



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:

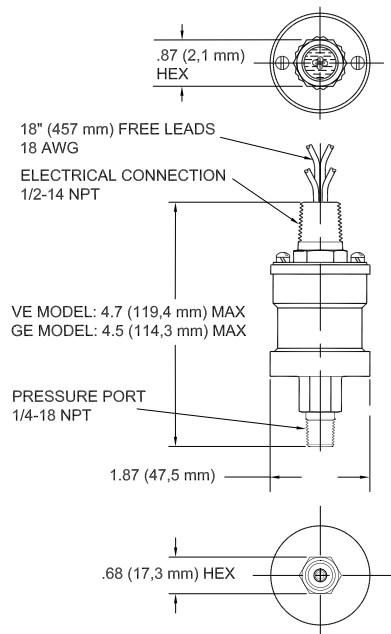
Temperature limits change with o-ring selection.

-40° to 186°F
-40° to 86°C

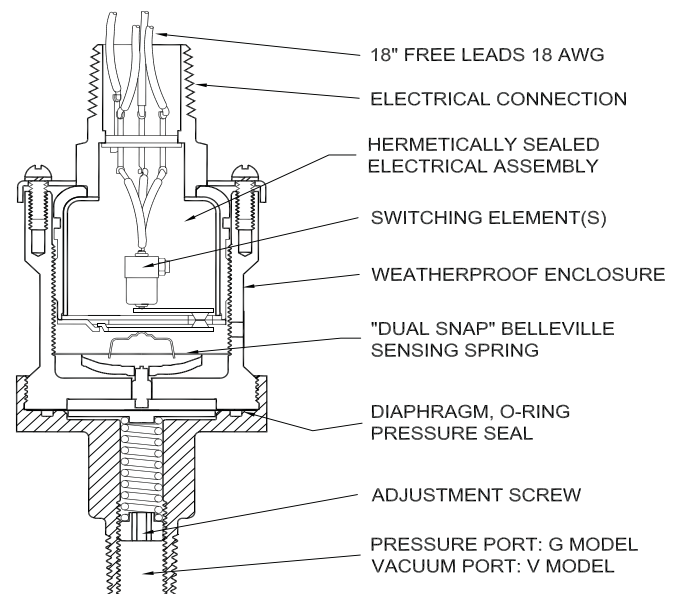
STANDARD FEATURES:

- 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

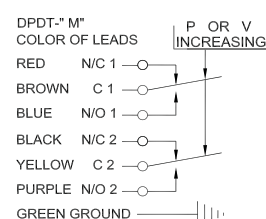
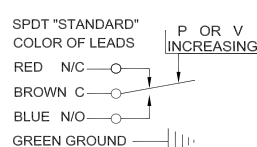
- * c-UL, U.L./CSA Explosion Proof: Div. 1, 2 hermetically sealed electrical assembly P/N 46-1058 (46-1061 for M model option), listed by both Underwriter's Laboratories, Inc. (File No. E32961) and Canadian Standard Association (CSA) Testing Laboratories (File No. LR22921) for hazardous locations, Class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

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.

STANDARD MODELS:

-40° to 186°F

-40° to 86°C

LOW TEMPERATURE -7076 SUFFIX:

-67° to 186°F

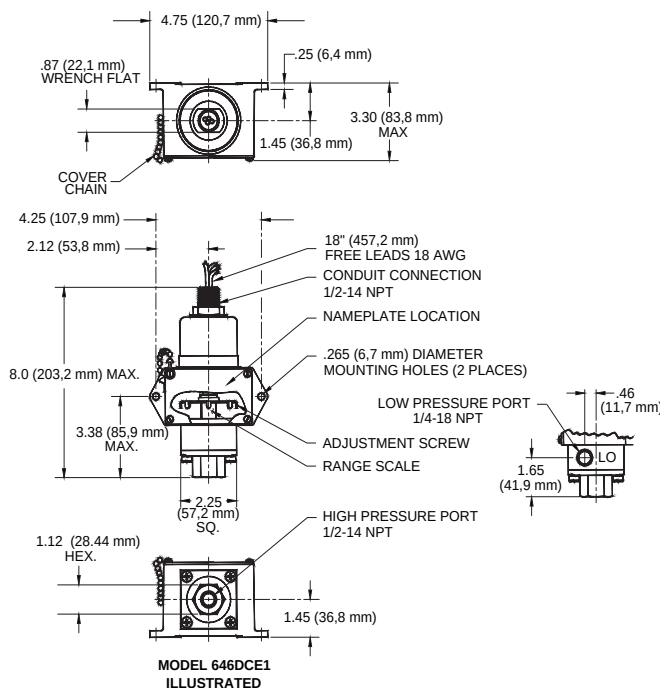
-55° to 86°C

STANDARD FEATURES:

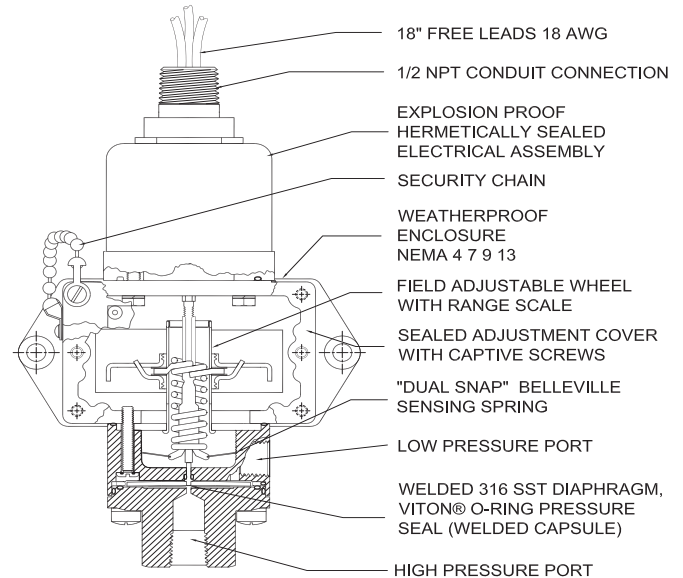
- CE Mark
- CCC
- CRN
- Dual Seal: ANSI/ISA-12.27.01
- NACE MRO175 / ISO 15156
- NEMA: 4, 7, 9, 13 / IP66
- U.L. / CSA Listed
- Hermetically Sealed Electrical Assembly



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.

ccsdualsnap.com



Models: 646DCE*, Page 1 of 2
Form 830G, 3.10.15

DUAL-SNAP®



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	
						HIGH	LOW
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							
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: 646DCEM1-7008)

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 with fluoro silicon O-ring)

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 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.

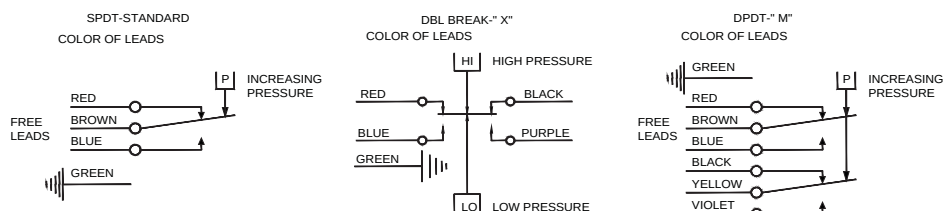
* ATEX - Baseefa certified for potentially explosive atmospheres. Models 646**Y, II 2 GD Ex d IIC, Ex tb IIIC, Baseefa 05ATEX0011X. (Option Y)

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

SCHEMATIC AND WIRING CODE



CERTIFICATIONS

Consult CCS website for complete certification and approval listing.

