sensor

DESCRIPTION



- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
 - Engineering based on aerospace technology.
 - Rigid, midsize and internally adjustable for factory setting or convenient field set point adjustment.
 - Repeatable and stable set points.
 - Vibration and shock resistant.
 - High cycle life.
 - High over-pressure capability. (System and Proof)
- Certified explosion proof hermetically sealed electrical assembly for environmental protection.

SHIPPING WEIGHT: APPROXIMATELY 22 OUNCES (624 GRAMS)

SERIES:

- 675VE*
- 675VE*800*

SET POINT RANGE:

VACUUM:

- .7 to 31" H₂O
- 1.7 to 77.2 mbar
- 0.17 to 7.72 kPa

OPERATING TEMPERATURE:

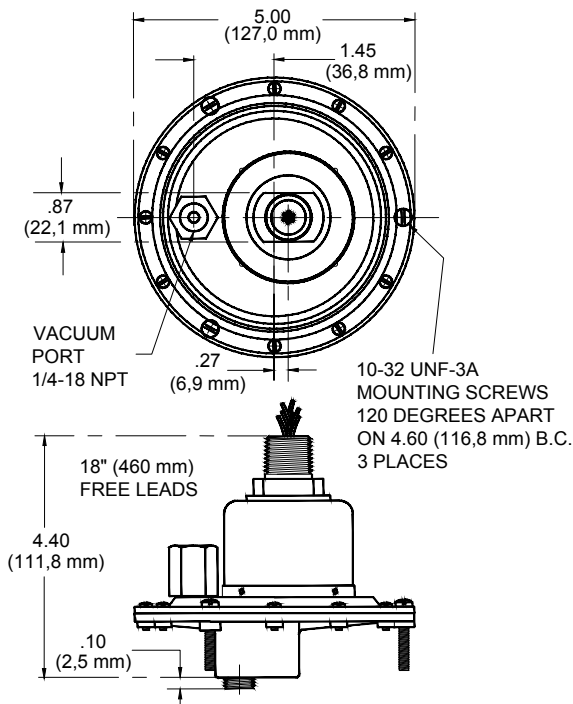
Temperature limits change with o-ring selection.

- 40° to 186°F
- 40° to 86°C

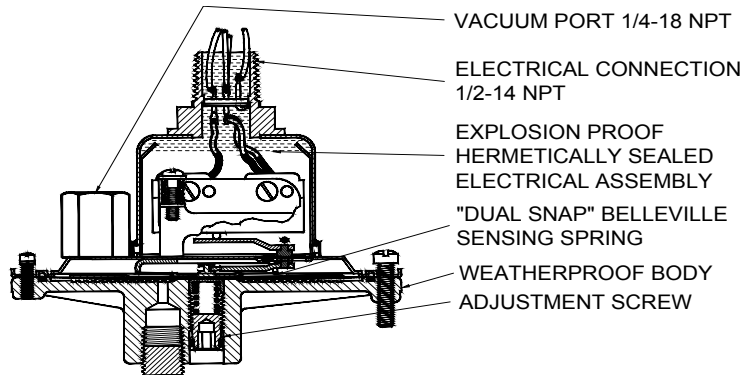
STANDARD FEATURES:

- CE Mark
- CRN
- Dual Seal: ANSI/ISA-12.27.01
- NEMA: 4, 7, 9, 13 / IP66
- U.L. / CSA Listed
- Hermetically Sealed Electrical Assembly

INSTALLATION DRAWING



DESIGN PRINCIPLES



SERIES 675VE & 675VE800

FIELD SETTING: Insert 3/16" Allen wrench into adjustment screw (located in pressure port). Clockwise to decrease settings. Counterclockwise to increase settings.

DUAL-SNAP®



Models: 675VE* & 675VE800* Page 1 of 2
Form 830G, 3.24.14



CustomControlSensors

Hazardous Areas Pre-Set / Adjustable Pressure Switch

675VE* & 675VE*800* - Diaphragm Sensor

OPERATING AND ORDERING DATA

SERIES 675VE*	WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, POLYIMIDE DIAPHRAGM, BUNA N O-RING					
	FIXED SET POINT RANGE (SPECIFY SET POINT ON ORDER)		APPROXIMATE DEAD BAND INCHES H2O (mbar)		MAX SYSTEM PRESSURE PSIG (mbar)	PROOF PRESSURE PSIG (mbar)
	INCREASING PRESSURE INCHES H2O (mbar)	DECREASING PRESSURE INCHES H2O (mbar)	AT BOTTOM OF RANGE	AT TOP OF RANGE		
675VE*1	1.5-30 (3.7-75)	0.8-27 (1.99-67.2)	0.7 (1.7)	3.0 (7.5)	10 (689)	15 (1034)
SERIES 675VE*800*	WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, POLYIMIDE DIAPHRAGM, BUNA N O-RING					
	ADJUSTABLE SET POINT RANGE		APPROXIMATE DEAD BAND INCHES H2O (mbar)		MAX SYSTEM PRESSURE PSIG (mbar)	PROOF PRESSURE PSIG (mbar)
	INCREASING PRESSURE INCHES H2O (mbar)	DECREASING PRESSURE INCHES H2O (mbar)				
675VE*8001	1.5-6.9 (3.7-17.2)	0.7-6.1 (1.8-15.3)	0.8 (1.9)		10 (689)	15 (1034)
675VE*M8001	2-6.9 (4.9-17.2)	0.7-5.6 (1.7-14)	1.3(3.2)			
675VE*8002	7-12.9 (17.4-32.1)	5.5-11.4 (13.7-28.4)	1.5 (3.7)			
675VE*M8002	7-12.9 (17.4-32.1)	5-10.9 (12.4-27.2)	2.0 (5.0)			
675VE*8003	13-18.9 (32.4-47.1)	11-16.9 (27.4-42.1)	2.0 (5.0)			
675VE*M8003	13-18.9 (32.4-47.1)	10.8-16.7 (26.9-41.6)	2.2 (5.5)			
675VE*8004	19-24.9 (47.3-62)	16.5-22.4 (41.1-55.8)	2.5 (6.2)			
675VE*M8004	19-24.9 (47.3-62)	16.5-22.4 (41.1-55.8)	2.5 (6.2)			
675VE*8005	25-31 (62.3-77.2)	22-28 (54.8-69.8)	3.0 (7.5)			
675VE*M8005	25-31 (62.3-77.2)	22-28 (54.8-69.8)	3.0 (7.5)			

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 675VEMY1)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

OPTIONAL STANDARD MODIFIED SUFFIXES

- 7008:** Gold Contacts
- 7054:** 2 Meter Free Leads
- 7076:** 18 inch Teflon Free Leads (Low Temp Wire)

OPTIONS MODEL CODES

- A:** Viton® O-Ring
- M:** DPDT Electrical
- Y:** ATEX / GOST Certified

Electrical Assembly
(Consult CCS Sales Department for GOST options and requirements.)

- * **Y Model Proof Pressure: 25 PSIG**
- * **Y Model System Pressure: 14.75 PSIG**

ACCESSORIES - SOLD SEPARATELY

- 89-130:** Optional Switch Mounting Bracket Kit

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

ELECTRICAL ENCLOSURE CERTIFICATIONS

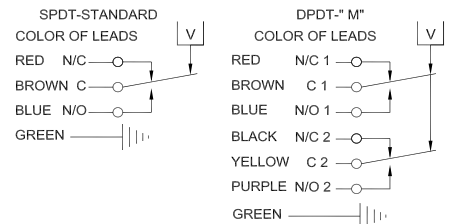
* c-UL, U.L./CSA Explosion Proof: Div. 1, 2 hermetically sealed electrical assembly P/N 17-51 (17-73 for M model option), listed by both Underwriter's Laboratories, Inc. (File No. E32961) and Canadian Standard Association (CSA) Testing Laboratories (File No. LR22921) for hazardous locations, Class 1, Groups A, B, C, and D; Class 2 Groups E, F, and G.
* ATEX - Baseefa certified for potentially explosive atmospheres. Models 675**Y, II 2 GD Ex d IIC, Baseefa 08ATEX0347X. (Option Y)

ELECTRICAL CHARACTERISTICS RATING OF SWITCH ELEMENT

VOLTS	AMPERES	
	SPDT	DPDT "M"
	Res.	Res.
125 AC - 50/60 Hz	15	5
250 AC - 50/60 Hz	15	5
480 AC - 50/60 Hz	15	-
28 DC	-	5
125 DC	.5	.5
250 DC	.2	-
*125 AC - 50/60 Hz	1 max	1 max
*30 DC	1 max	1 max

*Gold Contacts -7008 Suffix

SCHEMATIC AND WIRING CODE



DUAL-SNAP®

Models: 675VE* & 675VE800* Page 2 of 2
Form 830G, 3.24.14



CustomControlSensors

Hazardous Areas Adjustable Pressure Switch

6403DZE* - Diaphragm Sensor



DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
 - Engineering based on aerospace technology.
 - Rigid and internally adjustable for convenient field set point adjustment.
 - Repeatable and stable set points.
 - Vibration and shock resistant.
 - High cycle life.
- High over-pressure capability. (System and Proof)
 - Various options for electrical ratings to meet a wide range of application requirements and media capability.

SHIPPING WEIGHT: APPROXIMATELY 7.5 LBS (3.4 KGS)

SERIES:

6403DZE*

ADJUSTABLE SET POINT RANGE:

DIFFERENTIAL PRESSURE:

.39 to 75 PSID
0.027 to 5.17 bar
2.7 to 517 kPa

OPERATING TEMPERATURE:

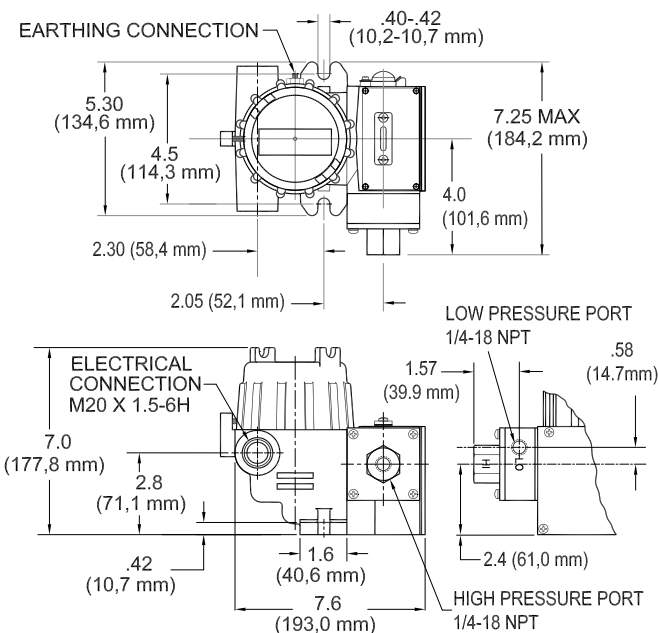
Temperature limits change with O-ring selection.

-40° to 186°F
-40° to 86°C

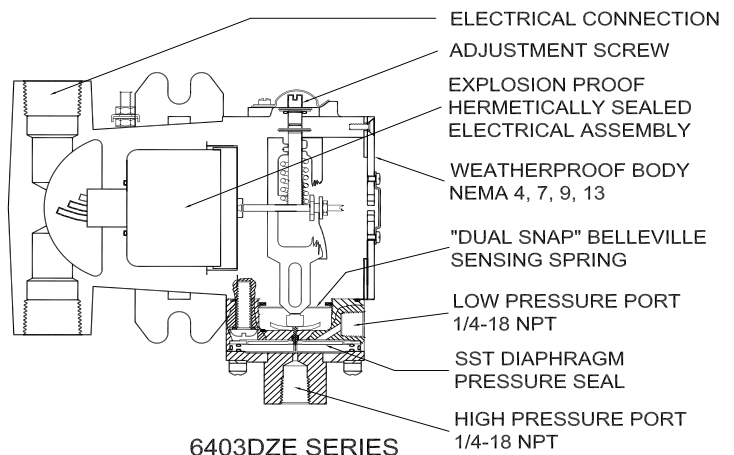
STANDARD FEATURES:

- Hermetically Sealed Electrical Assembly
- Integral Junction Box
- ATEX - Baseefa Certified
- CE Mark
- NACE MR0175:2003
- NEMA: 4, 7, 9, 13 / IP66 & 67

INSTALLATION DRAWING



DESIGN PRINCIPLES



FIELD SETTING: Loosen access cover. Adjust adjustment screw using screwdriver. Clockwise to increase settings. Counterclockwise to decrease setting.



CustomControlSensors

Hazardous Areas Adjustable Pressure Switch

6403DZE* - Diaphragm Sensor

OPERATING AND ORDERING DATA

SERIES 6403DZE*	WETTED PARTS: 1/4"-18 NPT STAINLESS STEEL PRESSURE PORT, POLYIMIDE DIAPHRAGM, VITON O-RING						
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)		
	INCREASING PRESSURE PSID (BAR)	DECREASING PRESSURE PSID (BAR)			BOTH PORTS SIMULT.	HIGH OVER LOW LOW OVER HIGH	HIGH LOW
6403DZE*1	1.4-18 (0.097-1.2)	0.39-16.99 (0.027-1.13)	1.01 (0.07)	400 (27.6)	750 (52)	750 (52)	400 (27.6)
6403DZE*2	6-75 (0.41-5.1)	2-71 (.13-4.82)	4 (0.28)				

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 6403DZEM1-7008)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

OPTIONAL STANDARD MODIFIED SUFFIXES

7008: Gold Contacts
7011: Stainless Steel Diaphragm

ELECTRICAL ENCLOSURE CERTIFICATIONS

* ATEX - Certificate No. Baseefa04ATEX0113. Baseefa certified for potentially explosive atmospheres electrical assembly series. In compliance with EN 60079-0: 2004, EN 60079-1: 2004 and EN 50281-1-1:1998 + Amendment 1. (Standard)

ELECTRICAL CHARACTERISTICS

RATING OF SWITCH ELEMENT

VOLTS	AMPERES	
	SPDT	DPDT "M"
	Res.	Res.
125 AC - 50/60 Hz	15	11
250 AC - 50/60 Hz	15	11
480 AC - 50/60 Hz	15	-
28 DC	-	5
125 DC	.5	.5
250 DC	.2	-
*125 AC - 50/60 Hz	1 max	1 max
*30 DC	1 max	1 max

*Gold Contacts -7008 Suffix

OPTIONS MODEL CODES

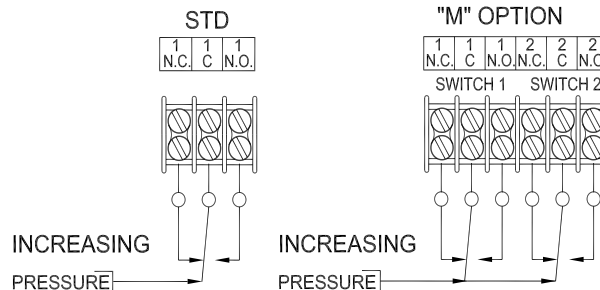
M: DPDT Electrical

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

SCHEMATIC AND WIRING CODE



DUAL-SNAP®

Models: 6403DZE*, Page 2 of 2
Form 830G, 5.27.11



CustomControlSensors

Hazardous Areas Adjustable Pressure Switch

6403GZE* & 6403VZE* - Diaphragm Sensors
6403PE* - Piston Sensor



DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
 - Engineering based on aerospace technology.
 - Rigid and internally adjustable for convenient field set point adjustment.
 - Repeatable and stable set points.
 - Vibration and shock resistant.
 - High cycle life.
 - High over-pressure capability. (System and Proof)
- Various options for wetted materials and electrical ratings to meet a wide range of application requirements and media capability.

SHIPPING WEIGHT: APPROXIMATELY 7.5 LBS (3.4 KGS)

SERIES:

6403GZE*
6403PE*
6403VZE

ADJUSTABLE SET POINT RANGE:

GAGE PRESSURE:

.44 to 6498 PSIG
0.03 to 448 bar
3 to 44802 kPa

VACUUM:

1" to 28.5" Hg
0.03 to 0.96 bar
3.4 to 96 kPa

OPERATING TEMPERATURE:

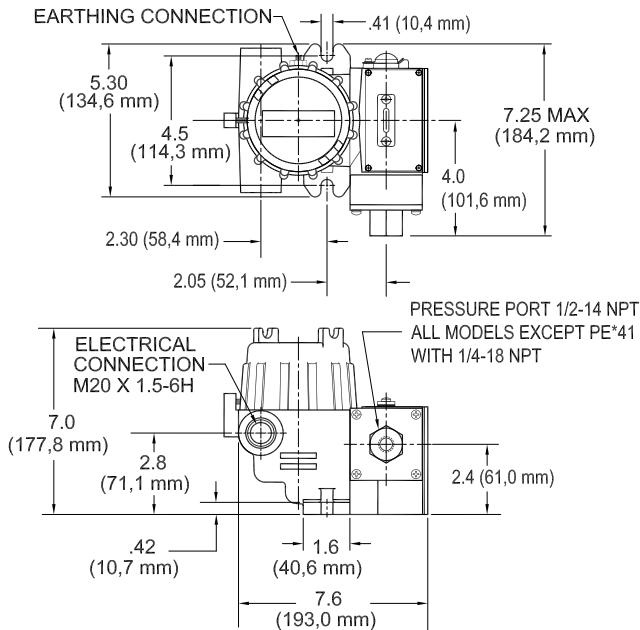
Temperature limits change with O-ring selection.

-40° to 186°F
-40° to 86°C

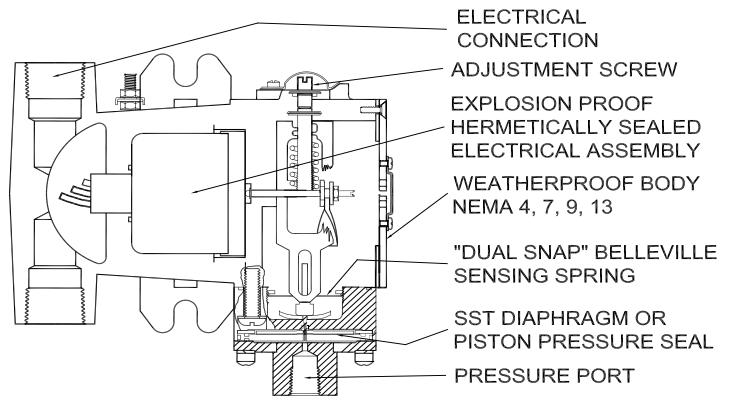
STANDARD FEATURES:

- Hermetically Sealed Electrical Assembly
- Integral Junction Box
- ATEX - Baseefa Certified
- CE Mark
- NACE MR0175:2003
- NEMA: 4, 7, 9, 13 / IP66 & 67

INSTALLATION DRAWING



DESIGN PRINCIPLES



FIELD SETTING: Loosen access cover. Adjust adjustment screw using screwdriver. Clockwise to increase settings. Counterclockwise to decrease setting.

DUAL-SNAP®

Models: 6403GZE*, 6403PE* & 6403VZE*, Page 1 of 2
Form 830G, 5.27.11



CustomControlSensors

Hazardous Areas Adjustable Temperature Switch

6403TUE* - Capillary



6403GZE Series Shown

DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.

- High over-temperature capability. (System and Proof)
- Various options for wetted materials and electrical ratings to meet a wide range of application requirements and media capability.

SHIPPING WEIGHT: APPROXIMATELY 8 LBS (3.6 KGS)

SERIES:

6403TUE*

ADJUSTABLE SET POINT RANGE: TEMPERATURE:

-43° to 630° F
-42° to 332° C

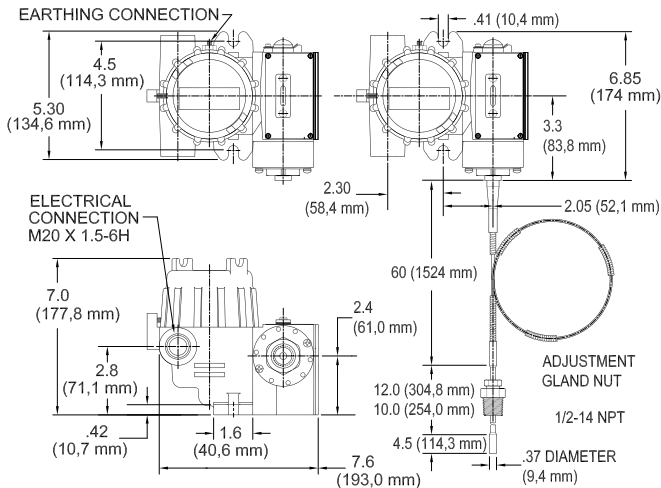
OPERATING TEMPERATURE:

-40° to 186°F
-40° to 86°C

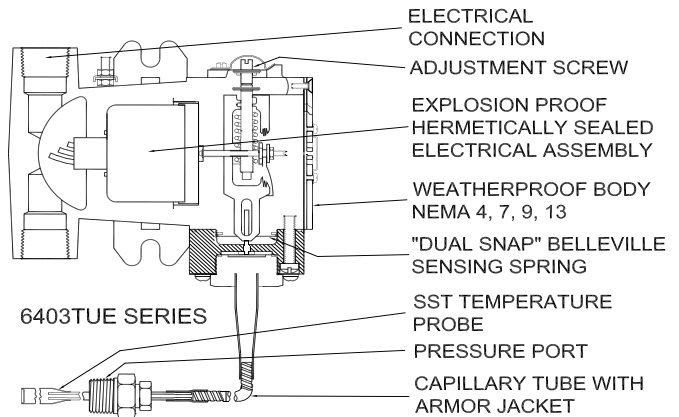
STANDARD FEATURES:

- Hermetically Sealed Electrical Assembly
- Integral Junction Box
- ATEX - Baseefa Certified
- CE Mark
- NACE MR0175:2003
- NEMA: 4, 7, 9, 13 / IP66 & 67

INSTALLATION DRAWING



DESIGN PRINCIPLES



FIELD SETTING: Loosen access cover. Adjust adjustment screw using screwdriver. Clockwise to increase settings. Counterclockwise to decrease setting.



