

OEM Pressure Switches Sub-Mini-Hermet and Omni

The Sub-Mini-Hermet has the ability to be externally adjusted without disconnecting electrical service or tamperproof. These field mounted instruments are suited for compact areas and hostile environments. A UL Listed, CSA Certified, and SAA Approved hermetically sealed explosion proof switch capsule is provided in a rugged 316 stainless steel housing for harshest service in hazardous locations.



Adjustable
Sub-Mini-Hermet

Omni pressure switches

are environmentally sealed pressure switches that can be externally adjusted without disconnecting electrical service. Diaphragm type switches are recommended for most process applications. Pivot Seal type switches are recommended for fluid power (hydraulic) applications where high-shock pressures and high-cycle rates are expected, and where industrial clean hydraulic fluid is used.



Omni

Sub-Mini-Hermet Pressure Switches

Adjustable

Product Specifications

Enclosure	316SS housing contains explosion proof hermetically sealed switching element (See Agency Approvals) NEMA 4X, IP65
Primary Diaphragm	316SS
O-Ring	Viton
Pressure Port	1/4" NPT(F) 316SS
Ambient Temperature Range	-40 to 167°F (-40 to 75°C)
Process Temperature Range	32 to 400°F (0 to 204°C)
Electrical Connection**	1/2" NPT(M); 18" stranded wire leads, 18-AWG color-coded and marked
Electrical Rating	250VAC, 5 amp 30VDC, 5 amp* 125VDC, .5 amp*
Weight	Approximate 1 lb (0.5 kg)
Agency Listing	Rostechnadzor (RTN) standard (certificate available upon request)

Design and specifications are subject to change without notice.

* DC electrical ratings are for resistive loads only. DC ratings are not agency approved or listed but have been verified by testing or experience.

** Change model number from 9013-00_to 9013-10_ for 6 foot leads.

Consult factory for availability of special product configurations: gold contact snap switches for dry circuits; 1/2" NPT(F) or 1/4" BSP(F) process connections; alternate pressure port, diaphragm, or o-ring materials, etc.

How to Order

Model Number	Electical Contact Form	Range		Typical Dead Band		Overrange		Proof	
		psi	bar	psi	bar	psi	bar	psi	bar
9013 - 001	SPDT	8 - 30	0.55 - 2	3	0.2	1500	100	2500	170
9013 - 002	DPDT			6	0.4				
9013 - 003	SPDT	15 - 60	1.0 - 4.1	5	0.35				
9013 - 004	DPDT			10	0.7				
9013 - 005	SPDT	40 - 200	2.8 - 13.8	25	1.7	2500	170	6000	410
9013 - 006	DPDT			50	3.5				

Notes

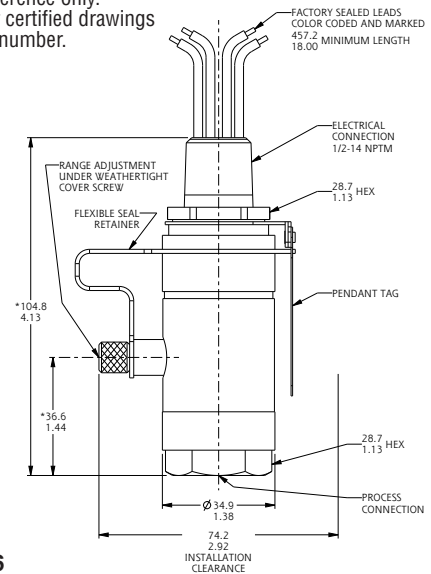
1. Dead band values are expressed as typical expected at mid-range.
2. Metric bar values are conservative. They are practical equivalents of the reference English values: not necessarily exact mathematical conversions.

Safety Certified to IEC 61508 (SIL)

SOR products are certified to IEC 61508 for non-redundant use in SIL1 and SIL2 Safety Instrumented Systems for most models. For more details or values applicable to a specific product, see the Safety Integrity Level Quick Guide (Form 1528).

Dimensions

Dimensions are for reference only. Contact the factory for certified drawings for a particular model number. (Linear = mm/in.)