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



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

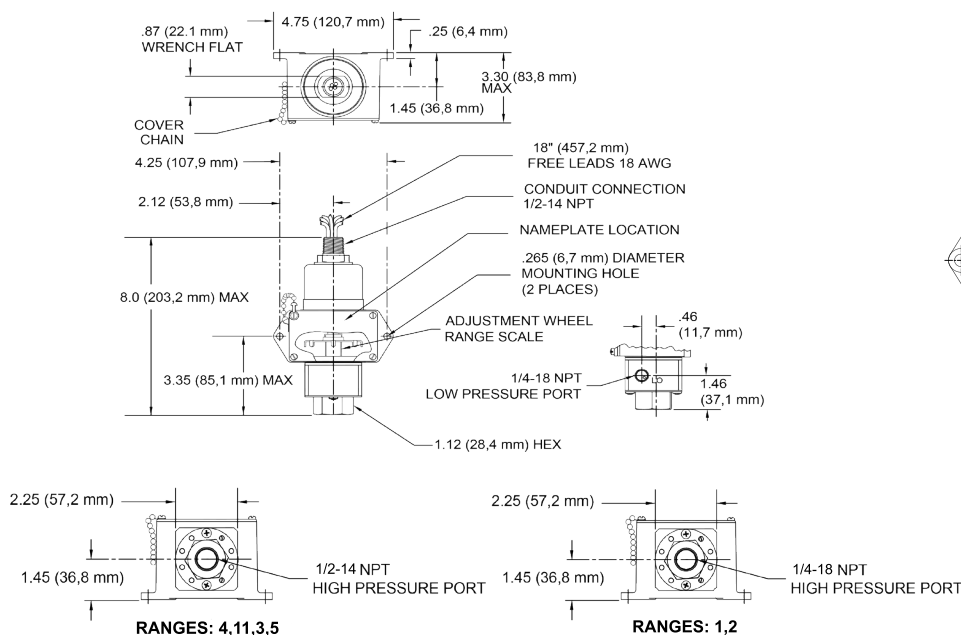
-40° to 86°C

STANDARD FEATURES:

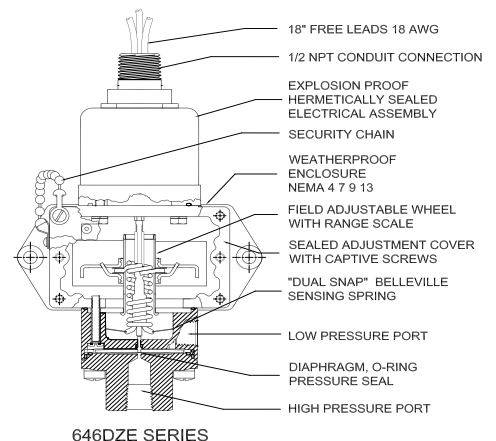
- CE Mark
- CCC
- CRN
- Dual Seal: ANSI/ISA-12.27.01
- NACE MRO175 / ISO 15156
- NEMA: 4, 7, 9, 13 / IP66
- U.L. / CSA Listed
- Hermetically Sealed Electrical Assembly



INSTALLATION DRAWING



DESIGN PRINCIPLES



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

Hazardous Areas Adjustable Pressure Switch

646DZE* - Diaphragm Sensor

OPERATING AND ORDERING DATA

SERIES 646DZE*	WETTED PARTS: 1/2"-14 NPT (RANGES: 4,11,3,5) & 1/4"-18 NPT (RANGES: 1,2) 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	LOW
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: 1/2"-14 NPT (RANGES: 4,11,3,5) & 1/4"-18 NPT (RANGES: 1,2) 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
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)	400 (28)
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
7065: 18 inch Teflon Free Leads (Low Temp Wire)
7108: 1/4"-18 NPT female high pressure port

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

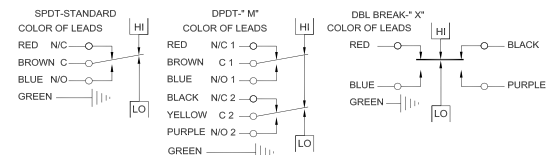
* c-UL, U.L./CSA Explosion Proof: Div. 1, 2 hermetically sealed electrical assembly P/N 17-51 (17-73 for M model option), listed by both Underwriter's Laboratories, Inc. (File No. E32961) and Canadian Standard Association (CSA) Testing Laboratories (File No. LR22921) for hazardous locations, Class 1,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





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:

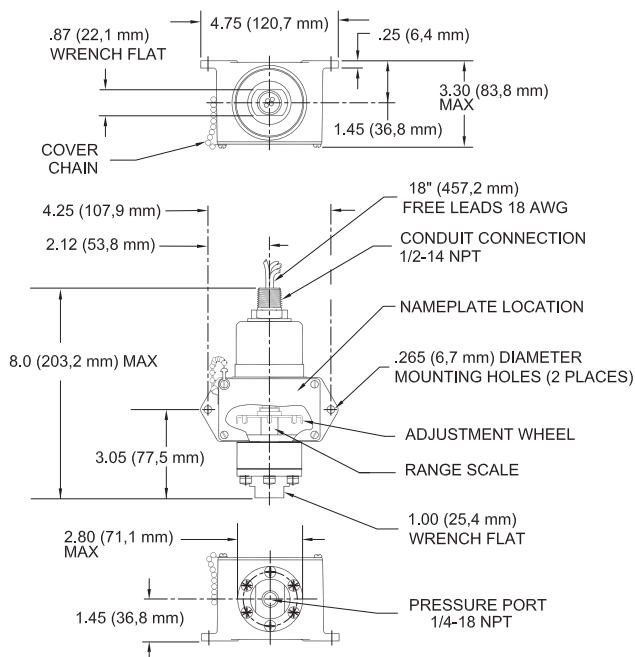
Temperature limits change with O-ring selection.

-40° to 186°F
-40° to 86°C

STANDARD FEATURES:

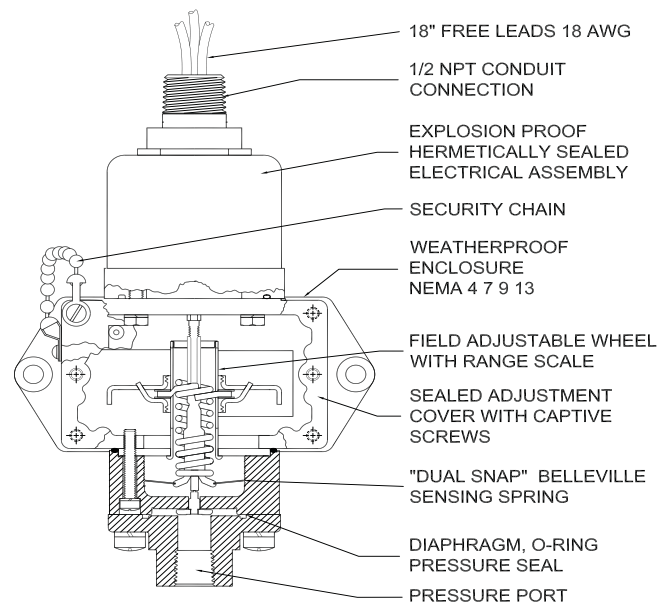
- CE Mark
- CCC
- CRN
- Dual Seal: ANSI/ISA-12.27.01
- NACE MR0175 / ISO 15156
- NEMA: 4, 7, 9, 13 / IP66
- U.L. / CSA Listed
- Hermetically Sealed Electrical Assembly

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®

ccsdualsnap.com



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 (0.08-1.1)	.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)	5000 (345)	7500 (517)
646GZE*9-7011	2100-3400 (144.8-234.4)	1820-3120 (125.5-215.1)	280 (19.3)		
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.