CustomControlSensors

Hazardous Areas Adjustable Temperature Switch

6403TUE* - Capillary

OPERATING AND ORDERING DATA

SERIES 6403TUE*	WETTED PARTS: STAINLESS STEEL TEMPERATURE PROBE WITH 5' STAINLESS STEEL GRAPHITE AND LUBRICATED GLASS FIBER CAPILLARY TUBE				
	ADJUSTABLE SET POINT RANGE DEGREES F (DEGREES C)		APPROX. DEAD BAND DEGREES F (DEGREES C)		MAXIMUM PROBE TEMPERATUR DEGREES F (DEGREES C)
	INCREASING TEMPERATURE	DECREASING TEMPERATURE	AT BOTTOM OF RANGE	AT TOP OF RANGE	
6403TUE*1	-30° to +55° (-34° to +13°)	-43° to +10° (-17 to 12)	9° (5°)	3° (2°)	+200° (+93°)
6403TUE *2	+35° to +140° (+2° to +60°)	+21° to +135° (-6° to +57°)	14° (8°)	5° (3°)	+300° (+149°)
6403TUE *3	+90° to +210° (+32° to +99°)	+75° to +205° (+24° to +96°)	15° (8°)	5° (3°)	+300° (+149°)
6403TUE *4	+175° to +310° (+79° to 154°)	+159° to +305° (+71° to +152°)	16° (9°)	5° (3°)	+500° (+260°)
6403TUE *5	+275° to +420° (+135° to +216°)	+256° to +414° (+124° to +212°)	19° (11°)	6° (3°)	+500° (+260°)
6403TUE *6	+380° to +525° (+193° to 274°)	+355° to +520° (+179° to +271°)	25° (14°)	5° (3°)	+600° (+316°)
6403TUE*7	+480° to +630° (+249° to +332°)	+456° to +624° (+234° to +329°)	24° (13°)	6° (3°)	+650° (+343°)
EXTERNAL PROBE PRESSURE:					
System Pressure: 1250 PSIG (86 bar)			Proof Pressure: 1500 PSIG (103 bar)		

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 6403TUEM7-7001)

TEMPERATURE CONVERSION

32 Deg F = 0 Deg C

OPTIONAL STANDARD MODIFIED SUFFIXES

- 7001: 10' Capillary
- 7002: 15' Capillary
- 7003: 25' Capillary
- 7008: Gold Contacts

THERMOWELLS

Order as separate line items. See accessory page for detailed information.

- 113-34-1: 1" 316 SST 4.5" "U" Dim.
- 113-34-2: 1" 316 SST 7.5" "U" Dim.
- 113-34-3: 1" 316 SST 10.5" "U" Dim.
- 113-34-4: 1" 316 SST 13.5" "U" Dim.
- 113-35-1: 3/4" 316 SST 4.5" "U" Dim.
- 113-35-2: 3/4" 316 SST 7.5" "U" Dim.
- 113-35-3: 3/4" 316 SST 10.5" "U" Dim.
- 113-35-4: 3/4" 316 SST 13.5" "U" Dim.

OPTIONS MODEL CODES

M: DPDT Electrical

ELECTRICAL ENCLOSURE CERTIFICATIONS

* ATEX - Certificate No. Baseefa04ATEX0113. Baseefa certified for potentially explosive atmospheres electrical assembly series. In compliance with EN 60079-0: 2004, EN 60079-1: 2004 and EN 50281-1-1:1998 + Amendment 1. (Standard)

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

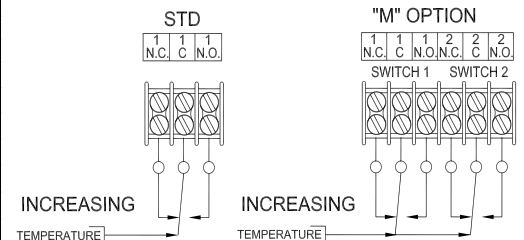
Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

ELECTRICAL CHARACTERISTICS SCHEMATIC AND WIRING CODE

RATING OF SWITCH ELEMENT

VOLTS		AMPERES	
		SPDT Res.	DPDT "M" Res.
125 AC	- 50/60 Hz	15	11
250 AC	- 50/60 Hz	15	11
480 AC	- 50/60 Hz	15	-
28 DC		-	5
125 DC		.5	.5
250 DC		.2	-
*125 AC	- 50/60 Hz	1 max	1 max
*30 DC		1 max	1 max

*Gold Contacts -7008 Suffix



DUAL-SNAP®

Models: 6403TUE*, Page 2 of 2
Form 830G, 5.27.11



CustomControlSensors

Non-Hazardous Areas Adjustable Pressure Switch

6860G* & 6862G* - Diaphragm Sensor



DESCRIPTION

- Rigid and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- High cycle life.
- High over-pressure capability.
- Allows for dual set points.

SHIPPING WEIGHT: APPROXIMATELY 43 OUNCES (1219 GRAMS)

SERIES:

- 6860G* - Single Setting
- 6862G* - Dual Setting

SET POINT RANGE:

GAGE PRESSURE:

- 1.5" H₂O to 100 PSIG
- 3.74 mbar to 6.89 bar
- 0.374 to 689 kPa

OPERATING TEMPERATURE:

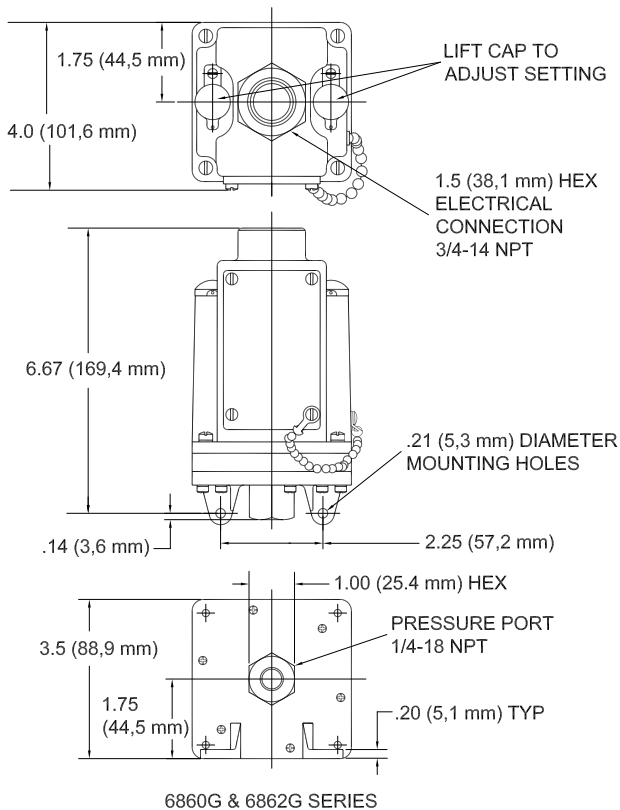
Temperature limits change with o-ring selection.

- 40° to 186°F
- 40° to 86°C

STANDARD FEATURES:

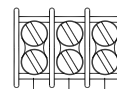
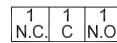
- CE Mark
- NEMA: 4, 13 / IP65
- Weatherproof

INSTALLATION DRAWING



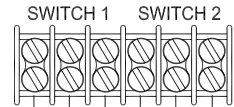
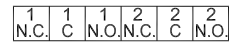
SCHEMATIC AND WIRING CODE

SINGLE SWITCH



INCREASING
PRESSURE

DUAL SWITCHES



INCREASING
PRESSURE 1
PRESSURE 2

FIELD SETTING: Lift cap and adjust screw clockwise to decrease. Counterclockwise to increase.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.



CustomControlSensors

Non-Hazardous Areas Adjustable Pressure Switch

6860G* & 6862G* - Diaphragm Sensor

OPERATING AND ORDERING DATA

SERIES 6860G* SINGLE SETTING	WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, POLYIMIDE DIAPHRAGM, BUNA N O-RING				
	ADJUSTABLE SET POINT RANGE		APPROXIMATE DEAD BAND	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING PRESSURE	DECREASING PRESSURE			
6860G*0	5"-80" H ₂ O (12.4-199.3 mbar)	1.5"-76.5" H ₂ O (3.74-191 mbar)	2.5" H ₂ O (6.23 mbar)	35 (2.41)	50 (3.45)
6860G*1	1-27 PSIG (0.069-1.86 bar)	.95-26.75 PSIG (0.065-1.84 bar)	.1-.2 PSI (6.89-13.79 mbar)	75 (5.17)	100 (6.89)
6860G*3	3-100 PSIG (0.21-6.89 bar)	2.8-98.5 PSIG (0.19-6.79 bar)	.2-1.0 PSI (13.78-68.9 mbar)	200 (13.79)	250 (17.24)
SERIES 6862G* DUAL SETTING	WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, POLYIMIDE DIAPHRAGM, BUNA N O-RING				
	ADJUSTABLE SET POINT RANGE		AVERAGE DEAD BAND	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING PRESSURE	DECREASING PRESSURE			
6862G*1	1-27 PSIG (0.069-1.86 bar)	.95-26.75 PSIG (0.065-1.84 bar)	.1-.2 PSI (6.89-13.79 mbar)	75 (5.17)	100 (6.89)
6862G*3	3-100 PSIG (0.21-6.89 bar)	2.8-98.5 PSIG (0.19-6.79 bar)	.2-1.0 PSI (13.78-68.9 mbar)	200 (13.79)	250 (17.24)

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 6860G3-7008)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

OPTIONAL STANDARD MODIFIED SUFFIXES

7008: Gold Contacts

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

ELECTRICAL CHARACTERISTICS

RATING OF SWITCH ELEMENT

VOLTS		AMPERES
		SPDT Res.
125 AC	- 50/60 Hz	15
250 AC	- 50/60 Hz	15
480 AC	- 50/60 Hz	15
28 DC		-
125 DC		.4
250 DC		.2
*125 AC	- 50/60 Hz	1 max
*30 DC		1 max
*Gold Contacts -7008 Suffix		

DUAL-SNAP®

Models: 6860G* & 6862G*, Page 2 of 2
Form 830G, 4.21.11



CustomControlSensors

Hazardous Areas Adjustable Pressure Switch

6860GE* & 6862GE* - Diaphragm Sensor

DESCRIPTION



- Rigid and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- High cycle life.
- High over-pressure capability.
- Equipped with certified explosion proof electrical enclosure.
- Allows for dual set points.

SHIPPING WEIGHT: APPROXIMATELY 7 LBS.
(3.2 KGS)

SERIES:

- 6860GE* - Single Setting
- 6862GE* - Dual Setting

SET POINT RANGE:

GAGE PRESSURE:

- 1.5" H₂O to 100 PSIG
- 3.74 mbar to 6.89 bar
- 0.374 to 689 kPa

OPERATING TEMPERATURE:

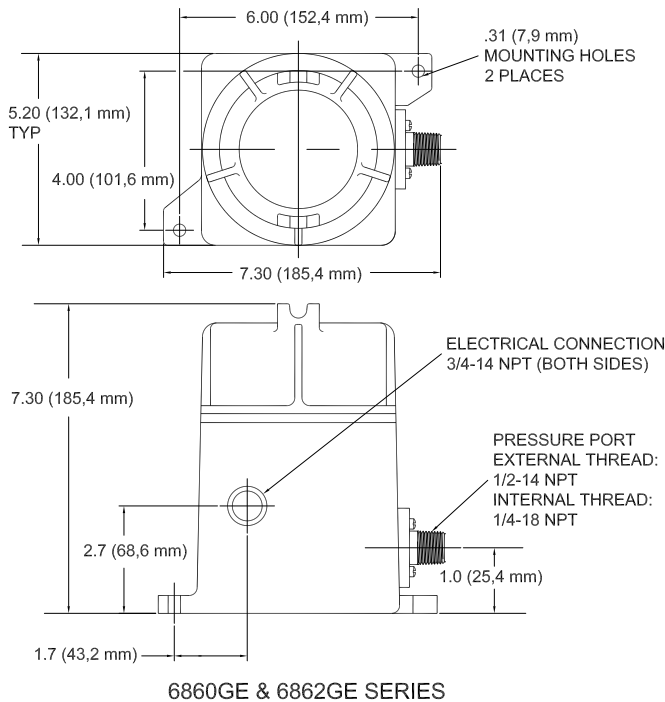
Temperature limits change with o-ring selection.

- 40° to 186°F
- 40° to 86°C

STANDARD FEATURES:

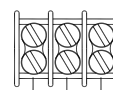
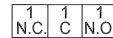
- CE Mark
- NEMA: 4, 7, 9, 13 / IP66 & 67
- Certified Explosion Proof Enclosure
 - CSA
 - FM
 - UL
- Weatherproof

INSTALLATION DRAWING



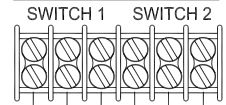
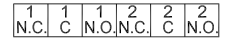
SCHEMATIC AND WIRING CODE

SINGLE SWITCH



INCREASING
PRESSURE →

DUAL SWITCHES



INCREASING
PRESSURE 1 →

INCREASING
PRESSURE 2 →

FIELD SETTING: Unscrew cover and adjust screw clockwise to decrease. Counterclockwise to increase.



CustomControlSensors

Hazardous Areas Adjustable Pressure Switch

6860GE* & 6862GE* - Diaphragm Sensor

OPERATING AND ORDERING DATA

SERIES 6860GE* SINGLE SETTING	WETTED PARTS: EXTERNAL THREAD 1/4"-18 NPT, INTERNAL THREAD 1/2"-18 NPT ALUMINUM PRESSURE PORT, POLYIMIDE DIAPHRAGM, BUNA N O-RING				
	ADJUSTABLE SET POINT RANGE		APPROXIMATE DEAD BAND	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING PRESSURE	DECREASING PRESSURE			
6860GE*0	5"-80" H ₂ O (12.4-199.3 mbar)	1.5"-76.5" H ₂ O (3.74-191 mbar)	2.5" H ₂ O (6.23 mbar)	35 (2.41)	50 (3.45)
6860GE*1	1-27 PSIG (0.069-1.86 bar)	.95-26.75 PSIG (0.065-1.84 bar)	.1-.2 PSIG (6.89-13.79 mbar)	75 (5.17)	100 (6.89)
6860GE*3	3-100 PSIG (0.21-6.89 bar)	2.8-98.5 PSIG (0.19-6.79 bar)	.2-1.0 PSIG (13.78-68.9 mbar)	200 (13.79)	250 (17.24)
SERIES 6862GE* DUAL SETTING	WETTED PARTS: EXTERNAL THREAD 1/4"-18 NPT, INTERNAL THREAD 1/2"-18 NPT ALUMINUM PRESSURE PORT, POLYIMIDE DIAPHRAGM, BUNA N O-RING				
	ADJUSTABLE SET POINT RANGE		AVERAGE DEAD BAND	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING PRESSURE	DECREASING PRESSURE			
6862GE*1	1-27 PSIG (0.069-1.86 bar)	.95-26.75 PSIG (0.065-1.84 bar)	.1-.2 PSIG (6.89-13.79 mbar)	75 (5.17)	100 (6.89)
6862GE*3	3-100 PSIG (0.21-6.89 bar)	2.8-98.5 PSIG (0.19-6.79 bar)	.2-1.0 PSIG (13.78-68.9 mbar)	200 (13.79)	250 (17.24)

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 6860GE0-7008)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

OPTIONAL STANDARD MODIFIED SUFFIXES

7008: Gold Contacts

ELECTRICAL CHARACTERISTICS

RATING OF SWITCH ELEMENT

VOLTS	AMPERES	
	SPDT	Res.
125 AC - 50/60 Hz	15	
250 AC - 50/60 Hz	15	
480 AC - 50/60 Hz	15	
28 DC	-	
125 DC	.4	
250 DC	.2	
*125 AC - 50/60 Hz	1 max	
*30 DC	1 max	
*Gold Contacts -7008 Suffix		

ELECTRICAL ENCLOSURE CERTIFICATIONS

- * CSA #C22.2 No. 30-M1986 - Explosion Proof Enclosure for use in Class I Hazardous Locations. File #LR11716
- * FM #3600 & 3615 File #2Y4A5.AE
- * UL #UL886 - Outlet Boxes and Fittings for use in Hazardous (Classified) Locations. File #E10514. #UL1203 - Explosion Proof and Dust Ignition Proof Electrical Equipment. File #E83969

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

DUAL-SNAP®

Models: 6860GE* & 6862GE*, Page 2 of 2
Form 830G, 4.21.11



CustomControlSensors

Non-Hazardous Areas Adjustable Pressure Switch

6900DZ* - Diaphragm Sensor



DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, compact and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-pressure capability. (System and Proof)
- Equipped with weatherproof electrical assemblies.

SHIPPING WEIGHT: APPROXIMATELY 49 OUNCES (1372 GRAMS)

SERIES:

6900DZ*

ADJUSTABLE SET POINT RANGE:

DIFFERENTIAL PRESSURE:

.4 to 75 PSID
0.03 to 5.17 bar
2.76 to 517 kPa

OPERATING TEMPERATURE:

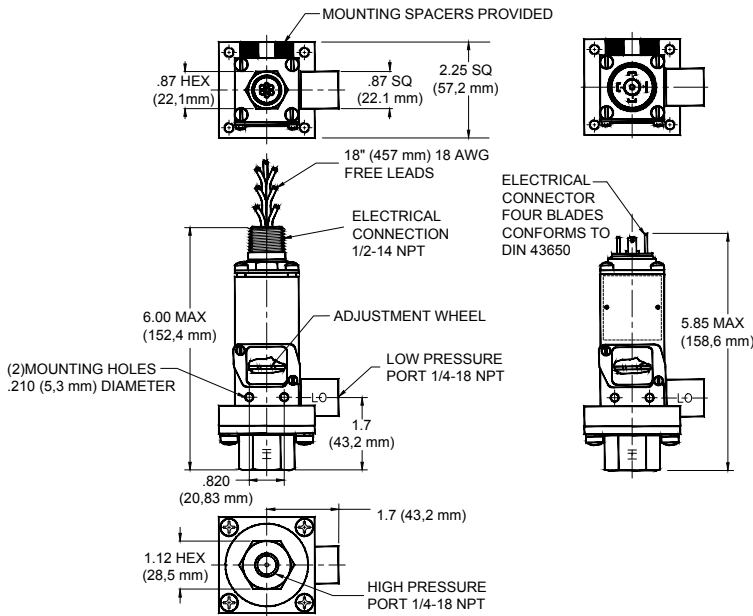
Temperature limits change with O-ring selection.

-40° to 186°F
-40° to 86°C

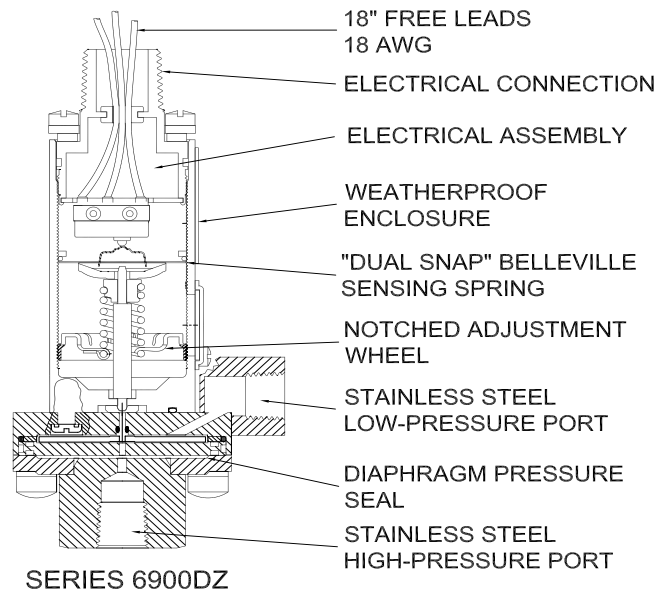
STANDARD FEATURES:

- CE Mark
- CCC
- CRN
- CSA Listed
- NACE MRO175 / ISO 15156
- NEMA: 4, 13 / IP66
- Weatherproof

INSTALLATION DRAWING



DESIGN PRINCIPLES



FIELD SETTING: Loosen access cover. Adjust adjustment screw using screwdriver slot as illustrated, then attach to a variable pressure source with a suitable gage, and check that the circuit continuity operates at the pressures desired. Clockwise to increase settings. Counterclockwise to decrease setting.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.