Drawing 0091356

The hermetically sealed switching element capsule is UL Listed, CSA Certified and SAA Approved as an explosion proof snap switch per the following table:

Agency	Hazardous Location Conditions
UL Listed	Class I, Groups A, B, C & D Class II, Groups E, F & G; Divisions 1 & 2
CSA Certified	
SAA Approved	Ex s Zone 2 IIC T4 IP65 Ex tD A22 T105°C IP65

Sub-Mini-Hermet Pressure Switches

Factory Pre-set
Non-adjustable

Product Specifications

Enclosure	316SS housing contains explosion proof hermetically sealed switching element (See Agency Approvals) NEMA 4X, IP65
Primary Diaphragm	316SS
O-Ring	Viton
Pressure Port	1/4" NPT(F) 316SS
Ambient Temperature Range	-40 to 167°F (-40 to 75°C)
Process Temperature Range	32 to 400°F (0 to 204°C)
Electrical Connection**	1/2" NPT(M); 18" stranded wire leads, 18-AWG color-coded and marked
Electrical Rating	250VAC, 5 amp 30VDC, 5 amp* 125VDC, .5 amp*
Weight	Approximate 1 lb (0.5 kg)
Agency Listing	Rostechnadzor (RTN) standard (certificate available upon request)

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** Change model number to **_SM-EF_-M4-C1A** for 6 foot leads.

Consult factory for availability of special product configurations: DPDT switch assemblies; gold contact snap switches for dry circuits; 1/2" NPT(F) or 1/4" BSP(F) process connections; alternate pressure port, diaphragm, or o-ring materials, etc.

How to Order

Model Number	Electical Contact Form	Range		Typical Dead Band		Overrange		Proof	
		psi	bar	psi	bar	psi	bar	psi	bar
6AT - EF19 - M4 - C1A	SPDT	6 - 18	0.4 - 1.2	3	0.2	1500	100	2500	170
6AT - EF20 - M4 - C1A	SPDT	18 - 30	1.2 - 2	3	0.2				
5AT - EF19 - M4 - C1A	SPDT	15 - 50	1.0 - 3.5	5	0.35				
5AT - EF20 - M4 - C1A	SPDT	50 - 75	3.5 - 5	6	0.4	2500	170	6000	410
9AT - EF19 - M4 - C1A	SPDT	35 - 175	2.4 - 12	25	1.7				
9AT - EF20 - M4 - C1A	SPDT	175 - 230	12 - 16	25	1.7				
1AT - EF19 - M4 - C1A	SPDT	100 - 315	7 - 22	50	3.5	5000	340		
1AT - EF20 - M4 - C1A	SPDT	315 - 500	22 - 35	50	3.5				

Accessories

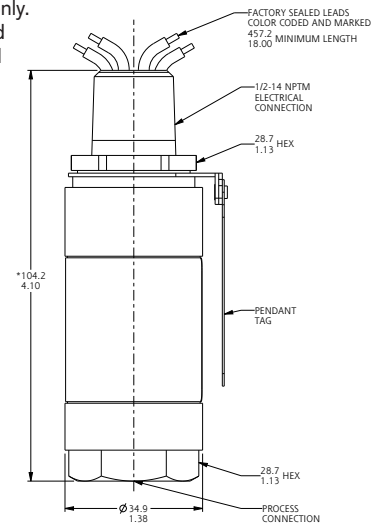
Description	Designator (add after C1A)
Fiber tag with customer specified tag information	PP
304SS nameplate wired to unit with customer specified tag information	RR
304SS nameplate permanently affixed to housing with customer specified tag information.	TT

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Dimensions

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Drawing 0090131

The hermetically sealed switching element capsule is UL Listed, CSA Certified and SAA Approved as an explosion proof snap switch per the following table:

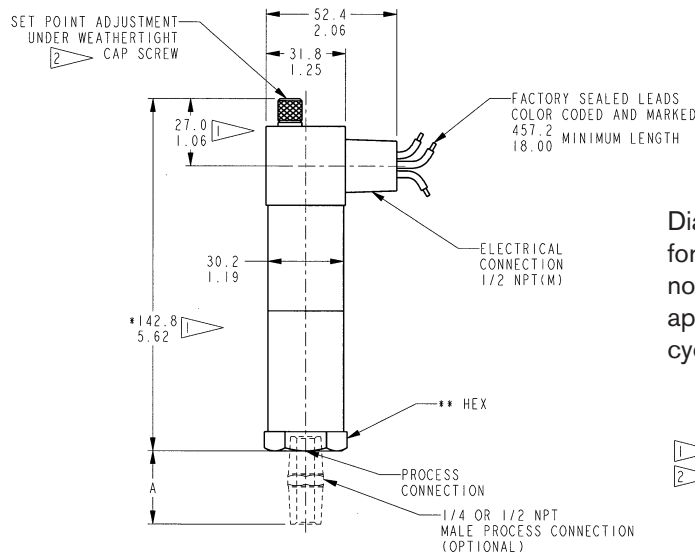
Agency	Hazardous Location Conditions
UL Listed	Class I, Groups A, B, C & D Class II, Groups E, F & G; Divisions 1 & 2
CSA Certified	
SAA Approved	Ex s Zone 2 IIC T4 IP65 Ex tD A22 T105°C IP65

Product Specifications

Enclosure	Aluminum with corrosion resistant, chromate conversion coating. Environmentally sealed. NEMA 4	Pressure Port (Diaphragm Type)	1/4" NPT(F) carbon steel electroless nickel plated
Primary Diaphragm (Diaphragm type)	316SS	Pressure Port (Pivot Seal Type)	1/4" NPT(F) brass
Piston (Pivot Seal Type)	316SS	Electrical Rating	250 VAC, 10amps
O-Ring	Buna-N		30 VDC, 5 amps
			125 VDC, .5 amps

Design and specifications are subject to change without notice.