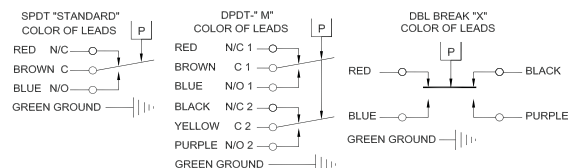
* ATEX - Baseefa certified for potentially explosive atmospheres. Models 646**Y, II 2 GD Ex d IIC, Ex tb IIC, Baseefa 05ATEX0011X. (Option Y)

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®

ccsdualsnap.com

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:

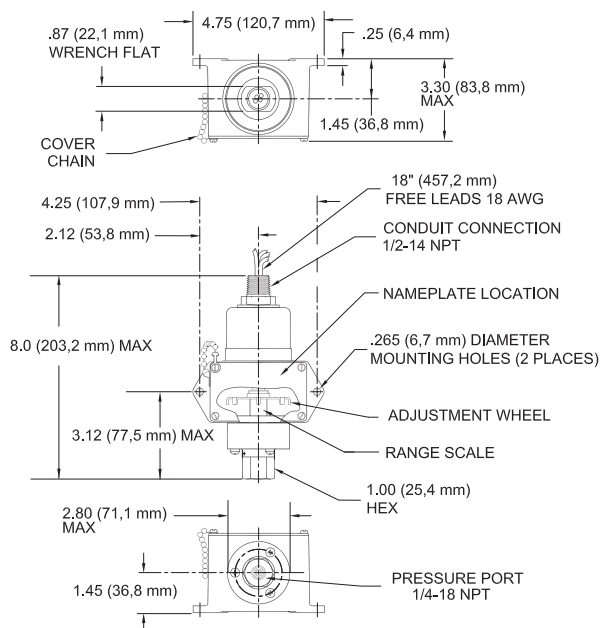
Temperature limits change with O-ring selection.

-40° to 186°F
-40° to 86°C

STANDARD FEATURES:

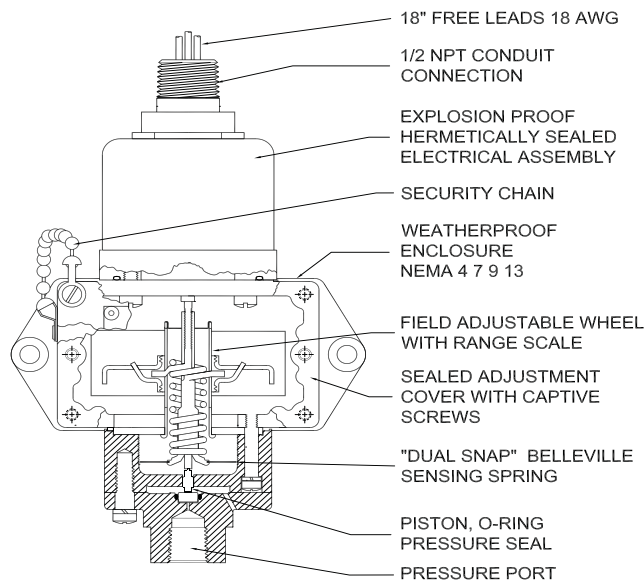
- CE Mark
- CCC
- CRN
- Dual Seal: ANSI/ISA-12.27.01
- NACE MR0175 / ISO 15156
- NEMA: 4, 7, 9, 13 / IP66
- U.L. / CSA Listed
- Hermetically Sealed Electrical Assembly

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®

ccsdualsnap.com



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

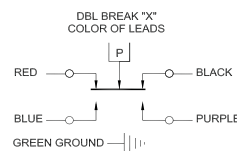
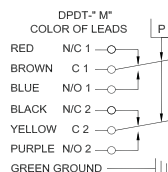
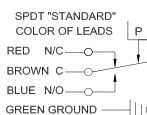
* c-UL, U.L./CSA Explosion Proof: Div. 1, 2 hermetically sealed electrical assembly P/N 17-51 (17-73 for M model option), listed by both Underwriter's Laboratories, Inc. (File No. E32961) and Canadian Standard Association (CSA) Testing Laboratories (File No. LR22921) for hazardous locations, Class 1,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



SCHEMATIC AND WIRING CODE



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.

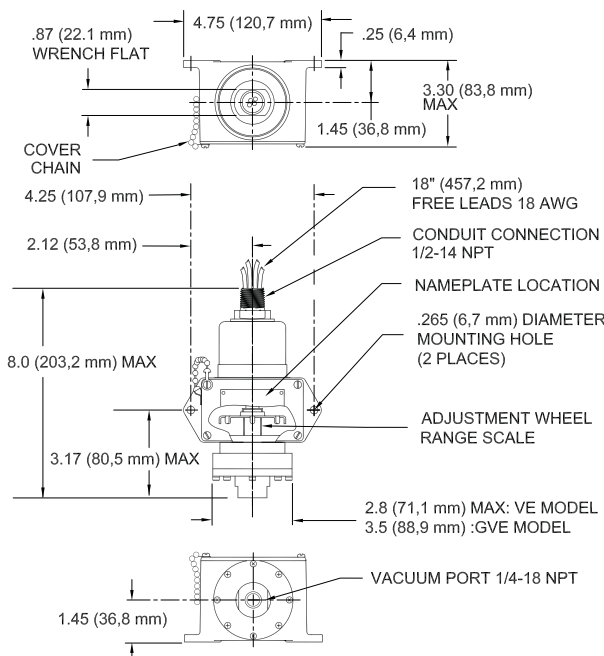
-40° to 186°F
-40° to 86°C

STANDARD FEATURES:

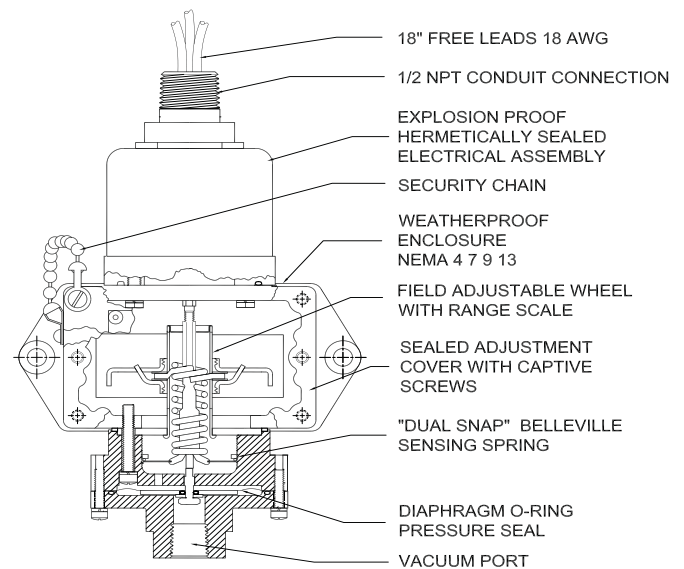
- Hermetically Sealed Electrical Assembly
- CE Mark
- Dual Seal: ANSI/ISA-12.27.01
- NACE MRO175 / ISO 15156
- NEMA: 4, 7, 9, 13 / IP66
- CRN
- U.L. / CSA Listed