DUAL-SNAP®



Models: 6900DZ*, Page 1 of 2
Form 830G, 12.6.13



CustomControlSensors

Non-Hazardous Areas Adjustable Pressure Switch

6900DZ* - Diaphragm Sensor

OPERATING AND ORDERING DATA

SERIES 6900DZ*	WETTED PARTS: 1/4"-18 NPT STAINLESS STEEL PRESSURE PORT, POLYIMIDE DIAPHRAGM, VITON O-RING							
	ADJUSTABLE SET POINT RANGE PSID (BAR)		APPROX. DEAD BAND PSI (BAR)	MAX SYSTEM PRESSURE PSIG (BAR)		PROOF PRESSURE PSIG (BAR)		
	INCREASING PRESSURE	DECREASING PRESSURE		HIGH PRESS. PORT	LOW PRESS. PORT	BOTH PORTS SIMULT.	HIGH OVER LOW LOW OVER HIGH	
			HIGH				LOW	
6900DZ*8	1.5-18 (0.103-1.24)	.4-17.2 (0.03-1.19)	1 (0.07)	400 (27.6)		750 (51.7)	750 (51.7)	400 (27.8)
6900DZ*10	6-75 (0.41-5.17)	2-71 (0.13-4.89)	4 (0.28)			750 (51.7)	400 (27.8)	

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 6900DZ8-7077)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

OPTIONAL STANDARD MODIFIED SUFFIXES

- 7008:** Gold Contacts
- 7075:** Electrical Connector with 4 Blades Conforms to DIN-43650 (SPDT only)
- 7077:** Electrical Connector with Gold Contacts and 4 Blades Conforms to DIN-43650 (SPDT only)
- 7090:** 2 Meter Free Leads
- 7092:** 18 inch Teflon Free Leads (Low Temp Wire)

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

ELECTRICAL ENCLOSURE CERTIFICATIONS

CSA listed by Canadian Standard Association (CSA) Testing Laboratories (File No. LR22665) for enclosure (4) non-hazardous locations.

ELECTRICAL CHARACTERISTICS

RATING OF SWITCH ELEMENT

VOLTS	AMPERES	
	SPDT	DPDT "M"
	Res.	Res.
125 AC - 50/60 Hz	11	11
250 AC - 50/60 Hz	11	11
30 DC	5	5
125 DC	.5	.5
*125 AC - 50/60 Hz	1 max	1 max
*30 DC	1 max	1 max

*Gold Contacts -7008 Suffix

OPTIONS MODEL CODES

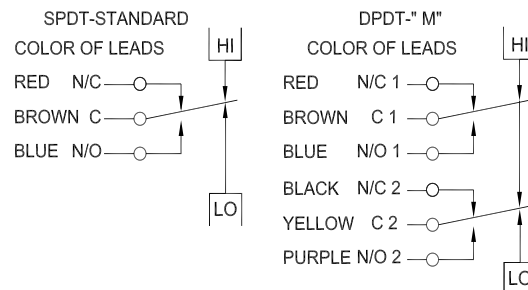
- F:** Ethylene Propylene O-Ring
- M:** DPDT Electrical

ACCESSORIES - SOLD SEPARATELY

- 69-102:** Mating DIN-43650 Connector
- 57-159:** Sealing DIN-46650 Gasket

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

SCHEMATIC AND WIRING CODE



DUAL-SNAP®

Models: 6900DZ*, Page 2 of 2
Form 830G, 12.6.13



CustomControlSensors

Hazardous Areas Adjustable Pressure Switch

6900DZE* - Diaphragm Sensor



6900DZ Series Shown

DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, compact and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-pressure capability. (System and Proof)
- Certified explosion proof hermetically sealed electrical assembly for environmental protection.

SHIPPING WEIGHT: APPROXIMATELY 49 OUNCES (1372 GRAMS)

SERIES:

6900DZE*

ADJUSTABLE SET POINT RANGE:

DIFFERENTIAL PRESSURE:

.4 to 75 PSID
0.028 to 5.17 bar
2.76 to 517 kPa

OPERATING TEMPERATURE:

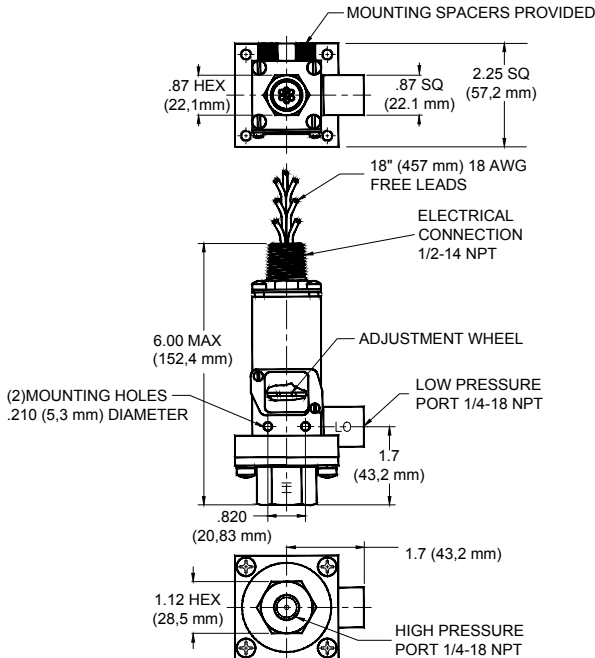
Temperature limits change with O-ring selection.

-40° to 186°F
-40° to 86°C

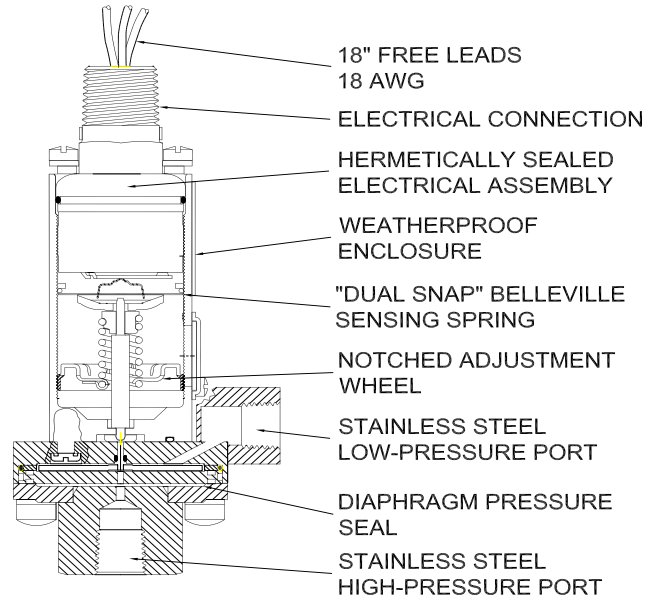
STANDARD FEATURES:

- CE Mark
- CCC
- CRN
- Dual Seal: ANSI/ISA-12.27.01
- NACE MRO175 / ISO 15156
- NEMA: 4, 7, 9, 13 / IP66
- U.L. / CSA Listed
- Hermetically Sealed Electrical Assembly
- 316 SST Electrical Assembly

INSTALLATION DRAWING



DESIGN PRINCIPLES



SERIES 6900DZE

FIELD SETTING: Loosen access cover. Adjust adjustment screw using screwdriver slot as illustrated, then attach to a variable pressure source with a suitable gage, and check that the circuit continuity operates at the pressures desired. Clockwise to increase settings. Counterclockwise to decrease setting.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.

DUAL-SNAP®



Models: 6900DZE*, Page 1 of 2
Form 830G, 11.12.13



CustomControlSensors

Hazardous Areas Adjustable Pressure Switch

6900DZE* - Diaphragm Sensor

OPERATING AND ORDERING DATA

SERIES 6900DZE*	WETTED PARTS: 1/4"-18 NPT STAINLESS STEEL PRESSURE PORT, POLYIMIDE DIAPHRAGM, VITON O-RING						
	ADJUSTABLE SET POINT RANGE PSID (BAR)		APPROX. DEAD BAND PSI (BAR)	MAX SYSTEM PRESSURE PSIG (BAR)		PROOF PRESSURE PSIG (BAR)	
	INCREASING PRESSURE	DECREASING PRESSURE		HIGH PRESS. PORT	LOW PRESS. PORT	BOTH PORTS SIMULT.	HIGH OVER LOW LOW OVER HIGH
						HIGH	LOW
6900DZE*8	1.5-18 (0.103-1.24)	4-17.2 (0.03-1.19)	1 (0.07)	400 (27.6)	750 (51.7)	750 (51.7)	400 (27.8)
6900DZE*10	6-75 (0.41-5.17)	2-71 (0.13-4.89)	4 (0.28)				

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 6900DZE10-7076)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

OPTIONAL STANDARD MODIFIED SUFFIXES

- 7008:** Gold Contacts
- 7054:** 2 Meter Free Leads
- 7076:** 18 inch Teflon Free Leads (Low Temp Wire)
- 7081:** M20 Explosion Proof Electrical Conduit Connection (Y option)

OPTIONS MODEL CODES

- F:** Ethylene Propylene O-Ring
- M:** DPDT Electrical
- Y:** ATEX / GOST Certified Electrical Assembly (Consult CCS Sales Department for GOST options and requirements.)

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

ELECTRICAL ENCLOSURE CERTIFICATIONS

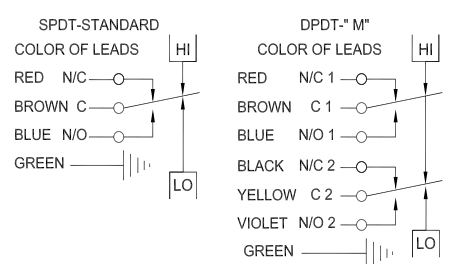
- * c-UL, U.L./CSA Explosion Proof: Div. 1, 2 hermetically sealed electrical assembly P/N 46-1058 (46-1061 for M model option), listed by both Underwriter's Laboratories, Inc. (File No. E32961) and Canadian Standard Association (CSA) Testing Laboratories (File No. LR22921) for hazardous locations, Class 1, Groups A, B, C, and D; Class 2 Groups E, F, and G.
- * ATEX certified for potentially explosive atmospheres electrical assembly series 46-XXXXXXX, Models 6*****, Ex d IIC T6, Directive 94/9/EC Sira 08ATEX1046X. (Option Y)
- * IECEx - SIRA certified, SIR 10,0193X (Option Y)

ELECTRICAL CHARACTERISTICS RATING OF SWITCH ELEMENT

VOLTS	AMPERES	
	SPDT Res.	DPDT "M" Res.
125 AC - 50/60 Hz	11	11
250 AC - 50/60 Hz	11	11
30 DC	5	5
125 DC	.5	.5
*125 AC - 50/60 Hz	1 max	1 max
*30 DC	1 max	1 max

*Gold Contacts -7008 Suffix

SCHEMATIC AND WIRING CODE





CustomControlSensors

Non-Hazardous Areas Adjustable Pressure Switch

6900G* - Diaphragm Sensor



DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, compact and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-pressure capability.
- (System and Proof)
- Various options for wetted materials and electrical ratings to meet a wide range of application requirements and media compatibility.

SHIPPING WEIGHT: APPROXIMATELY 15 OUNCES (425 GRAMS)

SERIES:

- 6900G*
- 6900GZ*

ADJUSTABLE SET POINT RANGE:

- 1 to 3400 PSIG
- 0.07 to 234 bar
- 6.89 to 23400 kPa

OPERATING TEMPERATURE:

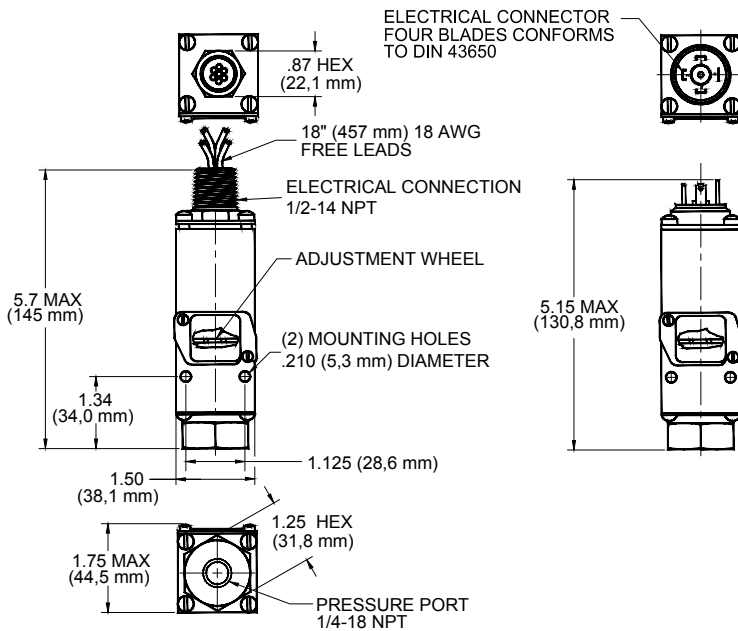
Temperature limits change with O-ring selection.

- 40° to 186°F
- 40° to 86°C

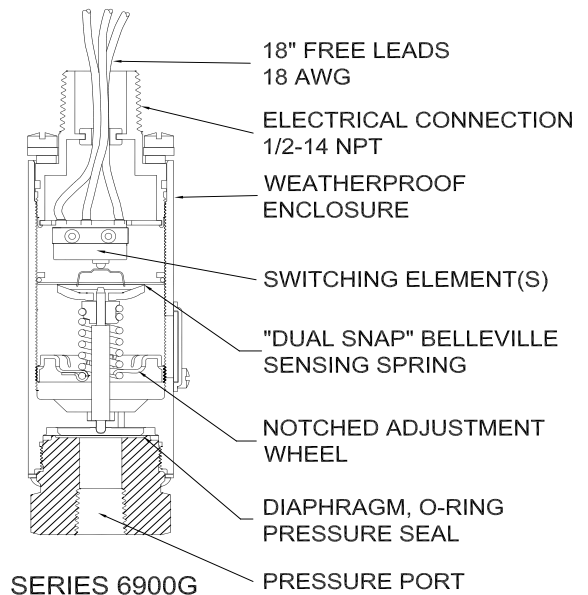
STANDARD FEATURES:

- CE Mark
- CCC
- CSA Listed
- CRN
- NACE MR0175 / ISO 15156
- NEMA: 4, 13 / IP65
- Weatherproof

INSTALLATION DRAWING



DESIGN PRINCIPLES



FIELD SETTING: Loosen access cover. Adjust adjustment screw using screwdriver slot as illustrated, then attach to a variable pressure source with a suitable gage, and check that the circuit continuity operates at the pressures desired. Clockwise to increase settings. Counterclockwise to decrease setting.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.

DUAL-SNAP®



Models: 6900G*, Page 1 of 2
Form 830G, 12.9.13



CustomControlSensors

Non-Hazardous Areas Adjustable Pressure Switch

6900G* - Diaphragm Sensor

OPERATING AND ORDERING DATA

SERIES 6900G*	WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, POLYIMIDE DIAPHRAGM, BUNA N O-RING				
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING PRESSURE PSIG (BAR)	DECREASING PRESSURE PSIG (BAR)			
6900G*12	3-20 (0.21-1.4)	1-18 (0.07-1.2)	2 (0.14)	500 (34.5)	750 (51.7)
6900G*14	6-75 (0.41-5.1)	2-71 (0.14-4.9)	4 (0.28)		
6900G*16	12-150 (0.8-10.3)	4-142 (0.28-9.8)	8 (0.6)	1500 (103)	2000 (138)
6900G*18	30-375 (2.0-25.9)	10-355 (0.7-24.4)	20 (1.4)		
6900G*20	300-1000 (20.7-69)	250-950 (17.2-66)	50 (3.5)	2000 (138)	3000 (207)
6900G*22	700-2200 (48.3-152)	600-2100 (41.4-145)	100 (6.9)	3000 (207)	4500 (310)
6900G*24	1800-3400 (124-234)	1580-3180 (109-219)	220 (15.2)	5000 (345)	7500 (517)

SERIES 6900GZ*	WETTED PARTS: 1/2"-14 NPT 316 STAINLESS STEEL PRESSURE PORT & DIAPHRAGM, VITON O-RING				
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING PRESSURE PSIG (BAR)	DECREASING PRESSURE PSIG (BAR)			
6900GZ*12	3-20 (0.21-1.4)	1-18 (0.07-1.2)	2 (0.14)	500 (34.5)	750 (51.7)
6900GZ*14	9-75 (0.6-5.1)	3-69 (0.21-4.8)	6 (0.41)		
6900GZ*16	18-150 (1.2-10.3)	6-138 (0.41-9.5)	12 (0.8)	1500 (103)	2000 (138)
6900GZ*18	45-375 (3.1-25.9)	15-345 (1.0-23.8)	30 (2.0)		
6900GZ*20	300-1000 (20.7-68.9)	225-925 (15.5-64)	75 (5.1)	2000 (138)	3000 (207)
6900GZ*22	700-2200 (48.3-152)	520-2020 (35.9-139)	180 (12.4)	3000 (207)	4500 (310)
6900GZ*24	1800-3400 (124-234)	1520-3120 (105-215)	280 (19.3)	5000 (345)	7500 (517)

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 6900GA16-7008)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

OPTIONS MODEL CODES

- A:** Viton® O-Ring (STD on GZ models)
- C:** 316 Stainless Steel Welded Capsule (GC Models only)
- F:** Ethylene Propylene O-Ring
- M:** DPDT Electrical

OPTIONAL STANDARD MODIFIED SUFFIXES

- 7008:** Gold Contacts
- 7044:** Monel Port and Diaphragm
- 7045:** Hastelloy C-276 Port and Diaphragm
- 7075:** Electrical Connector with 4 Blades Conforms to DIN-43650 (SPDT only)
- 7077:** Electrical Connector with Gold Contacts and 4 Blades Conforms to DIN-43650 (SPDT only)
- 7092:** 18 inch Teflon Free Leads (Low Temp Wire) (Non-Hazardous Area Option)
- 7088:** 1/4" -18 NPT Female 316 Stainless Steel Pressure Port
- 7089:** 1/2" -14 NPT Male 316 Stainless Steel Pressure Port

ACCESSORIES - SOLD SEPARATELY

- 69-102:** Mating DIN-43650 Connector
- 57-159:** Sealing DIN-46650 Gasket

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

ELECTRICAL ENCLOSURE CERTIFICATIONS

* CSA listed by Canadian Standard Association (CSA) Testing Laboratories (File No. LR22665) for enclosure (4) non-hazardous locations.

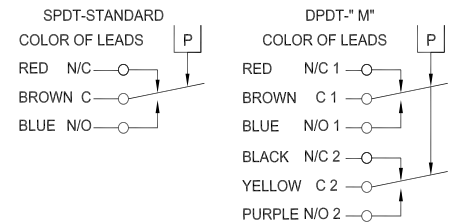
CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

ELECTRICAL CHARACTERISTICS SCHEMATIC AND WIRING CODE RATING OF SWITCH ELEMENT

VOLTS	AMPERES	
	SPDT	DPDT "M"
	Res.	Res.
125 AC - 50/60 Hz	11	11
250 AC - 50/60 Hz	11	11
30 DC	5	5
125 DC	.5	.5
*125 AC - 50/60 Hz	1 max	1 max
*30 DC	1 max	1 max

*Gold Contacts -7008 Suffix



DUAL-SNAP®

Models: 6900G*, Page 2 of 2
Form 830G, 12.9.13



CustomControlSensors

Hazardous Areas Adjustable Pressure Switch

6900GCZZE*5Y* - Diaphragm Sensor

DESCRIPTION



- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, compact and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-pressure capability. (System and Proof)
- Certified explosion proof hermetically sealed electrical assembly for environmental protection.
- Various options for wetted materials and electrical ratings to meet a wide range of application requirements and media compatibility.

SHIPPING WEIGHT: APPROXIMATELY 25 OUNCES (708 GRAMS)

SERIES:

6900GCZZE5Y*

ADJUSTABLE SET POINT RANGE:

1 to 3400 PSIG
0.07 to 234 bar
6.89 to 23400 kPa

OPERATING TEMPERATURE:

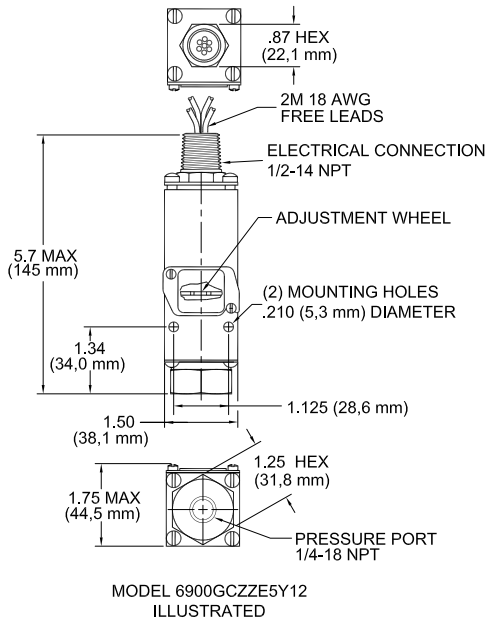
Temperature limits change with O-ring selection.

