



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:

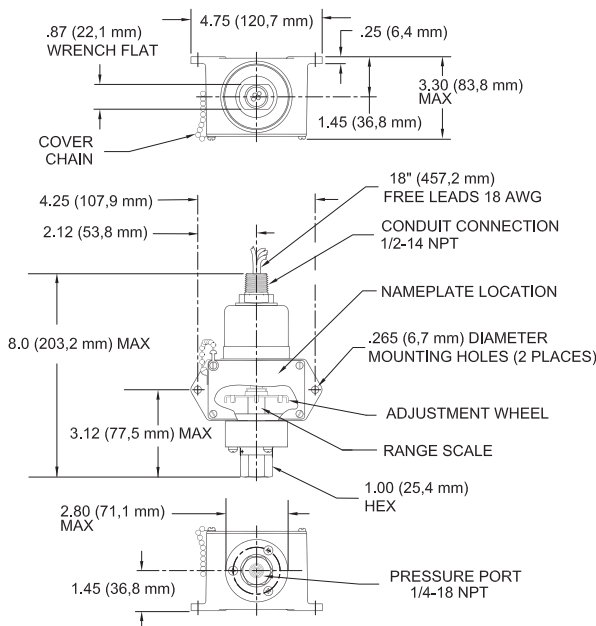
Temperature limits change with O-ring selection.

-40° to 186°F  
-40° to 86°C

### STANDARD FEATURES:

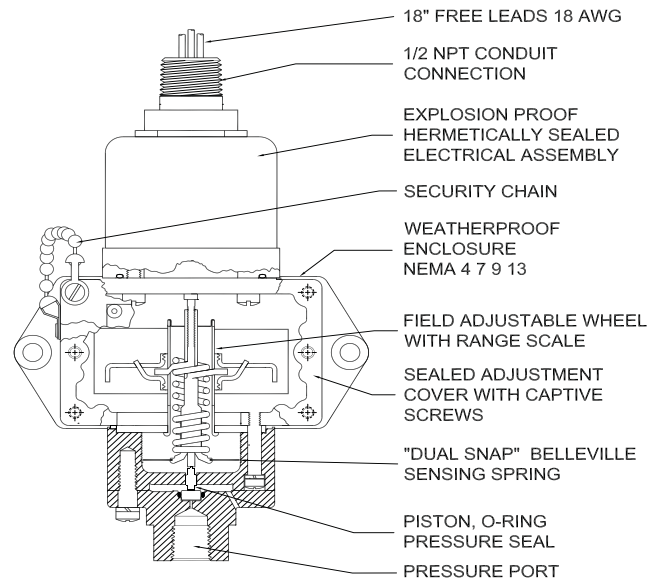
- CE Mark
- CCC
- CRN
- Dual Seal: ANSI/ISA-12.27.01
- NACE MR0175 / ISO 15156
- NEMA: 4, 7, 9, 13 / IP66
- U.L. / CSA Listed
- Hermetically Sealed Electrical Assembly

### 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.





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### 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