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®

ccsdualsnap.com

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 VACCUM		APPROX. DEAD BAND INCHES Hg (mm Hg) VACUUM		ADJUSTABLE SET POINT RANGE GAGE PRESSURE		APPROX. DEAD BAND PSI (BAR) GAGE PRESSURE		SYSTEM PRESSU RE PSIG (BAR)	PROOF PRESSU RE PSIG (BAR)
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 VACCUM		APPROX. DEAD BAND INCHES Hg (mm Hg) VACUUM		ADJUSTABLE SET POINT RANGE GAGE PRESSURE		APPROX. DEAD BAND PSI (BAR) GAGE PRESSURE		SYSTEM PRESSURE PSIG (BAR)	PROOF PRESSURE PSIG (BAR)
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

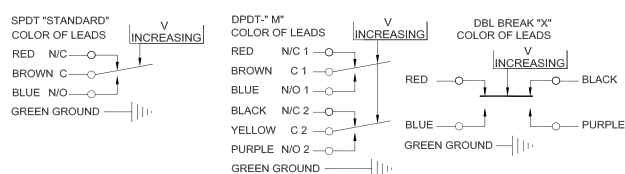
A: Viton® O-Ring
(STD on GVZE models)
F: Ethylene Propylene O-Ring
M: DPDT Electrical
Y: ATEX / GOST Certified
Electrical Assembly
(Consult CCS Sales
Department for GOST
options and requirements.)
X: Double Break Electrical
Assembly

ELECTRICAL CHARACTERISTICS RATING OF SWITCH ELEMENT

VOLTS	AMPERES		
	SPDT	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	-	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.





CustomControlSensors

Hazardous Areas Pre-Set / Adjustable Pressure Switch

675DES* - Diaphragm Sensor



DESCRIPTION

- Highly reliable and stable devices utilizing the CCS Dual-Snap® Belleville disc spring design pioneered by CCS.
- Aerospace-grade engineered technology.
- Convenient field set point adjustment.
- Vibration and shock resistant up to 20 G's.
- Technology tested to 1,000,000 cycles.
- 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:

675DES*

SET POINT RANGE:

DIFFERENTIAL PRESSURE:

0.2 to 31" H₂O

0.5 to 77.2 mbar

0.05 to 7.72 kPa

OPERATING TEMPERATURE:

Temperature limits change with o-ring selection.

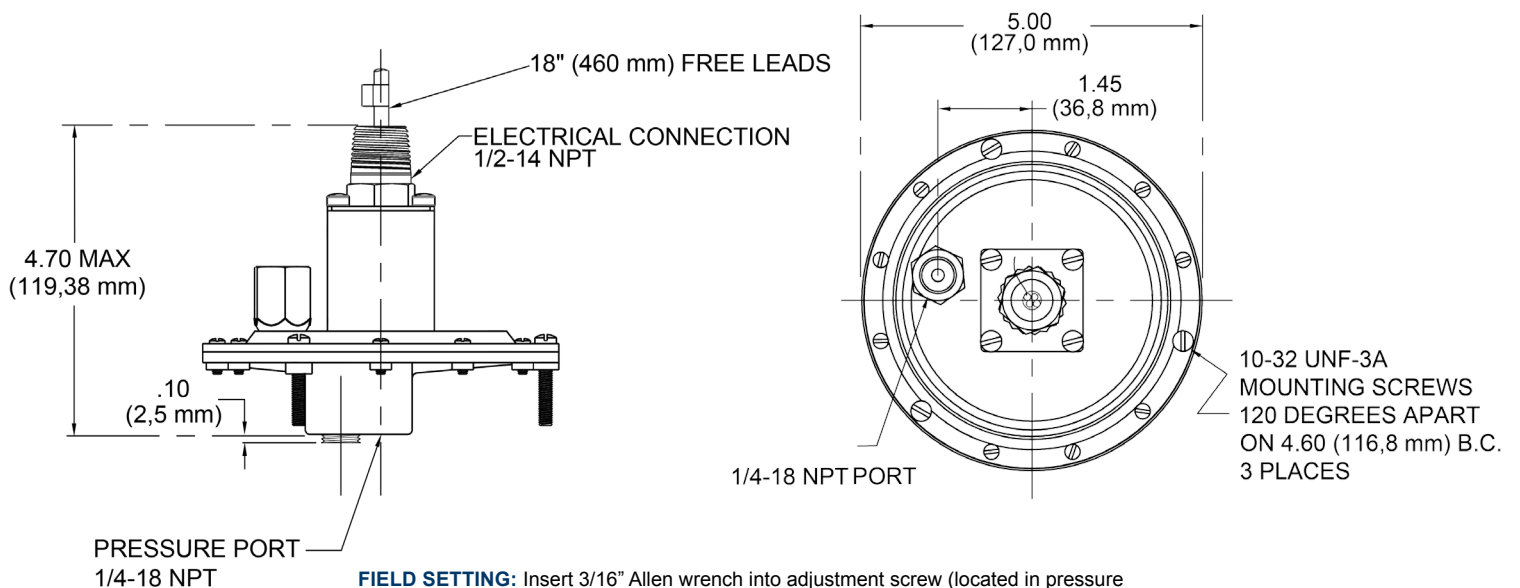
-40° to 186°F

-40° to 86°C

STANDARD FEATURES:

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

INSTALLATION DRAWING



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.





CustomControlSensors

Hazardous Areas Pre-Set / Adjustable Pressure Switch

675DES* - Diaphragm Sensor

OPERATING AND ORDERING DATA

SERIES 675DES*	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		MAX SYSTEM PRESSURE PSIG (mbar)	PROOF PRESSURE PSIG (mbar)		
			INCHES H ₂ O (mbar)			BOTH PORTS SIMULT.	HIGH OVER LOW LOW OVER HIGH	
	INCREASING PRESSURE INCHES H ₂ O (mbar)	DECREASING PRESSURE INCHES H ₂ O (mbar)	AT BOTTOM OF RANGE	AT TOP OF RANGE			HIGH	LOW
675DES*1	2-31 (5-77.2)	0.2-28 (0.5-69.7)	1.5 (3.7)	3.0 (7.5)	10	25	25	
675DESM*1	3-31 (7.5-77.2)	0.2-28 (0.5-69.7)	1.5 (3.7)	3.0 (7.5)	(689)	(1724)	(1724)	
SERIES 675DES*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)			
					BOTH PORTS SIMULT.	HIGH OVER LOW LOW OVER HIGH		
	INCREASING PRESSURE INCHES H ₂ O (mbar)	DECREASING PRESSURE INCHES H ₂ O (mbar)				HIGH	LOW	
675DES*8001	2-6.9 (5-17.2)	0.2-5.1 (0.5-12.7)	1.5 (3.7)	10 (689)	25 (1724)	25 (1724)	25 (1724)	
675DES*M8001	3-6.9 (7.5-17.2)	0.2-5.1 (0.5-12.7)	1.5 (3.7)					
675DES*8002	7-12.9 (17.4-32.1)	5.5-11.4 (13.7-28.4)	1.5 (3.7)					
675DES*M8002	7-12.9 (17.4-32.1)	5-10.9 (12.4-27.2)	2.0 (5.0)					
675DES*8003	13-18.9 (32.4-47.1)	11-16.9 (27.4-42.1)	2.0 (5.0)					
675DES*M8003	13-18.9 (32.4-47.1)	10.8-16.7 (26.9-41.6)	2.0 (5.0)					
675DES*8004	19-24.9 (47.3-62)	16.5-22.4 (41.1-55.8)	2.5 (6.2)					
675DES*M8004	19-24.9 (47.3-62)	16.5-22.4 (41.1-55.8)	2.5 (6.2)					
675DES*8005	25-31 (62.3-77.2)	22-28 (54.8-69.8)	3.0 (7.5)					
675DES*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.