-40° to 186°F
-40° to 86°C

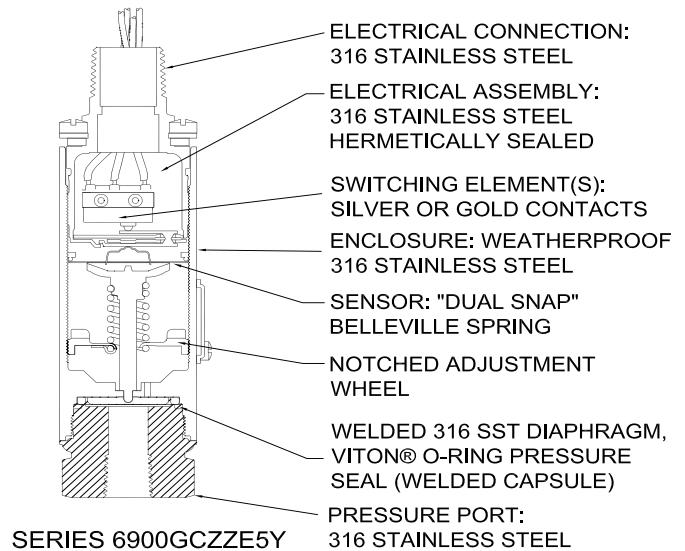
STANDARD FEATURES:

- CE Mark
- CCC
- CRN
- Dual Seal Certified: ANSI/ISA-12.27.01
- NACE MR0175 / ISO 15156
- NEMA: 4, 7, 9, 13 / IP66
- U.L. / CSA Hazardous Area Listed
- IECEx - ATEX Compliant
- Hermetically Sealed 316 SST Electrical Assembly
- 316 SST Body, Pressure Port and Welded Capsule

INSTALLATION DRAWING



DESIGN PRINCIPLES



FIELD SETTING: Loosen access cover. Adjust adjustment screw using screwdriver slot as illustrated, then attach to a variable pressure source with a suitable gage, and check that the circuit continuity operates at the pressures desired. Clockwise to increase settings. Counterclockwise to decrease setting.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.

DUAL-SNAP®



Models: 6900GCZZE5Y*, Page 1 of 2
Form 830G, 3.21.14



CustomControlSensors

Hazardous Areas Adjustable Pressure Switch

6900GCZZE*5Y* - Diaphragm Sensor

OPERATING AND ORDERING DATA

SERIES 6900GCZZE*5Y*	1/4"-18 NPT 316 SST (FEMALE) PRESSURE CONNECTION AND WELDED DIAPHRAGM, VITON® O-RING				
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING PRESSURE PSIG (BAR)	DECREASING PRESSURE PSIG (BAR)			
6900GCZZE*5Y12	3-20 (0.21-1.4)	1-18 (0.07-1.2)	2 (0.14)	500 (34.5)	1000 (69)
6900GCZZE*5Y14	9-75 (0.6-5.1)	3-69 (0.21-4.8)	6 (0.41)		
6900GCZZE*5Y16	18-150 (1.2-10.3)	6-138 (0.41-9.5)	12 (0.8)	1500 (103)	2000 (138)
6900GCZZE*5Y18	45-375 (3.1-25.9)	15-345 (1.0-23.8)	30 (2.0)		
6900GCZZE*5Y20	300-1000 (20.7-69)	225-925 (15.5-64)	75 (5.1)	2000 (138)	5000 (345)
6900GCZZE*5Y22	700-2200 (48.3-152)	520-2020 (35.9-139)	180 (12.4)	3000 (207)	10000 (689)
6900GCZZE*5Y24	1800-3400 (124-234)	1520-3120 (105-215)	280 (19.3)	5000 (345)	

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 6900GCZZEFM5Y14)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

STANDARD MODEL CODES

- C:** 316 Stainless Steel Welded Capsule
- ZZ:** 316 SST body and female pressure port with 1/4"-18 NPT
- 5Y:** ATEX/UL/CSA certified electrical assembly with 1/2"-14 conduit thread and 2 meter free leads.

APPROVALS

- *c-UL, U.L./CSA Explosion Proof: Div. 1, 2 hermetically sealed electrical assembly P/N 46-1058 (46-1061 for M model option), listed by both Underwriter's Laboratories, Inc. (File No. E32961) and Canadian Standard Association (CSA) Testing Laboratories (File No. LR22921) for hazardous locations, Class 1, Groups A, B, C, and D; Class 2 Groups E, F, and G.
- *ATEX certified for potentially explosive atmospheres electrical assembly series 46-XXXXXXX, Models 6*****, Ex d IIC T5 and T6: Ex tb IIIC T100°C/T85°C Db IP66/7, Directive 94/9/EC Sira 08ATEX1046X. (Option Y)
- *IECEx - SIRA certified, SIR 10,0193X (Option Y)
- *Dual Seal Certified File No. LR22921
- *PG Russian Certificate, Gost R 0813770

OPTIONAL MODEL CODES

- F:** Ethylene Propylene O-Ring
- M:** DPDT Electrical
- L:** Gold Contact

ACCESSORIES

- * **Junction Box:141-20** Hazardous Area Junction Box (3/4" NPT Stainless Steel) Explosion Proof, Weatherproof, Div 1, Div 2, Zone 1, Zone 2, IP 68. Certified to ATEX, CSA, FM, IECEx.
- * **89-134-1H:** Horizontal SST 2 inch Pipe Clamp
- * **89-134-1V:** Vertical SST 2 inch Pipe Clamp

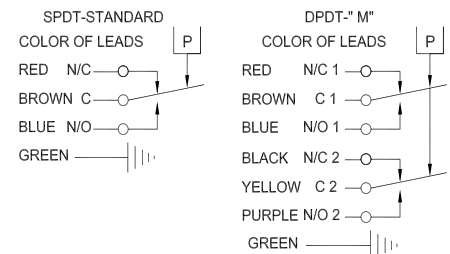
Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

ELECTRICAL CHARACTERISTICS SCHEMATIC AND WIRING CODE

RATING OF SWITCH ELEMENT

VOLTS	AMPERES	
	SPDT	DPDT "M"
	Res.	Res.
125 AC - 50/60 Hz	11	11
250 AC - 50/60 Hz	11	11
30 DC	5	5
125 DC	.5	.5
*125 AC - 50/60 Hz	1 max	1 max
*30 DC	1 max	1 max

*L Gold Contacts



CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

DUAL-SNAP®

Models: 6900GCZZE5Y*, Page 2 of 2
Form 830G, 3.21.14



CustomControlSensors

Hazardous Areas Adjustable Pressure Switch

6900G*E* - Diaphragm Sensor



DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, compact and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-pressure capability. (System and Proof)
- Certified explosion proof hermetically sealed electrical assembly for environmental protection.
- Various options for wetted materials and electrical ratings to meet a wide range of application requirements and media compatibility.

SHIPPING WEIGHT: APPROXIMATELY 25 OUNCES (708 GRAMS)

SERIES:

- 6900GE*
- 6900GZE*

ADJUSTABLE SET POINT RANGE:

- 1 to 3400 PSIG
- 0.07 to 234 bar
- 6.89 to 23400 kPa

OPERATING TEMPERATURE:

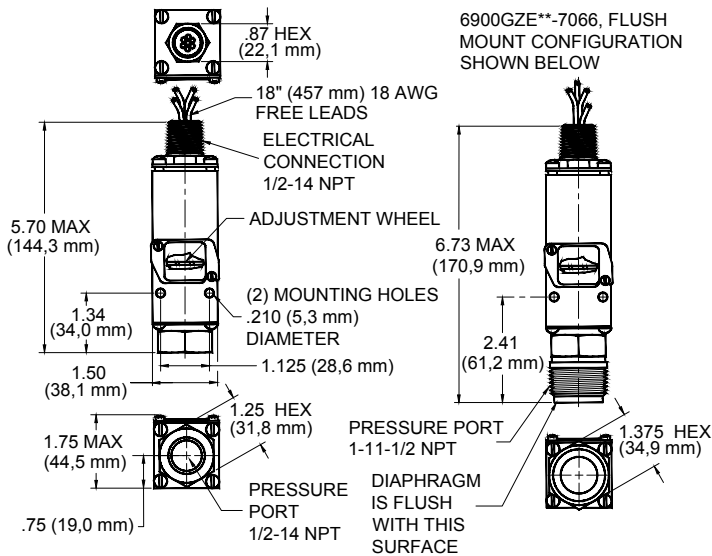
Temperature limits change with O-ring selection.

- 40° to 186°F
- 40° to 86°C

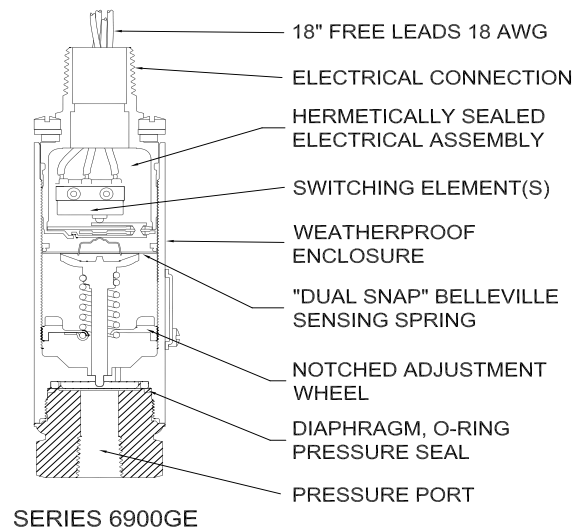
STANDARD FEATURES:

- CE Mark
- CCC
- CRN
- Dual Seal: ANSI/ISA-12.27.01
- NACE MR0175 / ISO 15156
- NEMA: 4, 7, 9, 13 / IP66
- U.L. / CSA Listed
- Hermetically Sealed Electrical Assembly
- 316 SST Electrical Assembly

INSTALLATION DRAWING



DESIGN PRINCIPLES



FIELD SETTING: Loosen access cover. Adjust adjustment screw using screwdriver slot as illustrated, then attach to a variable pressure source with a suitable gage, and check that the circuit continuity operates at the pressures desired. Clockwise to increase settings. Counterclockwise to decrease setting.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.

DUAL-SNAP®



Models: 6900G*E*, Page 1 of 2
Form 830G, 10.22.13



CustomControlSensors

Hazardous Areas Adjustable Pressure Switch

6900G*E* - Diaphragm Sensor

OPERATING AND ORDERING DATA

SERIES 6900GE*	WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, POLYIMIDE DIAPHRAGM, BUNA N O-RING				
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING PRESSURE PSIG (BAR)	DECREASING PRESSURE PSIG (BAR)			
6900GE*12	3-20 (0.21-1.4)	1-18 (0.07-1.2)	2 (0.14)	500 (34.5)	750 (51.7)
6900GE*14	6-75 (0.41-5.1)	2-71 (0.14-4.9)	4 (0.28)		
6900GE*16	12-150 (0.8-10.3)	4-142 (0.28-9.8)	8 (0.6)		
6900GE*18	30-375 (2.0-25.9)	10-355 (0.7-24.4)	20 (1.4)	1500 (103)	2000 (138)
6900GE*20	300-1000 (20.7-69)	250-950 (17.2-66)	50 (3.5)	2000 (138)	3000 (207)
6900GE*22	700-2200 (48.3-152)	600-2100 (41.4-145)	100 (6.9)	3000 (207)	4500 (310)
6900GE*24	1800-3400 (124-234)	1580-3180 (109-219)	220 (15.2)	5000 (345)	7500 (517)
SERIES 6900GZE*	WETTED PARTS: 1/2"-14 NPT 316 STAINLESS STEEL PRESSURE PORT & DIAPHRAGM, VITON O-RING				
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING PRESSURE PSIG (BAR)	DECREASING PRESSURE PSIG (BAR)			
6900GZE*12	3-20 (0.21-1.4)	1-18 (0.07-1.2)	2 (0.14)	500 (34.5)	750 (51.7)
6900GZE*14	9-75 (0.6-5.1)	3-69 (0.21-4.8)	6 (0.41)		
6900GZE*16	18-150 (1.2-10.3)	6-138 (0.41-9.5)	12 (0.8)		
6900GZE*18	45-375 (3.1-25.9)	15-345 (1.0-23.8)	30 (2.0)	1500 (103)	2000 (138)
6900GZE*20	300-1000 (20.7-69)	225-925 (15.5-64)	75 (5.1)	2000 (138)	3000 (207)
6900GZE*22	700-2200 (48.3-152)	520-2020 (35.9-139)	180 (12.4)	3000 (207)	4500 (310)
6900GZE*24	1800-3400 (124-234)	1520-3120 (105-215)	280 (19.3)	5000 (345)	7500 (517)
SERIES 6900GZE*-7066 FLUSH MOUNT	WETTED PARTS: 1" 316 STAINLESS STEEL PRESSURE PORT & WELDED DIAPHRAGM				
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING PRESSURE PSIG (BAR)	DECREASING PRESSURE PSIG (BAR)			
6900GZE*12-7066	3-15 (0.21-1.0)	1-13 (0.07-0.9)	2 (0.14)	500 (34.5)	750 (52)
6900GZE*14-7066	12-75 (0.83-5.1)	6-69 (0.41-4.8)	6 (0.41)		
6900GZE*16-7066	18-150 (1.2-10.3)	6-138 (0.41-9.5)	12 (0.8)		
6900GZE*18-7066	45-375 (3.1-25.9)	15-345 (1.0-23.8)	30 (2.0)	1500 (103)	2000 (138)
6900GZE*20-7066	300-1000 (20.7-69)	225-925 (15.5-64)	75 (5.1)	2000 (138)	3000 (207)
6900GZE*22-7066	700-2200 (48.3-152)	520-2020 (35.9-139)	180 (12.4)	3000 (207)	4500 (310)

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 6900GCE12-7044)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

OPTIONS MODEL CODES

- A:** Viton® O-Ring (STD on GZE models)
- C:** 316 Stainless Steel Welded Capsule
- F:** Ethylene Propylene O-Ring
- M:** DPDT Electrical Assembly (Consult CCS Sales Department for GOST options and requirements.)
- Y:** ATEX / GOST Certified Electrical Assembly (Consult CCS Sales Department for GOST options and requirements.)

OPTIONAL STANDARD MODIFIED SUFFIXES

- 7008:** Gold Contacts
- 7042:** Stainless Steel Body
- 7044:** Monel Port and Diaphragm
- 7045:** Hastelloy C-276 Port and Diaphragm
- 7054:** 2 Meter Free Leads
- 7076:** 18 inch Teflon Free Leads (Low Temp Wire)
- 7081:** M20 Explosion Proof Electrical Conduit Connection
- 7082:** 316 SST Port, Piston & Body, E.N.P. Front cover & Locks, 1/4-18 NPT Female Pressure port.
- 7085:** 316 SST Port, Piston & Body, E.N.P. Front cover & Locks, 1/4-18 NPT Female Pressure port, 2 Meter Free Leads.
- 7088:** 1/4" -18 NPT Female 316 Stainless Steel Pressure Port
- 7089:** 1/2" -14 NPT Male 316 Stainless Steel Pressure Port

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

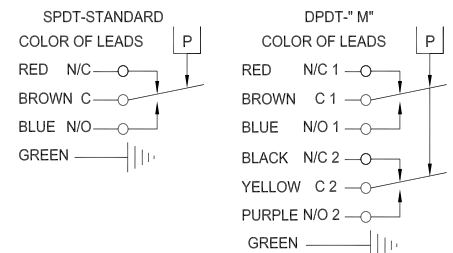
ELECTRICAL ENCLOSURE CERTIFICATIONS

* c-UL, U.L./CSA Explosion Proof: Div. 1, 2 hermetically sealed electrical assembly P/N 46-1058 (46-1061 for M model option), listed by both Underwriter's Laboratories, Inc. (File No. E32961) and Canadian Standard Association (CSA) Testing Laboratories (File No. LR22921) for hazardous locations, Class 1, Groups A, B, C, and D; Class 2 Groups E, F, and G.
* ATEX certified for potentially explosive atmospheres electrical assembly series 46-XXXXXXX, Models 6*****, Ex d IIC T6, Directive 94/9/EC Sira 08ATEX1046X. (Option Y)
* IECEx - SIRA certified, SIR 10,0193X (Option Y)

ELECTRICAL CHARACTERISTICS SCHEMATIC AND WIRING CODE

VOLTS	RATING OF SWITCH ELEMENT	
	AMPERES	
	SPDT	DPDT "M"
125 AC - 50/60 Hz	11	11
250 AC - 50/60 Hz	11	11
30 DC	5	5
125 DC	.5	.5
*125 AC - 50/60 Hz	1 max	1 max
*30 DC	1 max	1 max

*Gold Contacts -7008 Suffix



CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

DUAL-SNAP®

Models: 6900G*E*, Page 2 of 2
Form 830G, 10.22.13



CustomControlSensors

Non-Hazardous Areas Adjustable Pressure Switch

6900P* - Piston Sensor



6900PE Series Shown

DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, compact and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-pressure capability.
- (System and Proof)
- Various options for wetted materials and electrical ratings to meet a wide range of application requirements and media compatibility.

SHIPPING WEIGHT: APPROXIMATELY 15 OUNCES (425 GRAMS)

SERIES:

6900P*

ADJUSTABLE SET POINT RANGE:

5 to 16,000 PSIG
 0.34 to 1,103 bar
 34.47 to 110,316 kPa

OPERATING TEMPERATURE:

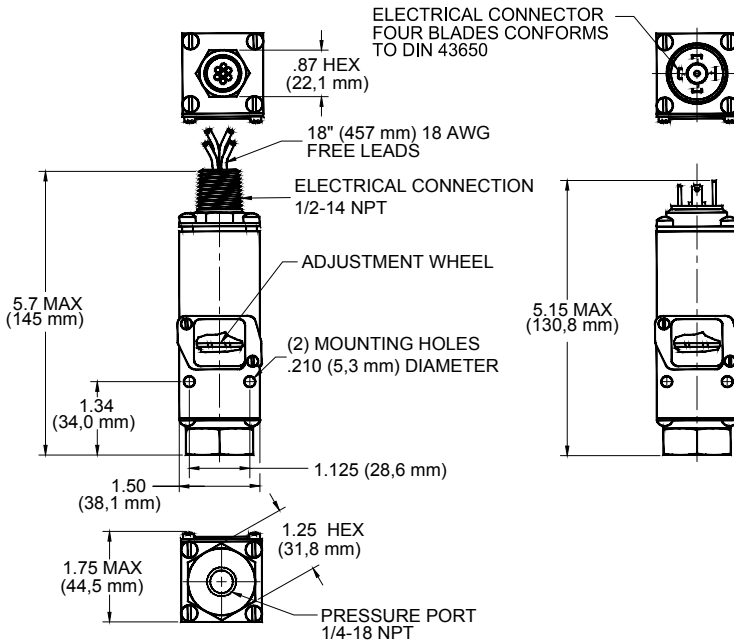
Temperature limits change with O-ring selection.

-40° to 186°F
 -40° to 86°C

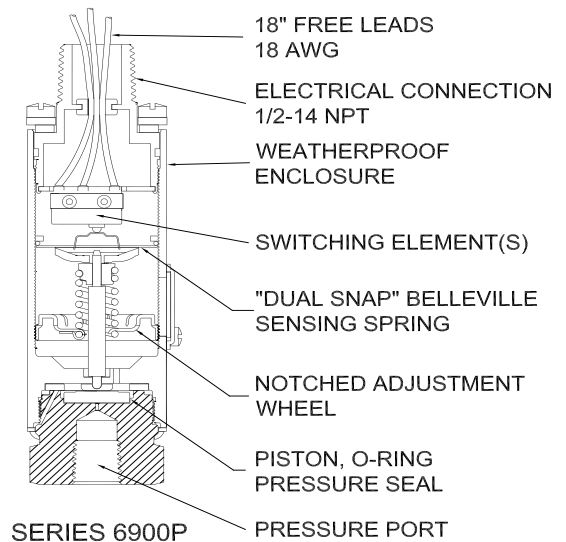
STANDARD FEATURES:

- CE Mark
- CCC
- CSA Listed
- CRN
- NACE MR0175 / ISO 15156
- NEMA: 4, 13 / IP65
- Weatherproof

INSTALLATION DRAWING



DESIGN PRINCIPLES



FIELD SETTING: Loosen access cover. Adjust adjustment screw using screwdriver slot as illustrated, then attach to a variable pressure source with a suitable gage, and check that the circuit continuity operates at the pressures desired. Clockwise to increase settings. Counterclockwise to decrease setting.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.

