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:

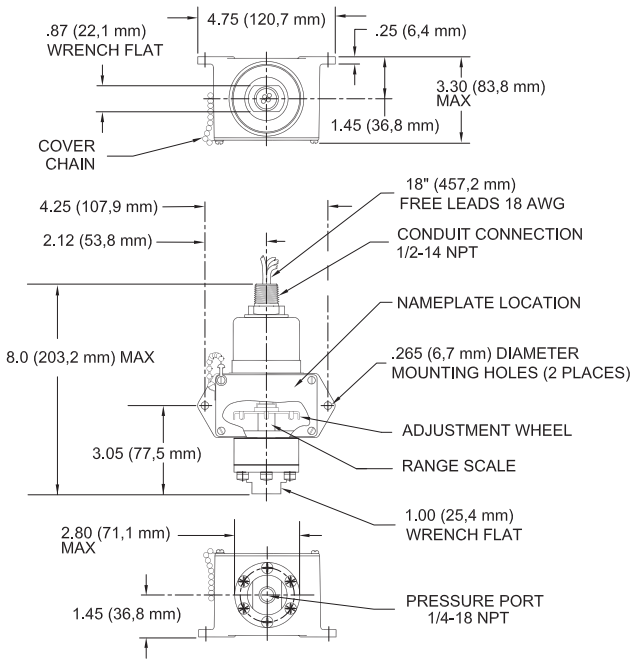
Temperature limits change with O-ring selection.

-40° to 186°F
-40° to 86°C

STANDARD FEATURES:

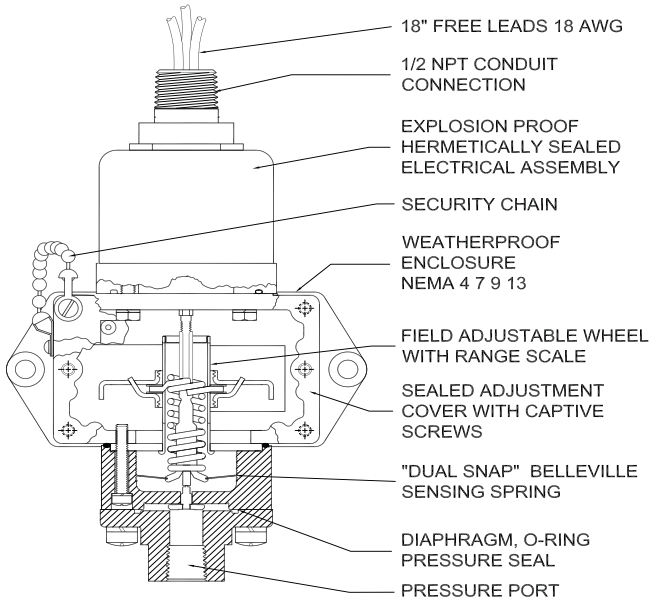
- CE Mark
- CCC
- CRN
- Dual Seal: ANSI/ISA-12.27.01
- NACE MR0175 / ISO 15156
- NEMA: 4, 7, 9,13 / IP66
- U.L. / CSA Listed
- Hermetically Sealed Electrical Assembly

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.

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)		
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

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