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

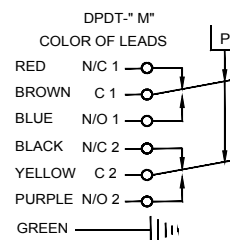
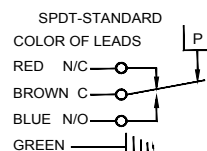
A: Viton® O-Ring
M: DPDT Electrical
Y: ATEX / IECEx Certified
Electrical Assembly
(Consult CCS Sales Department for options and requirements.)
*** Y Model Proof Pressure: 25 PSIG**
*** Y Model System Pressure: 10 PSIG**

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		





CustomControlSensors

Hazardous Areas Pre-Set / Adjustable Pressure Switch

675GES* - Diaphragm Sensor



DESCRIPTION

- Highly reliable and stable devices utilizing the CCS Dual-Snap® Belleville disc spring design pioneered by CCS.
- Aerospace-grade engineered technology.
- Convenient field set point adjustment.
- Vibration and shock resistant up to 20 G's.
- Technology tested to 1,000,000 cycles.
- 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:

675GES*

SET POINT RANGE:

GAGE PRESSURE:

0.2 to 31" H₂O

0.5 to 77.2 mbar

0.05 to 7.72 kPa

OPERATING TEMPERATURE:

Temperature limits change with o-ring selection.

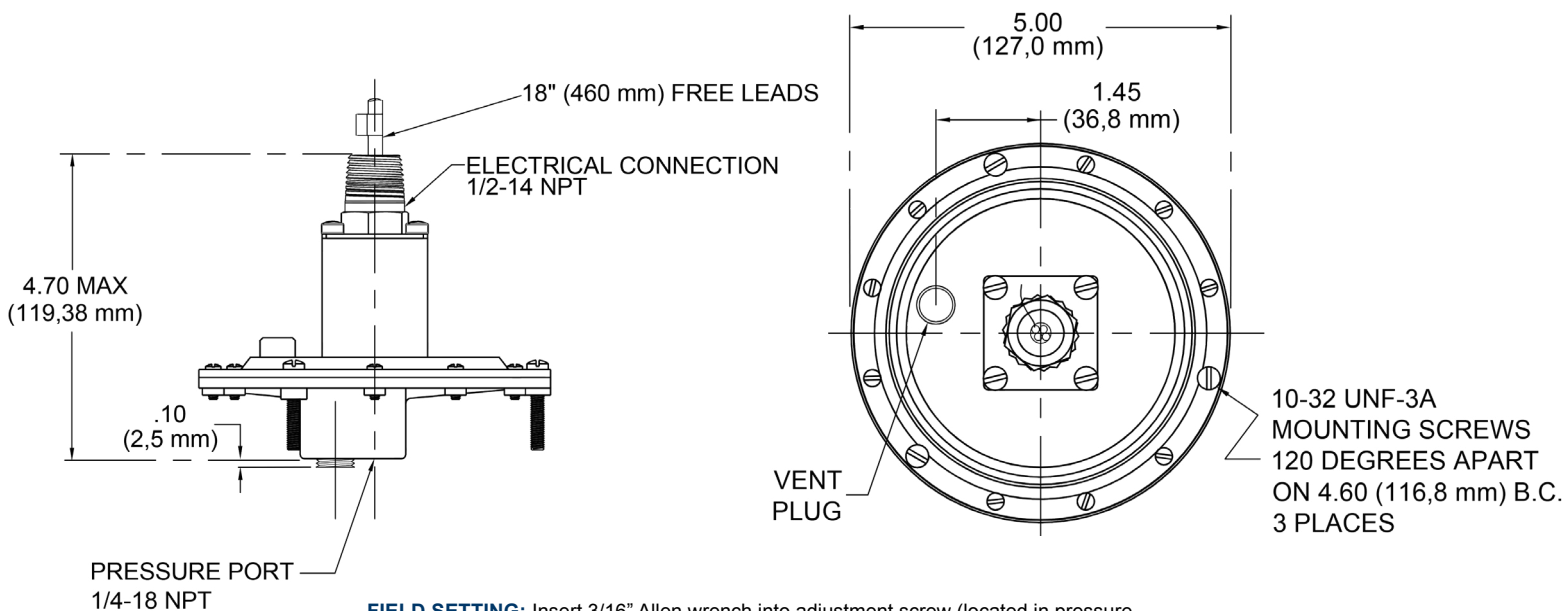
-40° to 186°F

-40° to 86°C

STANDARD FEATURES:

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

INSTALLATION DRAWING



NOTE: DO NOT USE ELECTRICAL HEX FOR TORQUING.





CustomControlSensors

Hazardous Areas Pre-Set / Adjustable Pressure Switch

675GES* - Diaphragm Sensor

OPERATING AND ORDERING DATA

SERIES 675GES*	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		
675GES*1	2-31 (4.9-77.2)	0.2-28 (1.8-69.8)	1.5 (3.7)	3.0 (7.5)	10 (689)	25 (1724)
675GESM*1	3-31 (7.5-77.2)	0.2-28 (1.8-69.8)	1.5 (3.7)	3.0 (7.5)		
SERIES 675GES*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)				
675GES*8001	2-6.9 (4.9-17.2)	0.2-5.1 (0.5-12.7)	1.5 (3.7)	10 (689)	25 (1724)	
675GES*M8001	3-6.9 (7.5-17.2)	0.2-5.1 (0.5-12.7)	1.5 (3.7)			
675GES*8002	7-12.9 (17.4-32.1)	5.5-11.4 (13.7-28.4)	1.5 (3.7)			
675GES*M8002	7-12.9 (17.4-32.1)	5-10.9 (12.4-27.2)	2.0 (5.0)			
675GES*8003	13-18.9 (32.4-47.1)	11-16.9 (27.4-42.1)	2.0 (5.0)			
675GES*M8003	13-18.9 (32.4-47.1)	10.8-16.7 (26.9-41.6)	2.0 (5.5)			
675GES*8004	19-24.9 (47.3-62)	16.5-22.4 (41.1-55.8)	2.5 (6.2)			
675GES*M8004	19-24.9 (47.3-62)	16.5-22.4 (41.1-55.8)	2.5 (6.2)			
675GES*8005	25-31 (62.3-77.2)	22-28 (54.8-69.8)	3.0 (7.5)			
675GES*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.

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

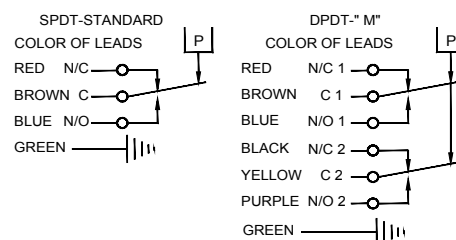
- A:** Viton® O-Ring
M: DPDT Electrical
Y: ATEX / IECEx Certified
Electrical Assembly
(Consult CCS Sales Department for options and requirements.)
*** Y Model Proof Pressure: 25 PSIG**
*** Y Model System Pressure: 10 PSIG**

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		





CustomControlSensors

Hazardous Areas Pre-Set / Adjustable Pressure Switch

675VES* - Diaphragm Sensor



DESCRIPTION

- Highly reliable and stable devices utilizing the CCS Dual-Snap® Belleville disc spring design pioneered by CCS.
- Aerospace-grade engineered technology.
- Convenient field set point adjustment.
- Vibration and shock resistant up to 20 G's.
- Technology tested to 1,000,000 cycles.
- 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:

675VES*

SET POINT RANGE:

GAGE PRESSURE:

0.2 to 31" H₂O

0.5 to 77.2 mbar

0.05 to 7.72 kPa

OPERATING TEMPERATURE:

Temperature limits change with o-ring selection.