DUAL-SNAP®



Models: 6900P*, Page 1 of 2
Form 830G, 12.9.13



CustomControlSensors

Non-Hazardous Areas Adjustable Pressure Switch

6900P* - Piston Sensor

OPERATING AND ORDERING DATA

SERIES 6900P*	PISTON PRESSURE SWITCH FOR HIGH CYCLING-LONG LIFE-HYDRAULIC APPLICATION WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, 400 STAINLESS STEEL PISTON, BUNA N O-RING / TEFLON				
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING PRESSURE PSIG (BAR)	DECREASING PRESSURE PSIG (BAR)			
6900P*32	15-200 (1.03-13.8)	5-190 (0.35-13.1)	10 (0.7)	2000 (138)	3000 (207)
6900P*34	150-1600 (10.3-110)	40-1490 (2.8-103)	110 (7.6)	3000 (207)	5000 (345)
6900P*36	500-3200 (34.5-221)	330-3030 (22.8-209)	170 (11.7)	5000 (345)	7500 (517)
6900P*38	2000-6500 (138-448)	1500-6000 (103-414)	500 (34.5)	10000 (689)	13000 (896)
HIGH PRESS.	WETTED PARTS: 7/16"-20 UNF 316 STAINLESS STEEL PRESSURE PORT & PISTON, BUNA N O-RING / TEFLON				
6900P*40	5000-11000 (345-758)	3500-9500 (241-655)	1500 (103)	14000 (965)	20000 (1379)
6900P*42	10000-16000 (690-1103)	7500-13500 (517-931)	2500 (172)	17000 (1172)	25000 (1724)

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 6900PA42)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

OPTIONS MODEL CODES

- A:** Viton® O-Ring
- F:** Ethylene Propylene O-Ring
- M:** DPDT Electrical

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

OPTIONAL STANDARD MODIFIED SUFFIXES

- 7008:** Gold Contacts
- 7038:** Stainless Steel Port and Piston (STD on ranges 40 and 42)
- 7075:** Electrical Connector with 4 Blades Conforms to DIN-43650 (SPDT only)
- 7077:** Electrical Connector with Gold Contacts and 4 Blades Conforms to DIN-43650 (SPDT only)
- 7092:** 18 inch Teflon Free Leads (Low Temp Wire) (Non-Hazardous Area Option)
- 7088:** 1/4" -18 NPT Female 316 Stainless Steel Pressure Port
- 7089:** 1/2" -14 NPT Male 316 Stainless Steel Pressure Port
- 7090:** 2 Meter Free Leads (Non-Hazardous Area Option)

ELECTRICAL ENCLOSURE CERTIFICATIONS

CSA listed by Canadian Standard Association (CSA) Testing Laboratories (File No. LR22665) for enclosure (4) non-hazardous locations.

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

ACCESSORIES - SOLD SEPARATELY

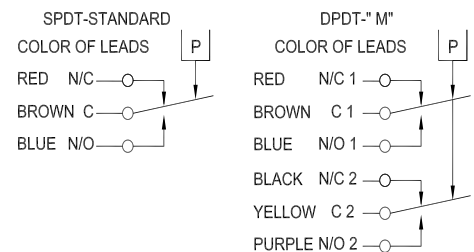
- 69-102:** Mating DIN-43650 Connector
- 57-159:** Sealing DIN-46650 Gasket

ELECTRICAL CHARACTERISTICS RATING OF SWITCH ELEMENT

VOLTS	AMPERES	
	SPDT Res.	DPDT "M" Res.
125 AC - 50/60 Hz	11	11
250 AC - 50/60 Hz	11	11
30 DC	5	5
125 DC	.5	.5
*125 AC - 50/60 Hz	1 max	1 max
*30 DC	1 max	1 max

*Gold Contacts -7008 Suffix

SCHEMATIC AND WIRING CODE



DUAL-SNAP®

Models: 6900P*, Page 2 of 2
Form 830G, 12.9.13



CustomControlSensors

Hazardous Areas Adjustable Pressure Switch

6900PE* - Piston Sensor



DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, compact and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-pressure capability. (System and Proof)
- Certified explosion proof hermetically sealed electrical assembly for environmental protection.
- Various options for wetted materials and electrical ratings to meet a wide range of application requirements and media compatibility.

SHIPPING WEIGHT: APPROXIMATELY 16 OUNCES (467 GRAMS)

SERIES:

6900PE*

ADJUSTABLE SET POINT RANGE:

5 to 16,000 PSIG
 0.34 to 1,103 bar
 34.47 to 110,316 kPa

OPERATING TEMPERATURE:

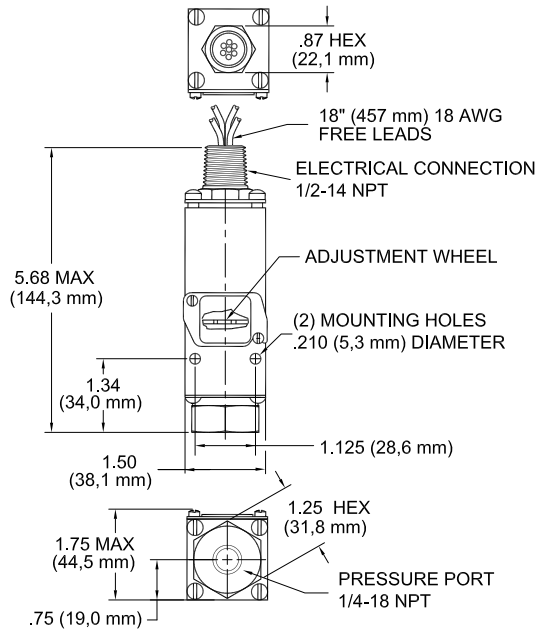
Temperature limits change with O-ring selection.

-40° to 186°F
 -40° to 86°C

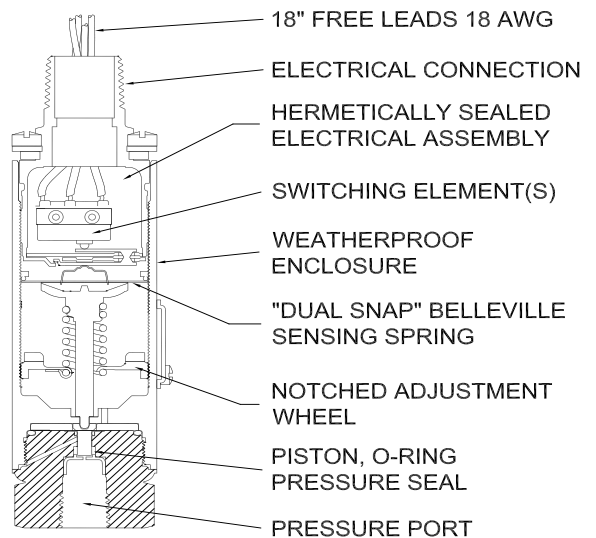
STANDARD FEATURES:

- CE Mark
- CCC
- Dual Seal: ANSI/ISA-12.27.01
- NACE MR0175 / ISO 15156
- NEMA: 4, 7, 9, 13 / IP66
- U.L. / CSA Listed
- Hermetically Sealed Electrical Assembly
- 316 SST Electrical Assembly

INSTALLATION DRAWING



DESIGN PRINCIPLES



SERIES 6900PE

FIELD SETTING: Loosen access cover. Adjust adjustment screw using screwdriver slot as illustrated, then attach to a variable pressure source with a suitable gage, and check that the circuit continuity operates at the pressures desired. Clockwise to increase settings. Counterclockwise to decrease setting.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.

DUAL-SNAP®



Models: 6900PE*, Page 1 of 2
Form 830G, 10.22.13



CustomControlSensors

Hazardous Areas Adjustable Pressure Switch

6900PE* - Piston Sensor

OPERATING AND ORDERING DATA

SERIES 6900PE*	PISTON PRESSURE SWITCH FOR HIGH CYCLING-LONG LIFE-HYDRAULIC APPLICATION WETTED PARTS: 1/4"-18 NPT ALUMINUM PRESSURE PORT, 400 STAINLESS STEEL PISTON, BUNA N O-RING / TEFLON				
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING PRESSURE PSIG (BAR)	DECREASING PRESSURE PSIG (BAR)			
6900PE*32	15-200 (1.03-13.8)	5-190 (0.35-13.1)	10 (0.7)	2000 (138)	3000 (207)
6900PE*34	150-1600 (10.3-110)	40-1490 (2.8-103)	110 (7.6)	3000 (207)	5000 (345)
6900PE*36	500-3200 (34.5-221)	330-3030 (22.8-209)	170 (11.7)	5000 (345)	7500 (517)
6900PE*38	2000-6500 (138-448)	1500-6000 (103-414)	500 (34.5)	10000 (689)	13000 (896)
WETTED PARTS: 7/16"-20 UNF 316 STAINLESS STEEL PRESSURE PORT & PISTON, BUNA N O-RING / TEFLON					
6900PE*40	5000-11000 (345-758)	3500-9500 (241-655)	1500 (103)	14000 (965)	20000 (1379)
6900PE*42	10000-16000 (690-1103)	7500-13500 (517-931)	2500 (172)	17000 (1172)	25000 (1724)

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 6900PEMY36-7038)

PRESSURE CONVERSION

1 BAR = 14.5 PSI

1 kPa = 0.145 PSI

OPTIONS MODEL CODES

A: Viton® O-Ring

F: Ethylene Propylene O-Ring

M: DPDT Electrical

Y: ATEX / GOST Certified Electrical Assembly (Consult CCS Sales Department for GOST options and requirements.)

OPTIONAL STANDARD MODIFIED SUFFIXES

7008: Gold Contacts

7038: Stainless Steel Port and Piston (STD on range 40 & 42)

7042: Stainless Steel Body

7054: 2 Meter Free Leads

7076: 18 inch Teflon Free Leads (Low Temp Wire)

7081: M20 Explosion Proof Electrical Conduit Connection

7082: 316 SST Port, Piston & Body, E.N.P. Front cover & Locks. 1/4-18 NPT Female Pressure port.

7085: 316 SST Port, Piston & Body, E.N.P. Front cover & Locks. 1/4-18 NPT Female Pressure port. 2 Meter Free Leads.

7088: 1/4" -18 NPT Female 316 Stainless Steel Pressure Port

7089: 1/2" -14 NPT Male 316 Stainless Steel Pressure Port

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

ELECTRICAL ENCLOSURE CERTIFICATIONS

* c-UL, U.L./CSA Explosion Proof: Div. 1, 2 hermetically sealed electrical assembly P/N 46-1058 (46-1061 for M model option), listed by both Underwriter's Laboratories, Inc. (File No. E32961) and Canadian Standard Association (CSA) Testing Laboratories (File No. LR22921) for hazardous locations, Class 1, Groups A, B, C, and D; Class 2 Groups E, F, and G.

* ATEX - SIRA certified for potentially explosive atmospheres. Models 6****Y, II 2 GD Ex d IIC, 08ATEX1046X. (Option Y)

* IECEx - SIRA certified, SIR 10,0193X (Option Y)

CERTIFICATIONS

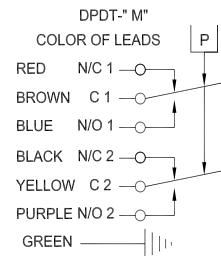
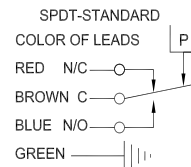
Consult CCS website for complete certification and approval listing.

ELECTRICAL CHARACTERISTICS SCHEMATIC AND WIRING CODE

RATING OF SWITCH ELEMENT

VOLTS	AMPERES	
	SPDT	DPDT "M"
	Res.	Res.
125 AC - 50/60 Hz	11	11
250 AC - 50/60 Hz	11	11
30 DC	5	5
125 DC	.5	.5
*125 AC - 50/60 Hz	1 max	1 max
*30 DC	1 max	1 max

*Gold Contacts -7008 Suffix





CustomControlSensors

Hazardous Areas Adjustable Pressure Switch

6900PZZE*5Y* - Piston Sensor

DESCRIPTION



- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, compact and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-pressure capability. (System and Proof)
- Certified explosion proof hermetically sealed electrical assembly for environmental protection.
- Various options for wetted materials and electrical ratings to meet a wide range of application requirements and media compatibility.

SHIPPING WEIGHT: APPROXIMATELY 16 OUNCES (467 GRAMS)

SERIES:

6900PZZE5Y*

ADJUSTABLE SET POINT RANGE:

5 to 16,000 PSIG
0.34 to 1,103 bar
34.47 to 110,316 kPa

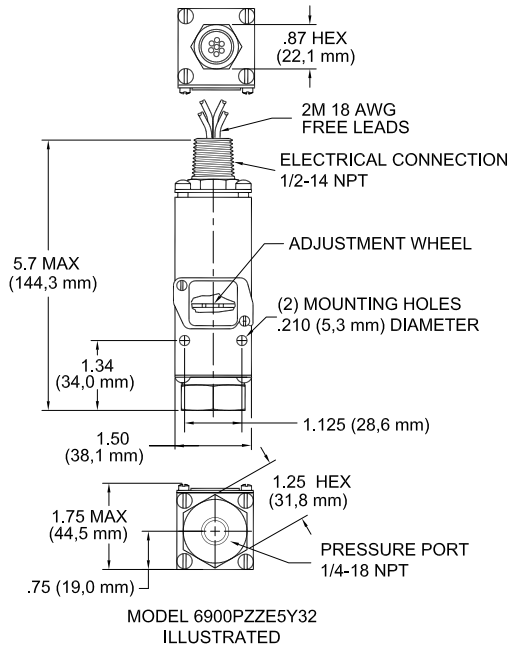
OPERATING TEMPERATURE:

Temperature limits change with O-ring selection.
-40° to 186°F
-40° to 86°C

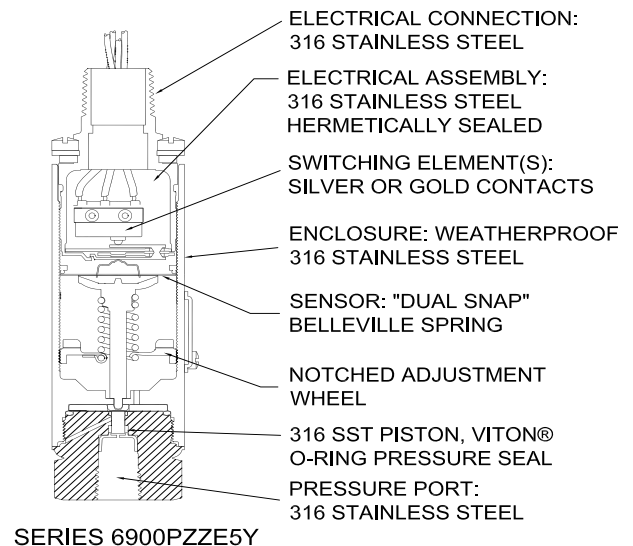
STANDARD FEATURES:

- CE Mark
- CCC
- CRN
- Dual Seal Certified: ANSI/ISA-12.27.01
- NACE MR0175 / ISO 15156
- NEMA: 4, 7, 9, 13 / IP66
- U.L. / CSA Hazardous Area Listed
- IECEx - ATEX Compliant
- Hermetically Sealed 316 SST Electrical Assembly
- 316 SST Body, Pressure Port and Piston

INSTALLATION DRAWING



DESIGN PRINCIPLES



FIELD SETTING: Loosen access cover. Adjust adjustment screw using screwdriver slot as illustrated, then attach to a variable pressure source with a suitable gage, and check that the circuit continuity operates at the pressures desired. Clockwise to increase settings. Counterclockwise to decrease setting.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.

DUAL-SNAP®



Models: 6900PZZE5Y*, Page 1 of 2
Form 830G, 2.13.14



CustomControlSensors

Hazardous Areas Adjustable Pressure Switch

6900PZZE*5Y* - Piston Sensor

OPERATING AND ORDERING DATA

SERIES 6900PZZE5Y*	PISTON PRESSURE SWITCH FOR HIGH CYCLING-LONG LIFE-HYDRAULIC APPLICATION 316 SST BODY, 1/4-18 NPT FEMALE 316 SST PRESSURE PORT AND PISTON VITON® O-RING				
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING PRESSURE PSIG (BAR)	DECREASING PRESSURE PSIG (BAR)			
6900PZZE*5Y32	15-200 (1.03-13.8)	5-190 (0.35-13.1)	10 (0.7)	2000 (138)	6000 (413)
6900PZZE*5Y34	150-1600 (10.3-110)	40-1490 (2.8-103)	110 (7.6)	3000 (207)	6000 (413)
6900PZZE*5Y36	500-3200 (34.5-221)	330-3030 (22.8-209)	170 (11.7)	5000 (345)	7500 (517)
6900PZZE*5Y38	2000-6500 (138-448)	1500-6000 (103-414)	500 (34.5)	10000 (689)	13000 (896)
7/16"-20 UNF 316 STAINLESS STEEL PRESSURE PORT & PISTON,					
6900PZZE*5Y40	5000-11000 (345-758)	3500-9500 (241-655)	1500 (103)	14000 (965)	20000 (1379)
6900PZZE*5Y42	10000-16000 (690-1103)	7500-13500 (517-931)	2500 (172)	17000 (1172)	25000 (1724)

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 6900PZZEM5Y34)

PRESSURE CONVERSION

1 BAR = 14.5 PSI

1 kPa = 0.145 PSI

STANDARD MODEL CODES

ZZ: 316 SST body and female pressure port with 1/4-18 NPT

5Y: ATEX/UL/CSA certified electrical assembly with 1/2-14 conduit thread and 2 meter free leads.

OPTIONAL MODEL CODES

- F:** Ethylene Propylene O-Ring
L: Gold Contact
M: DPDT Electrical

ACCESSORIES

- * **Junction Box:141-20**
Hazardous Area Junction Box (3/4" NPT Stainless Steel) Explosion Proof, Weatherproof, Div 1, Div 2, Zone 1, Zone 2, IP 68. Certified to ATEX, CSA, FM, IECEx.
- * **89-134-1H:** Horizontal SST
2 inch Pipe Clamp
- * **89-134-1V:** Vertical SST
2 inch Pipe Clamp

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

APPROVALS

*c-UL, U.L./CSA Explosion Proof: Div. 1, 2 hermetically sealed electrical assembly P/N 46-1058 (46-1061 for M model option), listed by both Underwriter's Laboratories, Inc. (File No. E32961) and Canadian Standard Association (CSA) Testing Laboratories (File No. LR22921) for hazardous locations, Class 1, Groups A, B, C, and D; Class 2 Groups E, F, and G.

*ATEX certified for potentially explosive atmospheres electrical assembly series 46-XXXXXXX, Models 6****, Ex d IIC T5 and T6: Ex tb IIIC T100°C/T85°C Db IP66/7, Directive 94/9/EC Sira 08ATEX1046X. (Option Y)

*IECEx - SIRA certified, SIR 10.0193X (Option Y)

*Dual Seal Certified File No. LR22921

* Russian Certificate, Gost R 0813770

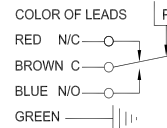
ELECTRICAL CHARACTERISTICS SCHEMATIC AND WIRING CODE

RATING OF SWITCH ELEMENT

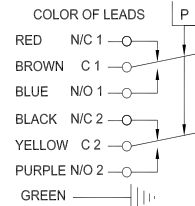
VOLTS	AMPERES	
	SPDT Res.	DPDT "M" Res.
125 AC - 50/60 Hz	11	11
250 AC - 50/60 Hz	11	11
30 DC	5	5
125 DC	.5	.5
*125 AC - 50/60 Hz	1 max	1 max
*30 DC	1 max	1 max

*L Gold Contacts

SPDT-STANDARD



DPDT-"M"



DUAL-SNAP®

Models: 6900PZZE5Y*, Page 2 of 2
Form 830G, 2.13.14



CustomControlSensors

Non-Hazardous Areas Adjustable Temperature Switch

6900T* - Probe



DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, compact and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-temperature capability. (System and Proof)
- Various options for electrical ratings to meet a wide range of application requirements.