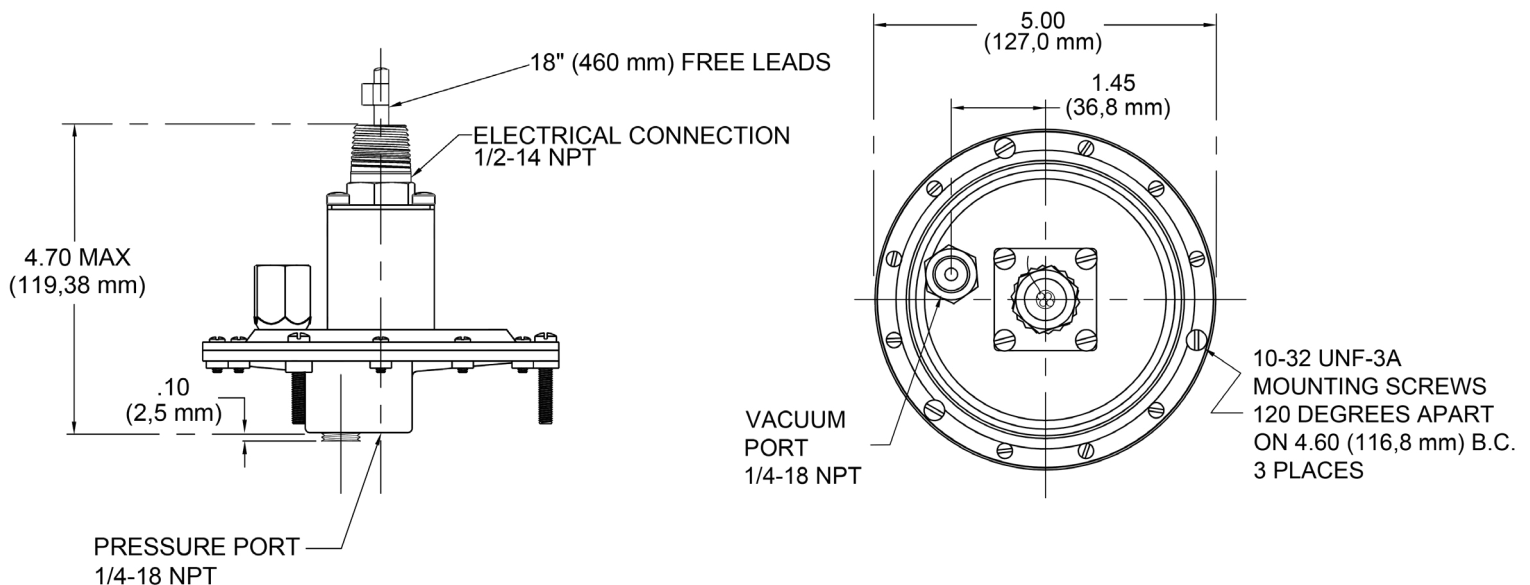
-40° to 186°F

-40° to 86°C

STANDARD FEATURES:

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

INSTALLATION DRAWING



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.





CustomControlSensors

Hazardous Areas Pre-Set / Adjustable Pressure Switch

675VES* - Diaphragm Sensor

OPERATING AND ORDERING DATA

SERIES 675VES*	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		
675VES*1	2-31 (5-77.2)	0.2-28 (0.5-69.7)	1.5 (3.7)	3.0 (7.5)	10 (689)	25 (1724)
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)				
675VES*8001	2-6.9 (5-17.2)	0.2-5.1 (0.5-12.7)	1.5 (3.7)	10 (689)	25 (1724)	
675VES*M8001	3-6.9 (7.5-17.2)	0.2-5.1 (0.5-12.7)	1.5 (3.7)			
675VES*8002	7-12.9 (17.4-32.1)	5.5-11.4 (13.7-28.4)	1.5 (3.7)			
675VES*M8002	7-12.9 (17.4-32.1)	5-10.9 (12.4-27.2)	2.0 (5.0)			
675VES*8003	13-18.9 (32.4-47.1)	11-16.9 (27.4-42.1)	2.0 (5.0)			
675VES*M8003	13-18.9 (32.4-47.1)	10.8-16.7 (26.9-41.6)	2.0 (5.0)			
675VES*8004	19-24.9 (47.3-62)	16.5-22.4 (41.1-55.8)	2.5 (6.2)			
675VES*M8004	19-24.9 (47.3-62)	16.5-22.4 (41.1-55.8)	2.5 (6.2)			
675VES*8005	25-31 (62.3-77.2)	22-28 (54.8-69.8)	3.0 (7.5)			
675VES*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.

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

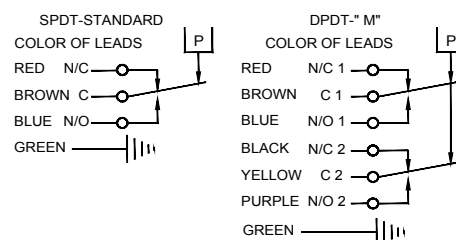
- A:** Viton® O-Ring
M: DPDT Electrical
Y: ATEX / IECEx Certified Electrical Assembly (Consult CCS Sales Department for options and requirements.)
*** Y Model Proof Pressure: 25 PSIG**
*** Y Model System Pressure: 10 PSIG**

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		





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.

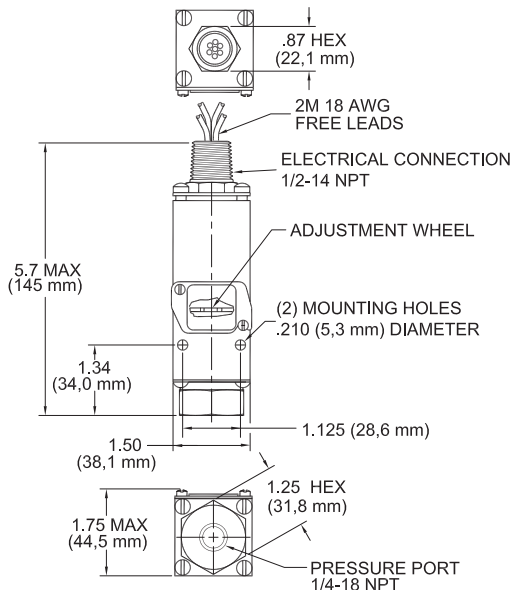
-40° to 186°F

-40° to 86°C

STANDARD FEATURES:

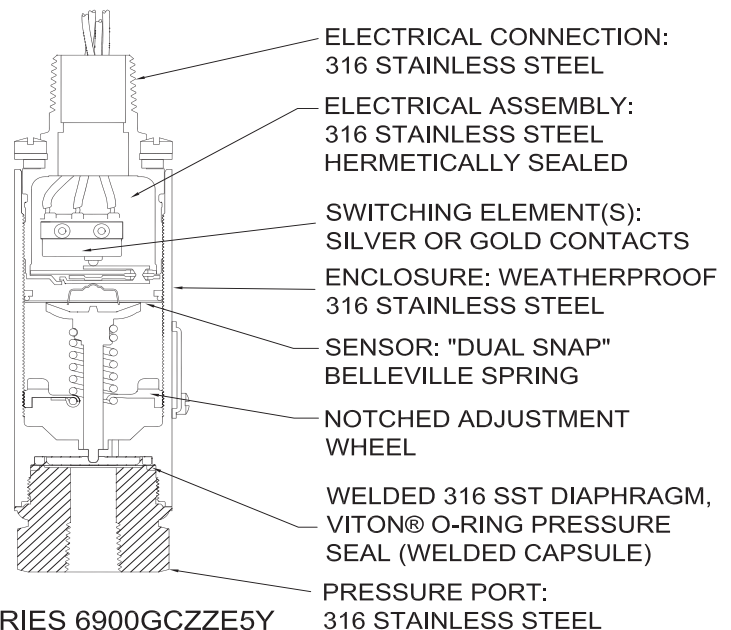
- CE Mark
- CCC
- CRN
- Dual Seal Certified: ANSI/ISA-12.27.01
- NACE MR0175 / ISO 15156
- NEMA: 4, 7, 9, 13 / IP66
- U.L. / CSA Hazardous Area Listed
- IECEx - ATEX Compliant
- Hermetically Sealed 316 SST Electrical Assembly
- 316 SST Body, Pressure Port and Welded Capsule

INSTALLATION DRAWING



MODEL 6900GCZZE5Y12
ILLUSTRATED

DESIGN PRINCIPLES



SERIES 6900GCZZE5Y

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.





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				
	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)		
6900GCZZE*5Y18	45-375 (3.1-25.9)	15-345 (1.0-23.8)	30 (2.0)	1500 (103)	2000 (138)
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

* Russian Certificate, Gost R 0813770

OPTIONAL MODEL CODES

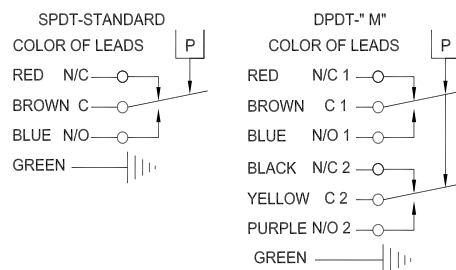
F: Ethylene Propylene
O-Ring
M: DPDT Electrical
L: Gold Contact

ACCESORIES

* **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

ELECTRICAL CHARACTERISTICS SCHEMATIC AND WIRING CODE

VOLTS	RATING OF SWITCH ELEMENT	
	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		



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

DUAL-SNAP®

ccsdualsnap.com

CERTIFICATIONS

Consult CCS website for complete
certification and approval listing.

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:

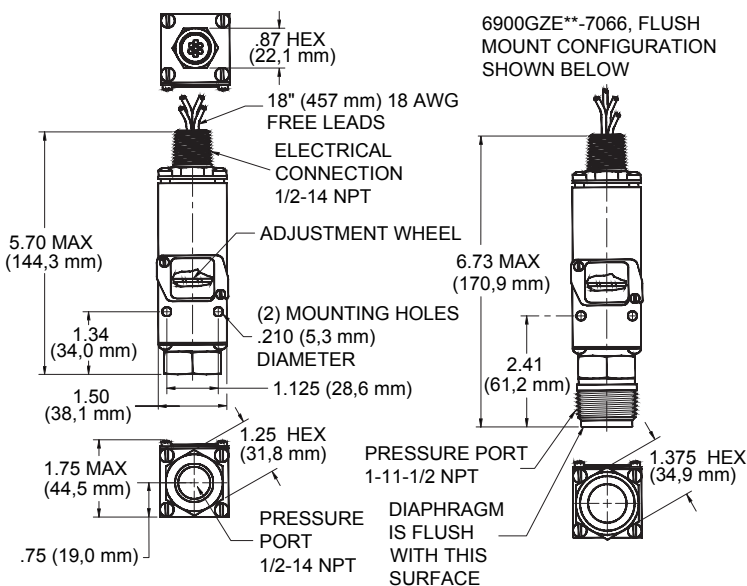
Temperature limits change with O-ring selection.

-40° to 186°F
-40° to 86°C

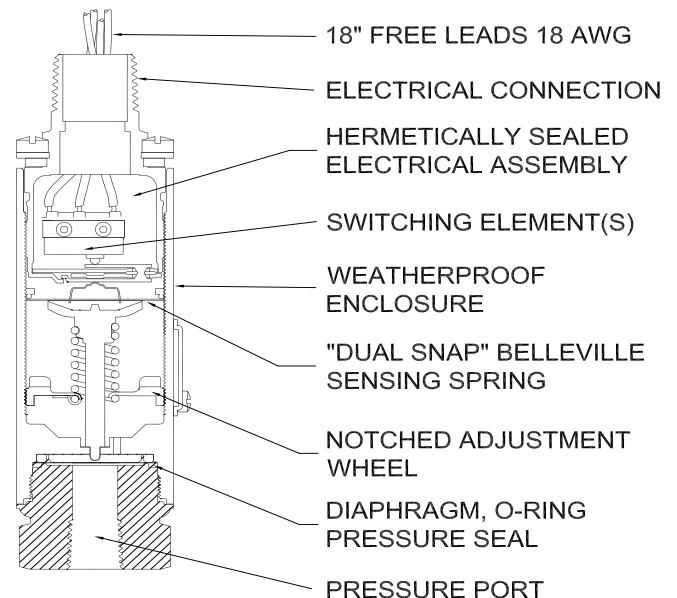
STANDARD FEATURES:

- 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



SERIES 6900GE

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.





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
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
Connection
7082: 316 SST Port, Diaphragm & Body,
E.N.P. Front cover & Locks.
1/2"-14 NPT Female Pressure
port.
7088: 1/4" -18 NPT Female 316
Stainless Steel Pressure Port
7089: 1/2" -14 NPT Male 316
Stainless Steel Pressure Port
7106: 316 Stainless Port, Body and
Diaphragm. M20 Explosion Proof
Electrical Connection. 1 Meter
Cable

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.

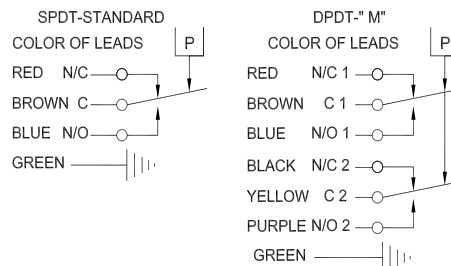
* ATEX certified for potentially explosive atmospheres electrical assembly series

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		



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®

ccsdualsnap.com

Models: 6900G*E*, Page 2 of 2
Form 830G, 6.6.16



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:

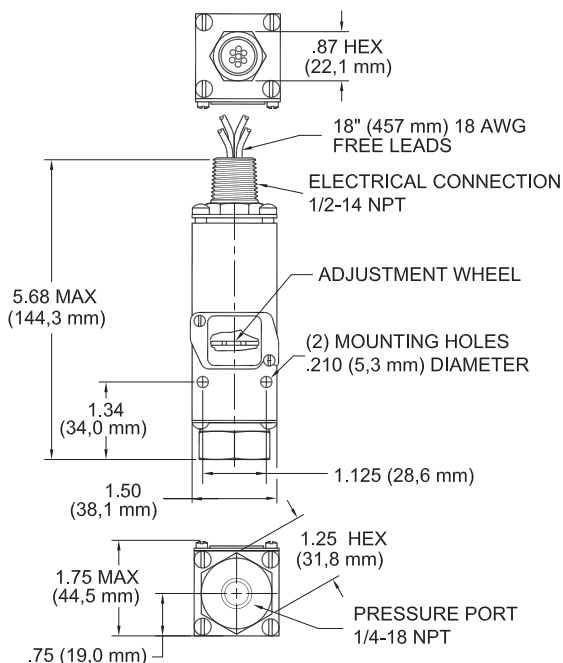
Temperature limits change with O-ring selection.