SHIPPING WEIGHT: APPROXIMATELY 32 OUNCES (907 GRAMS)

SERIES:

6900T*

ADJUSTABLE SET POINT RANGE: TEMPERATURE:

0° to 405°F
-18° to 207°C

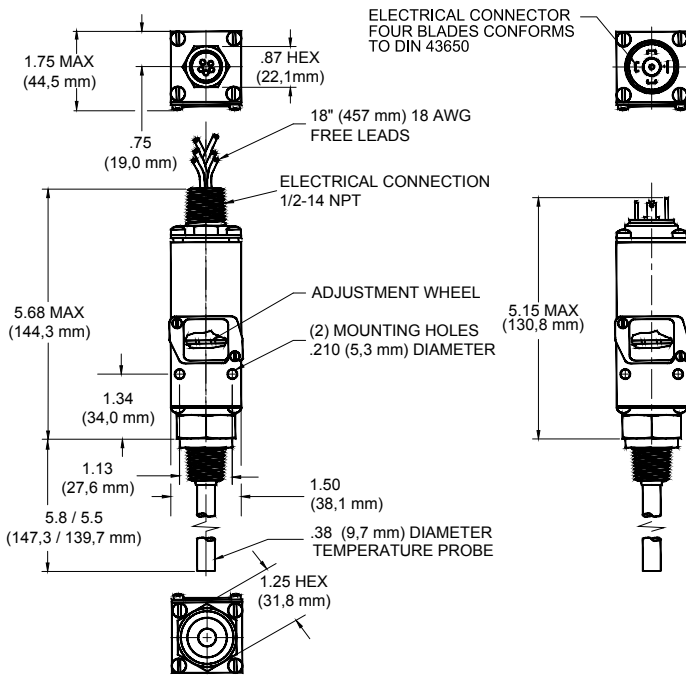
OPERATING TEMPERATURE:

-40° to 186°F
-40° to 86°C

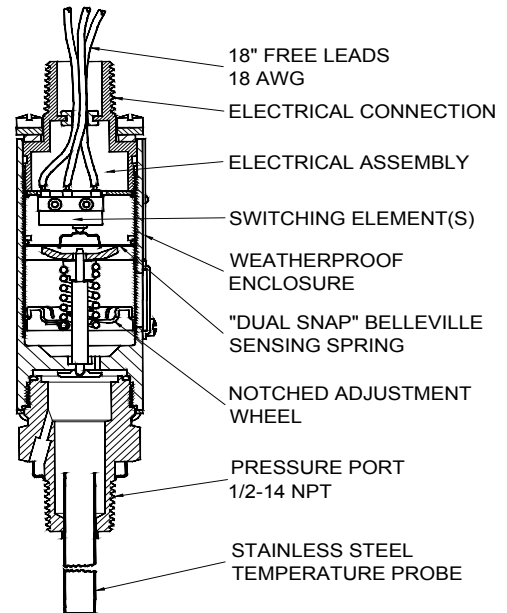
STANDARD FEATURES:

- CE Mark
- CCC
- CSA Listed
- NACE MR0175 / ISO 15156
- NEMA: 4, 13 / IP66
- Weatherproof

INSTALLATION DRAWING



DESIGN PRINCIPLES



SERIES 6900T

FIELD SETTING: Loosen access cover. Adjust adjustment screw using screwdriver slot as illustrated, then attach to a variable pressure source with a suitable gage, and check that the circuit continuity operates at the pressures desired. Clockwise to increase settings. Counterclockwise to decrease setting.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.

DUAL-SNAP®



Models: 6900T*, Page 1 of 2
Form 830G, 11.19.13



CustomControlSensors

Non-Hazardous Areas Adjustable Temperature Switch

6900T* - Probe

OPERATING AND ORDERING DATA

SERIES 6900T*	WETTED PARTS: 300 STAINLESS STEEL TEMPERATURE PROBE				
	ADJUSTABLE SET POINT RANGE		APPROXIMATE DEAD BAND		MAXIMUM PROBE TEMPERATURE DEGREES F (DEGREES C)
	INCREASING TEMPERATURE DEGREES F (DEGREES C)	DECREASING TEMPERATURE DEGREES F (DEGREES C)	AT BOTTOM OF RANGE DEGREES F (DEGREES C)	AT TOP OF RANGE DEGREES F (DEGREES C)	
6900T*12	+20° to +120° (-7° to +49°)	+0° to +113° (-18° to +45°)	20° (11°)	5° (4°)	+200° (+93°)
6900T*14	+80° to +205° (+27° to +96°)	+60° to +198° (+16° to +92°)	20° (11°)	5° (4°)	+300° (+149°)
6900T*16	+185° to +315° (+85° to +157°)	+165° to +308° (+74° to +153°)	20° (11°)	5° (4°)	+400° (+204°)
6900T*18	+280° to +405° (+138° to +207°)	+260° to +398° (+127° to +203°)	20° (11°)	5° (4°)	+500° (+260°)

EXTERNAL PROBE PRESSURE:

System Pressure: 1250 PSIG (86 bar) Proof Pressure: 1500 PSIG (103 bar)

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 6900T18-7008)

TEMPERATURE CONVERSION

32 Deg F = 0 Deg C

OPTIONAL STANDARD MODIFIED SUFFIXES

- 7008:** Gold Contacts
- 7042:** Stainless Steel Body
- 7075:** Electrical Connector with 4 Blades Conforms to DIN-43650 (SPDT only)
- 7090:** 2 Meter Free Leads
- 7092:** 18 inch Teflon Free Leads (Low Temp Wire)

THERMOWELLS

Order as separate line items. See accessory page for detailed information.

- 113-34-2:** 1" NPT 316 SST 7.5" "U" Dim.
- 113-35-2:** 3/4" NPT 316 SST 7.5" "U" Dim.

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

OPTIONS MODEL CODES

M: DPDT Electrical

ACCESSORIES - SOLD SEPARATELY

- 69-102:** Mating DIN-43650 Connector
- 57-159:** Sealing DIN-46650 Gasket

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

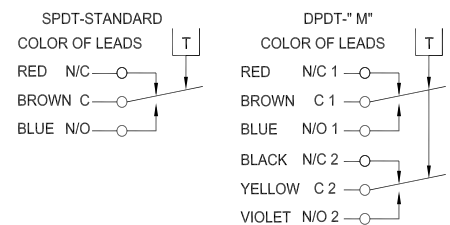
ELECTRICAL ENCLOSURE CERTIFICATIONS

CSA listed by Canadian Standard Association (CSA) Testing Laboratories (File No. LR22665) for enclosure (4) non-hazardous locations.

ELECTRICAL CHARACTERISTICS RATING OF SWITCH ELEMENT

VOLTS	AMPERES	
	SPDT	DPDT "M"
	Res.	Res.
125 AC - 50/60 Hz	11	11
250 AC - 50/60 Hz	11	11
30 DC	5	5
125 DC	.5	.5
*125 AC - 50/60 Hz	1 max	1 max
*30 DC	1 max	1 max

*Gold Contacts -7008 Suffix



DUAL-SNAP®

Models: 6900T*, Page 2 of 2
Form 830G, 11.19.13



CustomControlSensors

Hazardous Areas Adjustable Temperature Switch

6900TE* - Probe

DESCRIPTION



- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, compact and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-temperature capability. (System and Proof)
- Certified explosion proof hermetically sealed electrical assembly for environmental protection.
- Various options for electrical ratings to meet a wide range of application requirements.

SHIPPING WEIGHT: APPROXIMATELY 32 OUNCES (907 GRAMS)

SERIES:

6900TE*

ADJUSTABLE SET POINT RANGE: TEMPERATURE:

0° to 405°F
-18° to 207°C

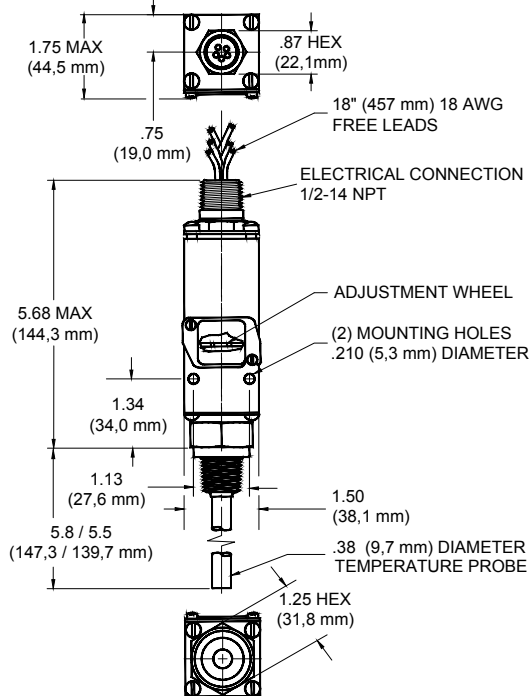
OPERATING TEMPERATURE:

-40° to 186°F
-40° to 86°C

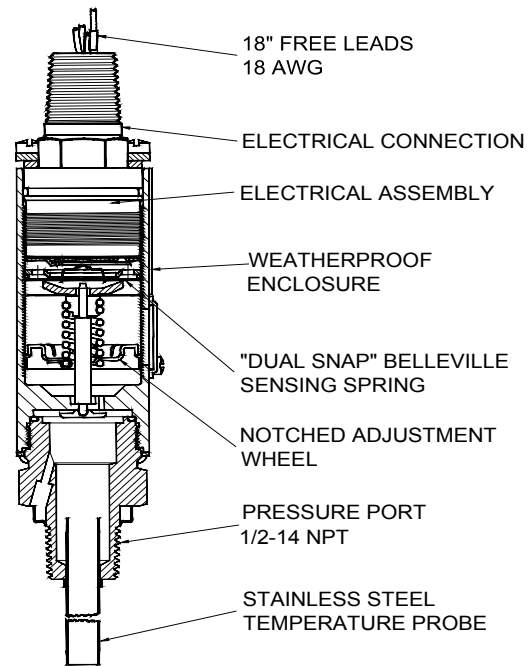
STANDARD FEATURES:

- CE Mark
- CCC
- Dual Seal: ANSI/ISA-12.27.01
- NACE MR0175 / ISO 15156
- NEMA: 4, 7, 9, 13 / IP66
- U.L. / CSA Listed
- Hermetically Sealed Electrical Assembly
- 316 SST Electrical Assembly

INSTALLATION DRAWING



DESIGN PRINCIPLES



SERIES 6900TE

FIELD SETTING: Loosen access cover. Adjust adjustment screw using screwdriver slot as illustrated, then attach to a variable pressure source with a suitable gage, and check that the circuit continuity operates at the pressures desired. Clockwise to increase settings. Counterclockwise to decrease setting.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.

DUAL-SNAP®



Models: 6900TE*, Page 1 of 2
Form 830G, 11.26.13



CustomControlSensors

Hazardous Areas Adjustable Temperature Switch

6900TE* - Probe

OPERATING AND ORDERING DATA

SERIES 6900TE*	WETTED PARTS: 300 STAINLESS STEEL TEMPERATURE PROBE				
	ADJUSTABLE SET POINT RANGE		APPROXIMATE DEAD BAND		MAXIMUM PROBE TEMPERATURE DEGREES F (DEGREES C)
	INCREASING TEMPERATURE DEGREES F (DEGREES C)	DECREASING TEMPERATURE DEGREES F (DEGREES C)	AT BOTTOM OF RANGE DEGREES F (DEGREES C)	AT TOP OF RANGE DEGREES F (DEGREES C)	
6900TE*12	+20° to +120° (-7° to +49°)	+0° to +113° (-18° to +45°)	20° (11°)	5° (4°)	+200° (+93°)
6900TE*14	+80° to +205° (+27° to +96°)	+60° to +198° (+16° to +92°)	20° (11°)	5° (4°)	+300° (+149°)
6900TE*16	+185° to +315° (+85° to +157°)	+165° to +308° (+74° to +153°)	20° (11°)	5° (4°)	+400° (+204°)
6900TE*18	+280° to +405° (+138° to +207°)	+260° to +398° (+127° to +203°)	20° (11°)	5° (4°)	+500° (+260°)

EXTERNAL PROBE PRESSURE:

System Pressure: 1250 PSIG (86 bar) Proof Pressure: 1500 PSIG (103 bar)

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 6900TEM16-7042)

TEMPERATURE CONVERSION

32 Deg F = 0 Deg C

OPTIONAL STANDARD MODIFIED SUFFIXES

- 7008:** Gold Contacts
- 7042:** Stainless Steel Body
- 7054:** 2 Meter Free Leads
- 7076:** 18 inch Teflon Free Leads (Low Temp Wire)

OPTIONS MODEL CODES

- M:** DPDT Electrical
- Y:** ATEX / GOST Certified Electrical Assembly (Consult CCS Sales Department for GOST options and requirements.)

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

THERMOWELLS

Order as separate line items. See accessory page for detailed information.

- 113-34-2:** 1" NPT 316 SST 7.5" "U" Dim.
- 113-35-2:** 3/4" NPT 316 SST 7.5" "U" Dim.

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

ELECTRICAL ENCLOSURE CERTIFICATIONS

* c-UL, U.L./CSA Explosion Proof: Div. 1, 2 hermetically sealed electrical assembly P/N 46-1058 (46-1061 for M model option), listed by both Underwriter's Laboratories, Inc. (File No. E32961) and Canadian Standard Association (CSA) Testing Laboratories (File No. LR22921) for hazardous locations, Class 1, Groups A, B, C, and D; Class 2 Groups E, F, and G.

- * ATEX certified for potentially explosive atmospheres electrical assembly series 46-XXXXXXX, Models 6*****, Ex d IIC T6, Directive 94/9/EC Sira 08ATEX1046X. (Option Y)
- * IECEx - SIRA certified, SIR 10,0193X (Option Y)

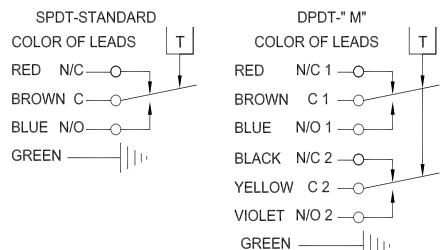
ELECTRICAL CHARACTERISTICS

RATING OF SWITCH ELEMENT

VOLTS	AMPERES	
	SPDT	DPDT "M"
	Res.	Res.
125 AC - 50/60 Hz	11	11
250 AC - 50/60 Hz	11	11
30 DC	5	5
125 DC	.5	.5
*125 AC - 50/60 Hz	1 max	1 max
*30 DC	1 max	1 max

*Gold Contacts -7008 Suffix

SCHEMATIC AND WIRING CODE



DUAL-SNAP®

Models: 6900TE*, Page 2 of 2
Form 830G, 11.26.13



CustomControlSensors

Non-Hazardous Areas Adjustable Temperature Switch

6900TU* - Capillary



DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, compact and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-temperature capability. (System and Proof)
- Various options for electrical ratings to meet a wide range of application requirements.

SHIPPING WEIGHT: APPROXIMATELY 32 OUNCES (907 GRAMS)

SERIES:

6900TU*

ADJUSTABLE SET POINT RANGE: TEMPERATURE:

0° to 650°F
-18° to 340°C

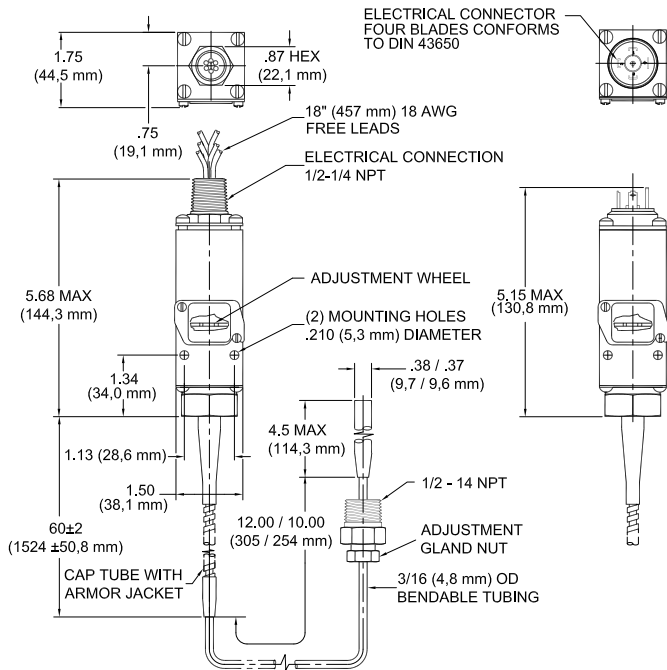
OPERATING TEMPERATURE:

-40° to 186°F
-40° to 86°C

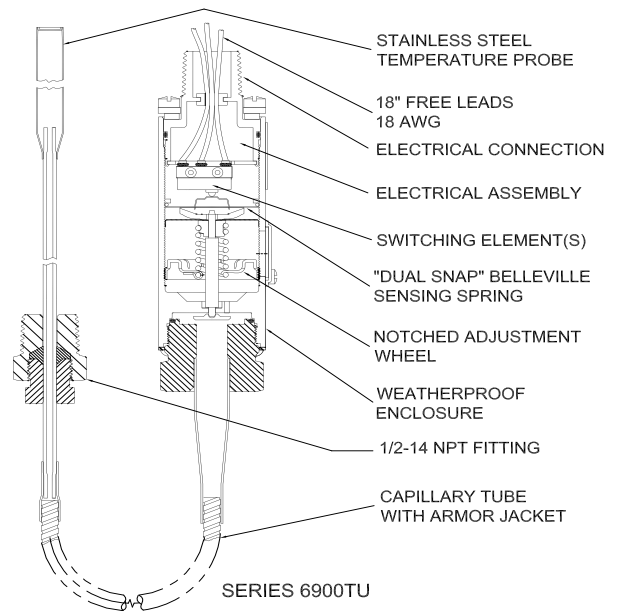
STANDARD FEATURES:

- CE Mark
- CCC
- CSA Listed
- NACE MR0175 / ISO 15156
- NEMA: 4, 13 / IP66
- Weatherproof

INSTALLATION DRAWING



DESIGN PRINCIPLES



FIELD SETTING: Loosen access cover. Adjust adjustment screw using screwdriver slot as illustrated, then attach to a variable pressure source with a suitable gage, and check that the circuit continuity operates at the pressures desired. Clockwise to increase settings. Counterclockwise to decrease setting.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.

DUAL-SNAP®



Models: 6900TU*, Page 1 of 2
Form 830G, 11.19.13



CustomControlSensors

Non-Hazardous Areas Adjustable Temperature Switch

6900TU* - Capillary

OPERATING AND ORDERING DATA

SERIES 6900TU*	WETTED PARTS: 300 STAINLESS STEEL TEMPERATURE PROBE WITH 5' STAINLESS STEEL GRAPHITE AND LUBRICATED GLASS FIBER CAPILLARY TUBE				
	ADJUSTABLE SET POINT RANGE		APPROXIMATE DEAD BAND		MAXIMUM PROBE TEMPERATURE DEGREES F (DEGREES C)
	INCREASING TEMPERATURE DEGREES F (DEGREES C)	DECREASING TEMPERATURE DEGREES F (DEGREES C)	AT BOTTOM OF RANGE DEGREES F (DEGREES C)	AT TOP OF RANGE DEGREES F (DEGREES C)	
6900TU*12	+20° to +120° (-7° to +49°)	+0° to +113° (-18° to +45°)	20° (11°)	5° (4°)	+200° (+93°)
6900TU*14	+80° to +205° (+27° to +96°)	+60° to +198° (+16° to +92°)	20° (11°)	5° (4°)	+300° (+149°)
6900TU*16	+185° to +315° (+85° to +157°)	+165° to +308° (+74° to +153°)	20° (11°)	5° (4°)	+400° (+204°)
6900TU*18	+280° to +405° (+138° to +207°)	+260° to +398° (+127° to +203°)	20° (11°)	5° (4°)	+500° (+260°)
6900TU*20	+385° to +565° (+196° to +296°)	+360° to +555° (+182° to +291°)	25° (14°)	10° (5°)	+650° (+343°)
6900TU*22	+465° to +650° (+241° to +343°)	+440° to +640° (+227° to +338°)	25° (14°)	10° (5°)	+700° (+371°)

EXTERNAL PROBE PRESSURE:

System Pressure: 1250 PSIG (86 bar) Proof Pressure: 1500 PSIG (103 bar)

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 6900TUM12-7090)

TEMPERATURE CONVERSION

32 Deg F = 0 Deg C

OPTIONAL STANDARD MODIFIED SUFFIXES

- 7001:** 10' Capillary
- 7002:** 15' Capillary
- 7003:** 25' Capillary
- 7008:** Gold Contacts
- 7042:** Stainless Steel Body
- 7075:** Electrical Connector with 4 Blades Conforms to DIN-43650 (SPDT only)
- 7090:** 2 Meter Free Leads
- 7092:** 18 inch Teflon Free Leads (Low Temp Wire)

THERMOWELLS

Order as separate line items. See accessory page for detailed information.

- 113-34-1:** 1" NPT 316 SST 4.5" "U" Dim.
- 113-34-2:** 1" NPT 316 SST 7.5" "U" Dim.
- 113-34-3:** 1" NPT 316 SST 10.5" "U" Dim.
- 113-34-4:** 1" NPT 316 SST 13.5" "U" Dim.
- 113-35-1:** 3/4" NPT 316 SST 4.5" "U" Dim.
- 113-35-2:** 3/4" NPT 316 SST 7.5" "U" Dim.
- 113-35-3:** 3/4" NPT 316 SST 10.5" "U" Dim.
- 113-35-4:** 3/4" NPT 316 SST 13.5" "U" Dim.

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

ELECTRICAL ENCLOSURE CERTIFICATIONS

CSA listed by Canadian Standard Association (CSA) Testing Laboratories (File No. LR22665) for enclosure (4) non-hazardous locations.

OPTIONS MODEL CODES

M: DPDT Electrical

ACCESSORIES - SOLD SEPARATELY

- 69-102:** Mating DIN-43650 Connector
- 57-159:** Sealing DIN-46650 Gasket

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

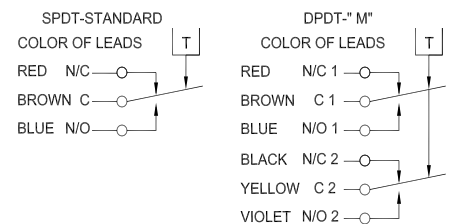
ELECTRICAL CHARACTERISTICS

RATING OF SWITCH ELEMENT

VOLTS	AMPERES	
	SPDT	DPDT "M"
	Res.	Res.
125 AC - 50/60 Hz	11	11
250 AC - 50/60 Hz	11	11
30 DC	5	5
125 DC	.5	.5
*125 AC - 50/60 Hz	1 max	1 max
*30 DC	1 max	1 max

*Gold Contacts -7008 Suffix

SCHEMATIC AND WIRING CODE



DUAL-SNAP®

Models: 6900TU*, Page 2 of 2
Form 830G, 11.19.13



CustomControlSensors

Hazardous Areas Adjustable Temperature Switch

6900TUE* - Capillary



6900TU Series Shown

DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, compact and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-temperature capability. (System and Proof)
- Certified explosion proof hermetically sealed electrical assembly for environmental protection.
- Various options for electrical ratings to meet a wide range of application requirements.

SHIPPING WEIGHT: APPROXIMATELY 32 OUNCES (907 GRAMS)

SERIES:

6900TUE*

ADJUSTABLE SET POINT RANGE: TEMPERATURE:

0° to 650°F
-18° to 340°C

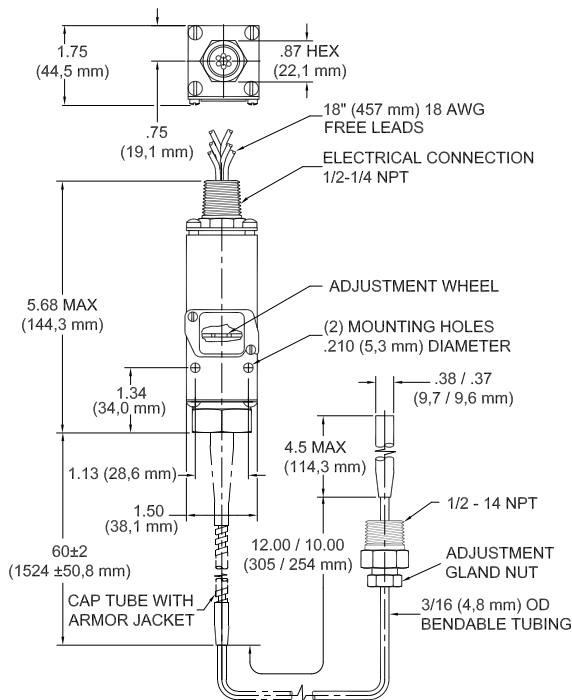
OPERATING TEMPERATURE:

-40° to 186°F
-40° to 86°C

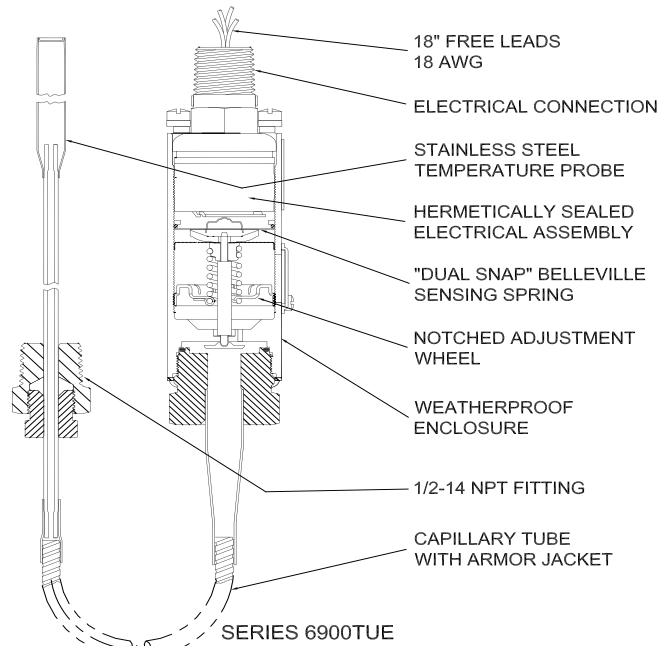
STANDARD FEATURES:

- CE Mark
- CCC
- Dual Seal: ANSI/ISA-12.27.01
- NACE MR0175 / ISO 15156
- NEMA: 4, 7, 9, 13 / IP66
- U.L. / CSA Listed
- Hermetically Sealed Electrical Assembly
- 316 SST Electrical Assembly

INSTALLATION DRAWING



DESIGN PRINCIPLES



FIELD SETTING: Loosen access cover. Adjust adjustment screw using screwdriver slot as illustrated, then attach to a variable pressure source with a suitable gage, and check that the circuit continuity operates at the pressures desired. Clockwise to increase settings. Counterclockwise to decrease setting.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.

DUAL-SNAP®



Models: 6900TUE*, Page 1 of 2
Form 830G, 11.26.2013



CustomControlSensors

Hazardous Areas Adjustable Temperature Switch

6900TUE* - Capillary

OPERATING AND ORDERING DATA

SERIES 6900TUE*	WETTED PARTS: 300 STAINLESS STEEL TEMPERATURE PROBE WITH 5' STAINLESS STEEL GRAPHITE AND LUBRICATED GLASS FIBER CAPILLARY TUBE				
	ADJUSTABLE SET POINT RANGE		APPROXIMATE DEAD BAND		MAXIMUM PROBE TEMPERATURE DEGREES F (DEGREES C)
	INCREASING TEMPERATURE DEGREES F (DEGREES C)	DECREASING TEMPERATURE DEGREES F (DEGREES C)	AT BOTTOM OF RANGE DEGREES F (DEGREES C)	AT TOP OF RANGE DEGREES F (DEGREES C)	
6900TUE*12	+20° to +120° (-7° to +49°)	+0° to +113° (-18° to +45°)	20° (11°)	5° (4°)	+200° (+93°)
6900TUE*14	+80° to +205° (+27° to +96°)	+60° to +198° (+16° to +92°)	20° (11°)	5° (4°)	+300° (+149°)
6900TUE*16	+185° to +315° (+85° to +157°)	+165° to +308° (+74° to +153°)	20° (11°)	5° (4°)	+400° (+204°)
6900TUE*18	+280° to +405° (+138° to +207°)	+260° to +398° (+127° to +203°)	20° (11°)	5° (4°)	+500° (+260°)
6900TUE*20	+385° to +565° (+196° to +296°)	+360° to +555° (+182° to +291°)	25° (14°)	10° (5°)	+650° (+343°)
6900TUE*22	+465° to +650° (+241° to +343°)	+440° to +640° (+227° to +338°)	25° (14°)	10° (5°)	+700° (+371°)

EXTERNAL PROBE PRESSURE:

System Pressure: 1250 PSIG (86 bar) Proof Pressure: 1500 PSIG (103 bar)

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 6900TUEMY22-7001)

TEMPERATURE CONVERSION

32 Deg F = 0 Deg C

OPTIONAL STANDARD MODIFIED SUFFIXES

- 7001:** 10' Capillary
- 7002:** 15' Capillary
- 7003:** 25' Capillary
- 7008:** Gold Contacts
- 7042:** Stainless Steel Body
- 7054:** 2 Meter Free Leads
- 7076:** 18 inch Teflon Free Leads (Low Temp Wire)

OPTIONS MODEL CODES

- M:** DPDT Electrical
- Y:** ATEX / GOST Certified Electrical Assembly (Consult CCS Sales Department for GOST options and requirements.)

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

THERMOWELLS

Order as separate line items. See accessory page for detailed information.

- 113-34-1:** 1" NPT 316 SST 4.5" "U" Dim.
- 113-34-2:** 1" NPT 316 SST 7.5" "U" Dim.
- 113-34-3:** 1" NPT 316 SST 10.5" "U" Dim.
- 113-34-4:** 1" NPT 316 SST 13.5" "U" Dim.
- 113-35-1:** 3/4" NPT 316 SST 4.5" "U" Dim.
- 113-35-2:** 3/4" NPT 316 SST 7.5" "U" Dim.
- 113-35-3:** 3/4" NPT 316 SST 10.5" "U" Dim.
- 113-35-4:** 3/4" NPT 316 SST 13.5" "U" Dim.

ELECTRICAL ENCLOSURE CERTIFICATIONS

* c-UL, U.L./CSA Explosion Proof: Div. 1, 2 hermetically sealed electrical assembly P/N 46-1058 (46-1061 for M model option), listed by both Underwriter's Laboratories, Inc. (File No. E32961) and Canadian Standard Association (CSA) Testing Laboratories (File No. LR22921) for hazardous locations, Class 1, Groups A, B, C, and D; Class 2 Groups E, F, and G.

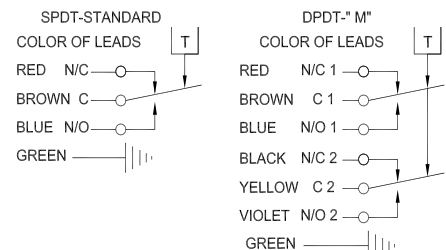
* ATEX certified for potentially explosive atmospheres electrical assembly series 46-XXXXXXX, Models 6****, Ex d IIC T6, Directive 94/9/EC Sira 08ATEX1046X. (Option Y)

* IECEx - SIRA certified, SIR 10,0193X (Option Y)

ELECTRICAL CHARACTERISTICS SCHEMATIC AND WIRING CODE

VOLTS	AMPERES	
	SPDT	DPDT "M"
	Res.	Res.
125 AC - 50/60 Hz	11	11
250 AC - 50/60 Hz	11	11
30 DC	5	5
125 DC	.5	.5
*125 AC - 50/60 Hz	1 max	1 max
*30 DC	1 max	1 max

*Gold Contacts -7008 Suffix



DUAL-SNAP®

Models: 6900TUE*, Page 2 of 2
Form 830G, 11.26.13



CustomControlSensors

Hazardous Areas Adjustable Pressure Switch

6905DZE* - Diaphragm Sensor

DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, compact and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-pressure capability. (System and Proof)
- Certified explosion proof hermetically sealed electrical assembly for environmental protection.
- Various options for electrical ratings to meet a wide range of application requirements and media compatibility.

SHIPPING WEIGHT: APPROXIMATELY 49 OUNCES (1389 GRAMS)

SERIES:

6905DZE*-7042

ADJUSTABLE SET POINT RANGE:

DIFFERENTIAL PRESSURE:

.5 to 75 PSID

0.03 to 5.17 bar

3.45 to 517 kPa

OPERATING TEMPERATURE:

Temperature limits change with O-ring selection.

-40° to 186°F

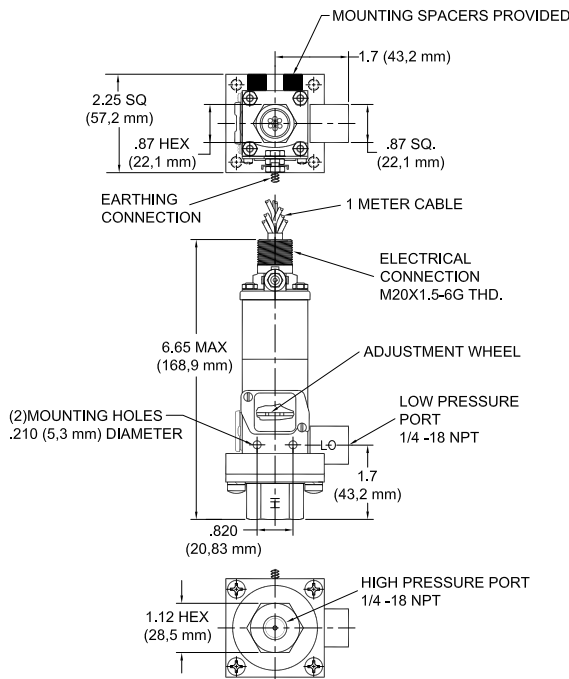
-40° to 86°C

STANDARD FEATURES:

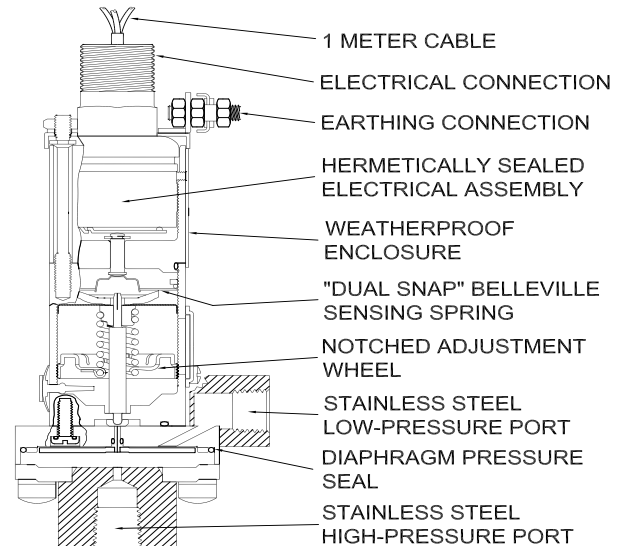
- ATEX - Baseefa Certified
- CE Mark
- CCC
- NEMA: 4, 7, 9, 13 / IP66 & 67
- NACE MR0175 / ISO 15156
- Hermetically Sealed Electrical Assembly
- 316 SST Electrical Assembly
- 300 Series SST Housing
- M20 Electrical Connection



INSTALLATION DRAWING



DESIGN PRINCIPLES



SERIES 6905DZE

FIELD SETTING: Loosen access cover. Adjust adjustment screw using screwdriver slot as illustrated, then attach to a variable pressure source with a suitable gage, and check that the circuit continuity operates at the pressures desired. Clockwise to increase settings. Counterclockwise to decrease setting.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.

DUAL-SNAP®



Models: 6905DZE*, Page 1 of 2
Form 830G, 12.10.13



CustomControlSensors

Hazardous Areas Adjustable Pressure Switch

6905DZE* - Diaphragm Sensor

OPERATING AND ORDERING DATA

SERIES 6905DZE*-7042	WETTED PARTS: 1/4"-18 NPT STAINLESS STEEL PRESSURE PORT, POLYIMIDE DIAPHRAGM, VITON O-RING						
	ADJUSTABLE SET POINT RANGE PSID (BAR)		APPROX. DEAD BAND PSI (BAR)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)		
	INCREASING PRESSURE	DECREASING PRESSURE			BOTH PORTS SIMULT.	HIGH OVER LOW LOW OVER HIGH	
			HIGH	LOW			
6905DZE*8-7042	1.5-18 (0.103-1.24)	0.5-17 (0.03-1.17)	1 (0.069)	400 (28)	750 (52)	750 (52)	400 (28)
6905DZE*10-7042	6-75 (0.414-5.2)	2-71 (0.14-4.9)	4 (0.28)			750 (52)	400 (28)

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 6905DZEM8-7043)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

OPTIONAL STANDARD MODIFIED SUFFIXES

7043: Gold Contacts and Stainless Steel Body (-7042)

PRESSURE SWITCH CERTIFICATIONS

* ATEX - Certificate No. Baseefa 03ATEX0700X. Baseefa certified equipment or protective system intended for potentially explosive atmospheres Directive 94/9/EC. In compliance with EN60079-0:2012, EN 60079-1:2007, EN 60079-31:2009.

ELECTRICAL CHARACTERISTICS

RATING OF SWITCH ELEMENT

VOLTS	AMPERES	
	SPDT	DPDT "M"
	Res.	Res.
125 AC - 50/60 Hz	11	11
250 AC - 50/60 Hz	11	11
30 DC	5	5
125 DC	.5	.5
*125 AC - 50/60 Hz	1 max	1 max
*30 DC	1 max	1 max

*Gold Contacts -7043 Suffix

OPTIONS MODEL CODES

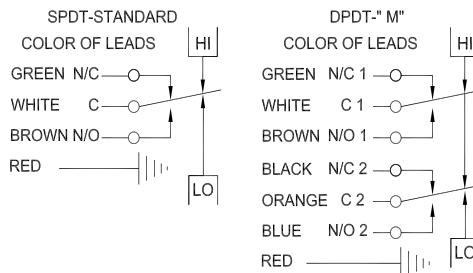
M: DPDT Electrical

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

SCHEMATIC AND WIRING CODE



DUAL-SNAP®

Models: 6905DZE*, Page 2 of 2
Form 830G, 12.10.13



CustomControlSensors

Hazardous Areas Adjustable Pressure Switch

6905GZE* - Diaphragm & 6905PE* - Piston Sensor



DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, compact and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-pressure capability. (System and Proof)
- Certified explosion proof hermetically sealed electrical assembly for environmental protection.
- Various options for wetted materials and electrical ratings to meet a wide range of application requirements and media compatibility.

SHIPPING WEIGHT: APPROXIMATELY 30 OUNCES (850 GRAMS)

SERIES:

6905GZE*-7042

6905PE* -7042

ADJUSTABLE SET POINT RANGE:

1 to 16000 PSIG

0.069 to 1103 bar

6.89 to 110316 kPa

OPERATING TEMPERATURE:

Temperature limits change with O-ring selection.

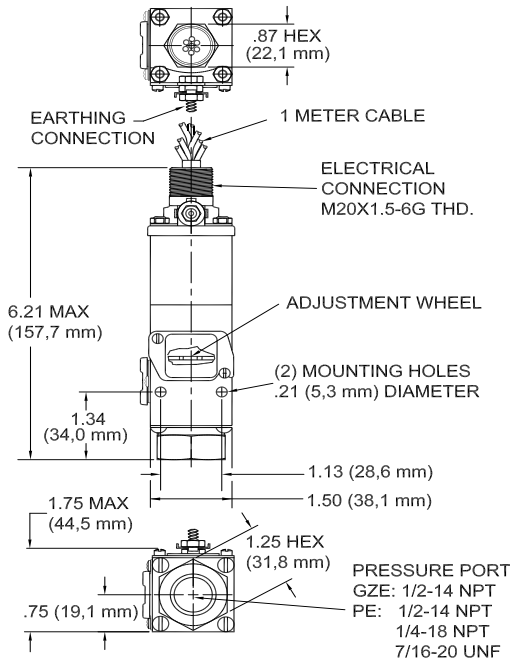
-40° to 186°F

-40° to 86°C

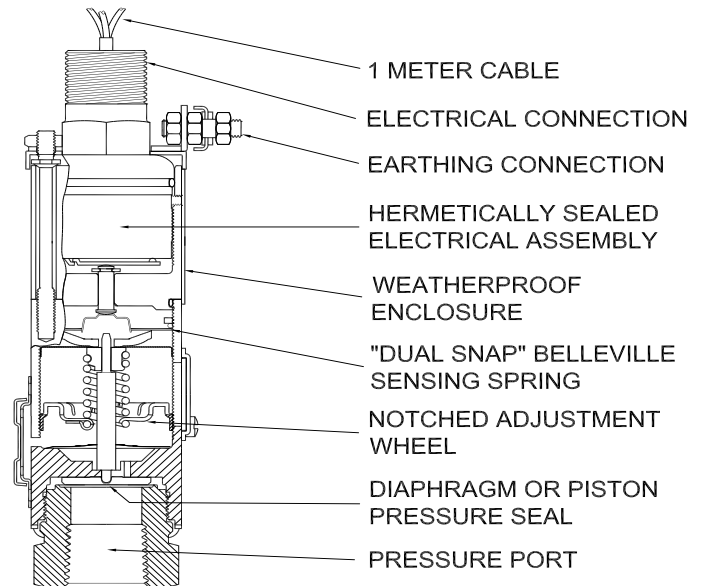
STANDARD FEATURES:

- ATEX - Baseefa Certified
- CE Mark
- CCC
- NACE MR0175 / ISO 15156
- NEMA: 4, 7, 9, 13 / IP66 & 67
- Hermetically Sealed Electrical Assembly
- 316 SST Electrical Assembly
- 300 Series SST Housing
- M20 Electrical Connection

INSTALLATION DRAWING



DESIGN PRINCIPLES



SERIES 6905GZE PE

FIELD SETTING: Loosen access cover. Adjust adjustment screw using screwdriver slot as illustrated, then attach to a variable pressure source with a suitable gage, and check that the circuit continuity operates at the pressures desired. Clockwise to increase settings. Counterclockwise to decrease setting.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.