-40° to 186°F
-40° to 86°C

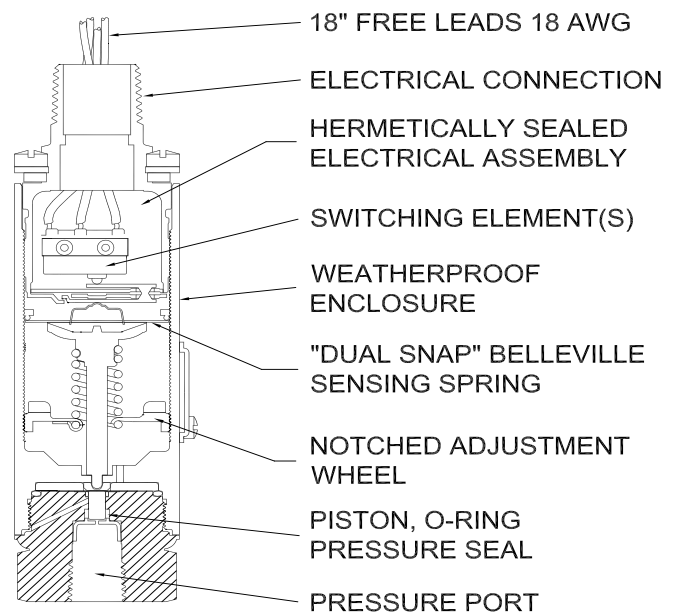
STANDARD FEATURES:

- 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®

ccsdualsnap.com



Models: 6900PE*, Page 1 of 2
Form 830G, 6.6.16



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.

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

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

7106: 316 Stainless Steel Port, Body
and Diaphragm. M20 Explosion
Proof Electrical. 1 Meter Cable

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.

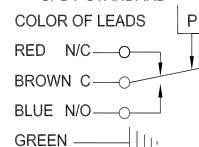
ELECTRICAL CHARACTERISTICS SCHEMATIC AND WIRING CODE

RATING OF SWITCH ELEMENT

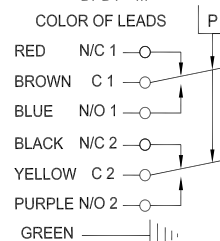
VOLTS	AMPERES	
	SPDT	DPDT "M"
	Res.	Res.
125 AC - 50/60 Hz	11	11
250 AC - 50/60 Hz	11	11
30 DC	5	5
125 DC	.5	.5
*125 AC - 50/60 Hz	1 max	1 max
*30 DC	1 max	1 max

*Gold Contacts -7008 Suffix

SPDT-STANDARD



DPDT-"M"



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

DUAL-SNAP®

ccsdualsnap.com

Models: 6900PE*, Page 2 of 2
Form 830G, 6.6.16



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:

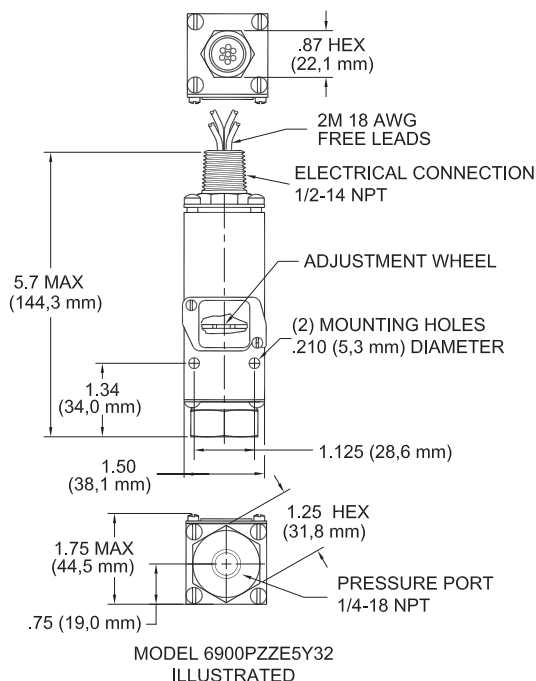
Temperature limits change with O-ring selection.

-40° to 186°F
-40° to 86°C

STANDARD FEATURES:

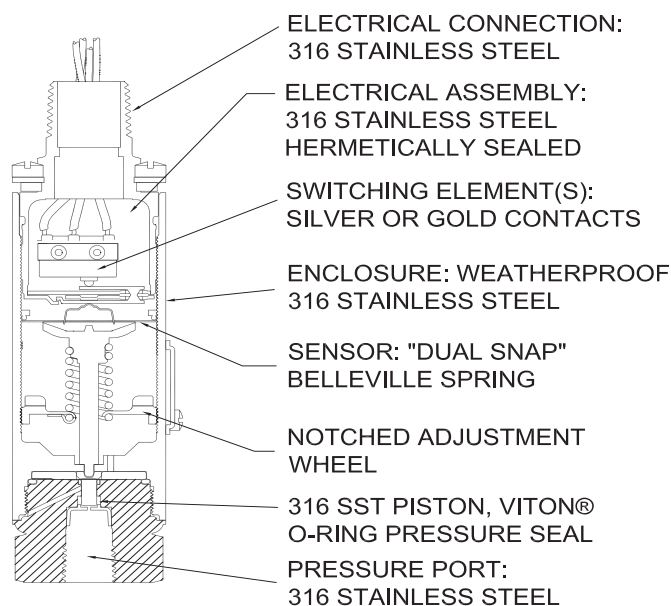
- CE Mark
- CCC
- CRN
- Dual Seal Certified: ANSI/ISA-12.27.01
- NACE MR0175 / ISO 15156
- NEMA: 4x, 7, 9, 13 / IP66
- U.L. / CSA Hazardous Area Listed
- IECEx - ATEX Compliant
- Hermetically Sealed 316 SST Electrical Assembly
- 316 SST Body, Pressure Port and Piston

INSTALLATION DRAWING



MODEL 6900PZZE5Y32
ILLUSTRATED

DESIGN PRINCIPLES



SERIES 6900PZZE5Y

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.





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)	6000 (414)	9000 (620)
6900PZZE*5Y34	150-1600 (10.3-110)	40-1490 (2.8-103)	110 (7.6)	6000 (414)	9000 (620)
6900PZZE*5Y36	500-3200 (34.5-221)	330-3030 (22.8-209)	170 (11.7)	6000 (414)	9000 (620)
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

M: DPDT Electrical

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-XXXXXX, 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

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.

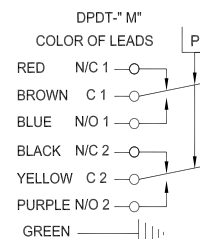
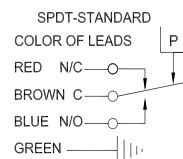
* 89-134-1H: Horizontal SST 2 inch Pipe Clamp

* 89-134-1V: Vertical SST 2 inch Pipe Clamp

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		



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

DUAL-SNAP®

ccsdualsnap.com

Models: 6900PZZE5Y*, Page 2 of 2
Form 830G, 6.14.16