DUAL-SNAP®



Models: 6905GZE* & 6905PE*, Page 1 of 2
Form 830G, 12.10.13



CustomControlSensors

Hazardous Areas Adjustable Pressure Switch

6905GZE* - Diaphragm & 6905PE* - Piston Sensor

OPERATING AND ORDERING DATA

SERIES 6905GZE*-7042	WETTED PARTS: 1/2"-14 NPT STAINLESS STEEL PRESSURE PORT AND DIAPHRAGM, VITON O-RING				
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING PRESSURE PSIG (BAR)	DECREASING PRESSURE PSIG (BAR)			
6905GZE*12-7042	3-20 (0.21-1.4)	1-18 (0.07-1.2)	2 (0.14)	500 (34.5)	750 (52)
6905GZE*14-7042	9-75 (0.6-5.1)	3-69 (0.21-4.8)	6 (0.41)		
6905GZE*16-7042	18-150 (1.2-10.3)	6-138 (0.41-9.5)	12 (0.8)	1500 (103)	2000 (138)
6905GZE*18-7042	45-375 (3.1-25.9)	15-345 (1.0-23.8)	30 (2.0)		
6905GZE*20-7042	300-1000 (20.7-69)	225-925 (15.5-64)	75 (5.1)	2000 (138)	3000 (207)
6905GZE*22-7042	700-2200 (48.3-152)	520-2020 (35.9-139)	180 (12.4)	3000 (207)	4500 (310)
6905GZE*24-7042	1800-3400 (124-234)	1520-3120 (105-215)	280 (19.3)	5000 (346)	7500 (517)

SERIES 6905PE*-7042	WETTED PARTS: 1/2"-14 NPT 316 STAINLESS STEEL PRESSURE PORT & PISTON, VITON O-RING				
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING PRESSURE PSIG (BAR)	DECREASING PRESSURE PSIG (BAR)			
6905PE*32-7042	15-200 (1.03-13.8)	5-190 (0.35-13.1)	10 (0.7)	2000 (138)	3000 (207)
6905PE*34-7042	150-1600 (10.3-110)	40-1490 (2.8-103)	110 (7.6)	3000 (207)	5000 (345)
6905PE*36-7042	500-3200 (34.5-221)	330-3030 (22.8-209)	170 (11.7)	5000 (345)	7500 (517)

SERIES 6905PE*-7042	WETTED PARTS: 1/4"-18 NPT 316 STAINLESS STEEL PRESSURE PORT & PISTON, VITON O-RING				
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING PRESSURE PSIG (BAR)	DECREASING PRESSURE PSIG (BAR)			
6905PE*38-7042	2000-6500 (138-448)	1500-6000 (103-414)	500 (34.5)	9993 (689)	13000 (896)

SERIES 6905PE*-7042	WETTED PARTS: 7/16"-20 UNF 316 STAINLESS STEEL PRESSURE PORT & PISTON, VITON O-RING				
	ADJUSTABLE SET POINT RANGE		APPROX. DEAD BAND PSI (BAR)	SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
	INCREASING PRESSURE PSIG (BAR)	DECREASING PRESSURE PSIG (BAR)			
6905PE*40-7042	5000-11000 (345-758)	3500-9500 (241-655)	1500 (103)	13329 (919)	20000 (1379)
6905PE*42-7042	10000-16000 (690-1100)	7500-13500 (517-931)	2500 (172)	16665 (1149)	25000 (1724)

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 6905GZEM18-7043)

PRESSURE CONVERSION

1 BAR = 14.5 PSI
1 kPa = 0.145 PSI

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

OPTIONAL STANDARD MODIFIED SUFFIXES

7043: Gold Contacts and Stainless Steel Body (-7042)

PRESSURE SWITCH CERTIFICATIONS

* ATEX - Certificate No. Baseefa 03ATEX0700X. Baseefa certified equipment or protective system intended for potentially explosive atmospheres Directive 94/9/EC. In compliance with EN60079-0:2012, EN 60079-1:2007, EN 60079-31:2009.

OPTIONS MODEL CODES

M: DPDT Electrical

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

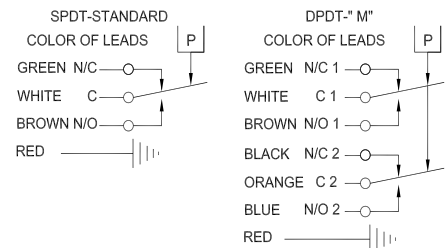
ELECTRICAL CHARACTERISTICS

RATING OF SWITCH ELEMENT

VOLTS	AMPERES	
	SPDT	DPDT "M"
	Res.	Res.
125 AC - 50/60 Hz	11	11
250 AC - 50/60 Hz	11	11
30 DC	5	5
125 DC	.5	.5
*125 AC - 50/60 Hz	1 max	1 max
*30 DC	1 max	1 max

*Gold Contacts -7043 Suffix

SCHEMATIC AND WIRING CODE





CustomControlSensors

Hazardous Areas Adjustable Temperature Switch

6905TE* - Probe



DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, compact and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-temperature capability. (System and Proof)
- Certified explosion proof hermetically sealed electrical assembly for environmental protection.
- Various options for electrical ratings to meet a wide range of application requirements and media compatibility.

SHIPPING WEIGHT: APPROXIMATELY 35 OUNCES (992 GRAMS)

SERIES:

6905TE*-7042

ADJUSTABLE SET POINT RANGE: TEMPERATURE:

0° to 405°F
-18° to 207°C

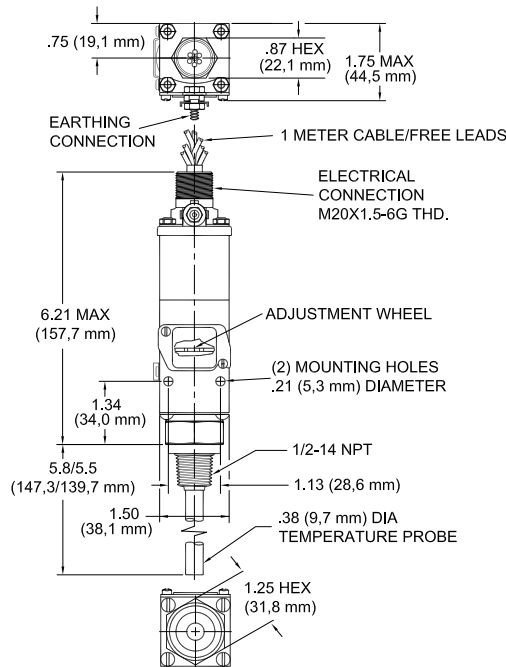
OPERATING TEMPERATURE:

-40° to 186°F
-40° to 86°C

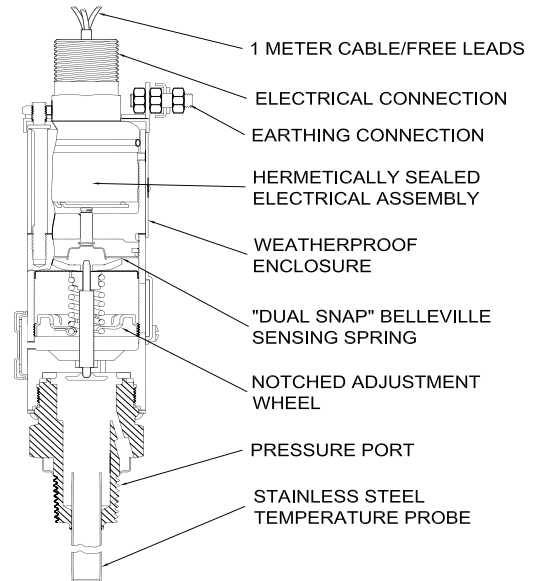
STANDARD FEATURES:

- ATEX - Baseefa Certified
- CE Mark
- CCC
- NACE MR0175 / ISO 15156
- NEMA: 4, 7, 9, 13 / IP66 & 67
- Hermetically Sealed Electrical Assembly
- 316 SST Electrical Assembly
- 300 Series SST Housing
- M20 Electrical Connection

INSTALLATION DRAWING



DESIGN PRINCIPLES



SERIES 6905TE

FIELD SETTING: Loosen access cover. Adjust adjustment screw using screwdriver slot as illustrated, then attach to a variable pressure source with a suitable gage, and check that the circuit continuity operates at the pressures desired. Clockwise to increase settings. Counterclockwise to decrease setting.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.

DUAL-SNAP®



Models: 6905TE*, Page 1 of 2
Form 830G, 12.16.13



CustomControlSensors

Hazardous Areas Adjustable Temperature Switch

6905TE* - Probe

OPERATING AND ORDERING DATA

SERIES 6905TE*-7042	WETTED PARTS: 300 STAINLESS STEEL TEMPERATURE PROBE				
	ADJUSTABLE SET POINT RANGE		APPROXIMATE DEAD BAND		MAXIMUM PROBE TEMPERATURE DEGREES F (DEGREES C)
	INCREASING TEMPERATURE DEGREES F (DEGREES C)	DECREASING TEMPERATURE DEGREES F (DEGREES C)	AT BOTTOM OF RANGE DEGREES F (DEGREES C)	AT TOP OF RANGE DEGREES F (DEGREES C)	
6905TE*12-7042	+20° to +120° (-7° to +49°)	+0° to +113° (-18° to +45°)	20° (11°)	5° (4°)	+200° (+93°)
6905TE*14-7042	+80° to +205° (+27° to +96°)	+60° to +198° (+16° to +92°)	20° (11°)	5° (4°)	+300° (+149°)
6905TE*16-7042	+185° to +315° (+85° to +157°)	+165° to +308° (+74° to +153°)	20° (11°)	5° (4°)	+400° (+204°)
6905TE*18-7042	+280° to +405° (+138° to +207°)	+260° to +398° (+127° to +203°)	20° (11°)	5° (4°)	+500° (+260°)

EXTERNAL PROBE PRESSURE:

System Pressure: 1250 PSIG (86 bar) Proof Pressure: 1500 PSIG (103 bar)

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 6905TEM18-7043)

TEMPERATURE CONVERSION

32 Deg F = 0 Deg C

OPTIONAL STANDARD MODIFIED SUFFIXES

7043: Gold Contacts and Stainless Steel Body (-7042)

THERMOWELLS

Order as separate line items. See accessory page for detailed information.

113-34-2: 1" NPT 316 SST 7.5" "U" Dim.

113-35-2: 3/4" NPT 316 SST 7.5" "U" Dim.

OPTIONS MODEL CODES

M: DPDT Electrical

TEMPERATURE SWITCH CERTIFICATIONS

* ATEX - Certificate No. Baseefa 03ATEX0700X. Baseefa certified equipment or protective system intended for potentially explosive atmospheres Directive 94/9/EC. In compliance with EN60079-0:2012, EN 60079-1:2007, EN 60079-31:2009.

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

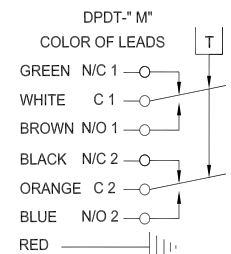
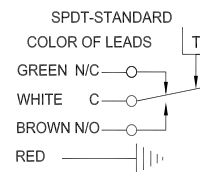
Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

ELECTRICAL CHARACTERISTICS SCHEMATIC AND WIRING CODE

RATING OF SWITCH ELEMENT

VOLTS	AMPERES	
	SPDT Res.	DPDT "M" Res.
125 AC - 50/60 Hz	11	11
250 AC - 50/60 Hz	11	11
30 DC	5	5
125 DC	.5	.5
*125 AC - 50/60 Hz	1 max	1 max
*30 DC	1 max	1 max

*Gold Contacts -7043 Suffix



DUAL-SNAP®

Models: 6905TE*, Page 2 of 2
Form 830G, 12.16.13



CustomControlSensors

Hazardous Areas Adjustable Temperature Switch

6905TUE* - Capillary

DESCRIPTION

- Highly reliable devices utilizing the CCS Dual-Snap® Belleville disc spring principle pioneered by CCS' engineers.
- Engineering based on aerospace technology.
- Rigid, compact and internally adjustable for convenient field set point adjustment.
- Repeatable and stable set points.
- Vibration and shock resistant.
- High cycle life.
- High over-temperature capability. (System and Proof)
- Certified explosion proof hermetically sealed electrical assembly for environmental protection.
- Various options for electrical ratings to meet a wide range of application requirements and media compatibility.

SHIPPING WEIGHT: APPROXIMATELY 35 OUNCES (992 GRAMS)

SERIES:

6905TUE*-7042

ADJUSTABLE SET POINT RANGE: TEMPERATURE:

0° to 650°F
-18° to 343°C

OPERATING TEMPERATURE:

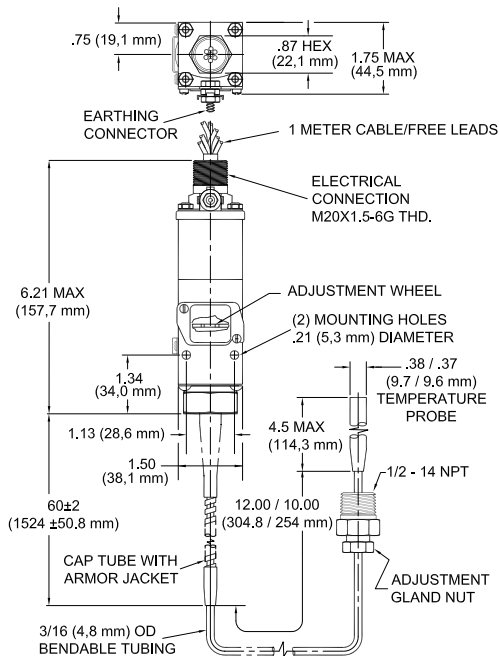
-40° to 186°F
-40° to 86°C

STANDARD FEATURES:

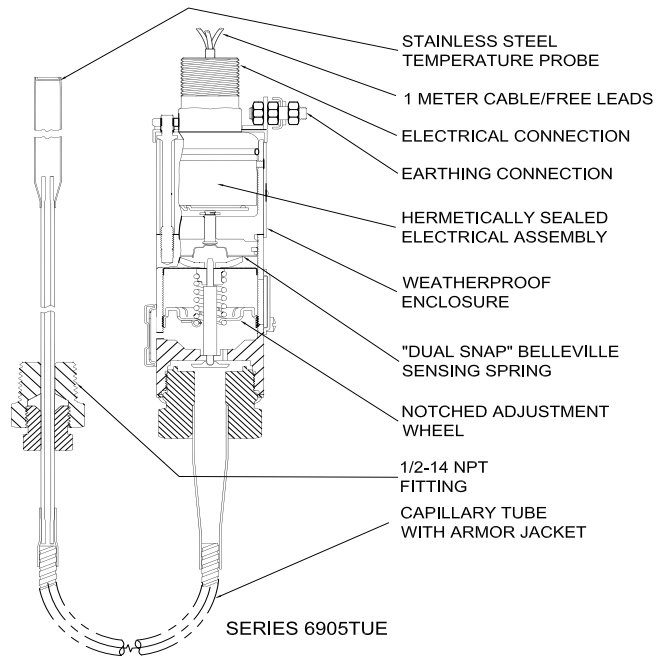
- ATEX - Baseefa Certified
- CE Mark
- CCC
- NACE MR0175 / ISO 15156
- NEMA: 4, 7, 9, 13 / IP66 & 67
- Hermetically Sealed Electrical Assembly
- 316 SST Electrical Assembly
- 300 Series SST Housing
- M20 Electrical Connection



INSTALLATION DRAWING



DESIGN PRINCIPLES



FIELD SETTING: Loosen access cover. Adjust adjustment screw using screwdriver slot as illustrated, then attach to a variable pressure source with a suitable gage, and check that the circuit continuity operates at the pressures desired. Clockwise to increase settings. Counterclockwise to decrease setting.

NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.

DUAL-SNAP®



Models: 6905TUE*, Page 1 of 2
Form 830G, 12.16.13



CustomControlSensors

Hazardous Areas Adjustable Temperature Switch

6905TUE* - Capillary

OPERATING AND ORDERING DATA

SERIES 6905TUE*-7042	WETTED PARTS: 300 STAINLESS STEEL TEMPERATURE PROBE WITH 5' STAINLESS STEEL GRAPHITE AND LUBRICATED GLASS FIBER CAPILLARY TUBE				
	ADJUSTABLE SET POINT RANGE		APPROXIMATE DEAD BAND		MAXIMUM PROBE TEMPERATURE DEGREES F (DEGREES C)
	INCREASING TEMPERATURE DEGREES F (DEGREES C)	DECREASING TEMPERATURE DEGREES F (DEGREES C)	AT BOTTOM OF RANGE DEGREES F (DEGREES C)	AT TOP OF RANGE DEGREES F (DEGREES C)	
6905TUE*12-7042	+20° to +120° (-7° to +49°)	+0° to +113° (-18° to +45°)	20° (11°)	5° (4°)	+200° (+93°)
6905TUE*14-7042	+80° to +205° (+27° to +96°)	+60° to +198° (+16° to +92°)	20° (11°)	5° (4°)	+300° (+149°)
6905TUE*16-7042	+185° to +315° (+85° to +157°)	+165° to +308° (+74° to +153°)	20° (11°)	5° (4°)	+400° (+204°)
6905TUE*18-7042	+280° to +405° (+138° to +207°)	+260° to +398° (+127° to +203°)	20° (11°)	5° (4°)	+500° (+260°)
6905TUE*20-7042	+385° to +565° (196° to 296°)	+358° to +554° (+181° to +290°)	25° (15°)	10° (6°)	+650° (+343°)
6905TUE*22-7042	+465° to +650° (+241° to +343°)	+439° to 639° (+226° to +337°)	25° (15°)	10° (6°)	+700° (+371°)

EXTERNAL PROBE PRESSURE:

System Pressure: 1250 PSIG (86 bar) Proof Pressure: 1500 PSIG (103 bar)

HOW TO ORDER

Follow these steps to build your part number:

1. Specify the series based on your required set point, range, dead band, system pressure and proof pressure.
2. Add desired options model code letter.
3. Add the applicable standard suffix number.

(Ex: 6905TUE12-7043)

TEMPERATURE CONVERSION

32 Deg F = 0 Deg C

OPTIONAL STANDARD MODIFIED SUFFIXES

- 7043:** Gold Contacts and Stainless Steel Body (-7042)
7055: 10' Capillary
7056: 15' Capillary
7057: 25' Capillary

OPTIONS MODEL CODES

M: DPDT Electrical

CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

Note: Additional modified standard suffixes are available, consult CCS sales department or CCS Representative.

THERMOWELLS

Order as separate line items. See accessory page for detailed information.

- 113-34-1:** 1" NPT 316 SST 4.5" "U" Dim. **113-35-1:** 3/4" NPT 316 SST 4.5" "U" Dim.
113-34-2: 1" NPT 316 SST 7.5" "U" Dim. **113-35-2:** 3/4" NPT 316 SST 7.5" "U" Dim.
113-34-3: 1" NPT 316 SST 10.5" "U" Dim. **113-35-3:** 3/4" NPT 316 SST 10.5" "U" Dim.
113-34-4: 1" NPT 316 SST 13.5" "U" Dim. **113-35-4:** 3/4" NPT 316 SST 13.5" "U" Dim.

TEMPERATURE SWITCH CERTIFICATIONS

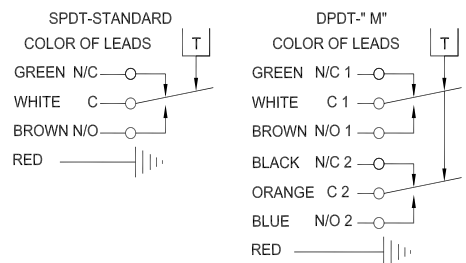
* ATEX - Certificate No. Baseefa 03ATEX0700X. Baseefa certified equipment or protective system intended for potentially explosive atmospheres Directive 94/9/EC. In compliance with EN60079-0:2012, EN 60079-1:2007, EN 60079-31:2009.

ELECTRICAL CHARACTERISTICS SCHEMATIC AND WIRING CODE

RATING OF SWITCH ELEMENT

VOLTS	AMPERES	
	SPDT Res.	DPDT "M" Res.
125 AC - 50/60 Hz	11	11
250 AC - 50/60 Hz	11	11
30 DC	5	5
125 DC	.5	.5
*125 AC - 50/60 Hz	1 max	1 max
*30 DC	1 max	1 max

*Gold Contacts -7043 Suffix



DUAL-SNAP®

Models: 6905TUE*, Page 2 of 2
Form 830G, 12.16.13

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This catalog provides product and/or system options for further investigation by users having technical expertise. It is important that the user analyze all aspect of its application and review the information concerning the product or system in the current catalog located online at ccsdualsnap.com. Full-scale testing and end product performance are the responsibility of the user. Custom Control Sensors, Inc. shall not be liable for and the user assumes all risk and liability of any use or handling of any product outside the direct control of Custom Control Sensors, Inc.

CAUTIONS FOR INSTALLATION AND USE OF CCS PRESSURE, TEMPERATURE AND FLOW SENSORS:

WARNING: If this switch is used to protect equipment or personnel from unsafe pressure or to guard against the hazardous release of contained substances, it must be installed and operated in accordance with applicable codes, regulations and standards. This switch must be used in conjunction with system design(s) or procedure(s) necessary to mitigate any hazard resulting from its failure. Conform to installation instructions accompanying this switch. Users who ignore this warning may suffer serious or fatal injury and do so at their own risk. Custom Control Sensors is not liable for any misuse, abuse, suitability or adequacy of user's application of the switch. Service by qualified personnel only.

MEDIA: System media must be compatible with the specified wetted materials. Oxygen media cannot be utilized without special cleaning and packaging provided by the factory.

OPERATING CONDITIONS: The electrical load, ambient temperature ranges, and proof pressure specified must not be exceeded. Field adjustable units should be set no closer than 1/2 turn from either end of their adjustment range.

UL/CSA/ATEX: Field repairs or modifications of "listed" units may void the listing of the repaired or modified unit.

CCS Program Timeline

1960's



Gemini



Automotive Manufacturing



Apollo



Manufacturing Plant



U2

1970's



Boeing 747



Gas Turbines



F15



Hoover Dam



A300

1980's



M1A1 Tank



Boeing 737



Oil & Gas Production



Oil Platform



A320

1990's



Trans Alaska Pipeline



Boeing 777



Bell 412



Falcon 900



CFM-56 Engine

2000's



F-22



V-22



Locomotive/Rail Car



X-47A



Boeing 747-8

2010's



737 MAX



International Space Station



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