Dimensions

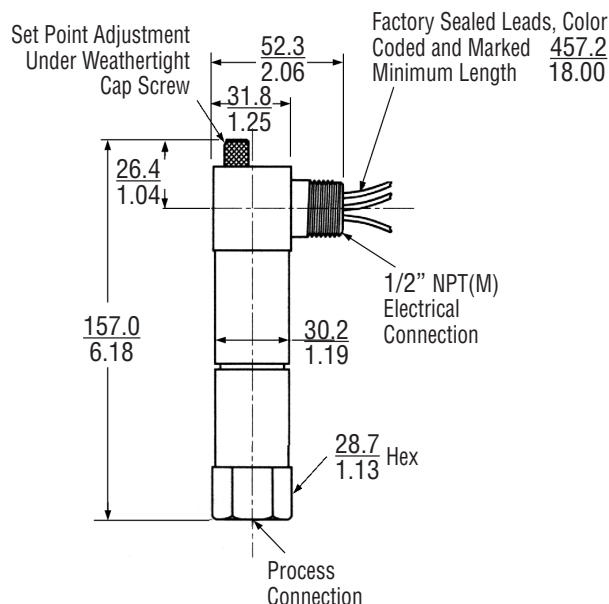


Drawing 0090179

Dimensions are for reference only. Contact the factory for certified drawings for a particular model number. (Linear = mm/in.).

Diaphragm Type Pressure Switches are suitable for a wide variety of process applications. They are not recommended for high-pressure fluid power applications where high shock pressure and high cycle rates are expected.

- NOTES:
1. SUBTRACT 10.4 (0.41) FOR "TP" OPTION.
 2. NOT USED WITH "TP" OPTION.



Pivot Seal Type Pressure Switches are designed for fluid power (hydraulic) applications where high shock pressure and high cycle rates are expected, and where industrial-clean hydraulic fluid is used. They are not recommended for process applications as the piston requires lubrication for proper operation.

Diaphragm Type Pressure Switch

Model Number	Range		Typical Dead Band		Overrange		Proof	
	psi	bar	psi	bar	psi	bar	psi	bar
6AC - AD2 - M2 - F1A	7 - 30	0.5 - 2	1.5	0.10	1500	100	2500	170
6AC - AD3 - M2 - F1A	12 - 100	0.8 - 7	2.4	0.17				
5AC - AD45 - M2 - F1A	45 - 550	3.1 - 38	10	0.7				
9AC - AD45 - M2 - F1A	200 - 1750	14 - 120	40	2.8	2500	170	6000	410

Pivot Seal Type Pressure Switch

Model Number	Range		Typical Dead Band		Overrange		Proof	
	psi	bar	psi	bar	psi	bar	psi	bar
2AC - AD3 - P1 - D1A	100 - 1900	7 - 130	125	8.6	8000	550	10,000	690
2AC - AD5 - P1 - D1A	500 - 3000	35 - 205	145	10				
3AC - AD45 - P1 - D1A	1000 - 7000	70 - 480	290	20				

Accessories

Description	Designator (add after F1A or D1A)
Fiber tag with customer specified tag information	PP
304SS nameplate wired to unit with customer specified tag information	RR
Factory set and potted to prevent future adjustment of pressure switch	TP

Test Certificates

	Certificates	C1	C2	C3	C4	C5	C6	C8	B1	B4	B5	B6	B7	A1	A2	A3	A4	A5	A6	A7	A8
		Sub-Mini-Hermet Non-Adjustable Omni	Calibration	◆							◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
	Hydrostatic Pressure Test		◆						◆	◆					◆	◆	◆	◆	◆	◆	◆
	Inspection Report			◆					◆	◆	◆	◆	◆			◆	◆		◆	◆	◆
	Compliance / Conformance				◆								◆	◆	◆		◆	◆			◆
	Dielectric Test					◆				◆	◆										◆
	Insulation Resistance						◆			◆	◆	◆							◆	◆	◆
	Typical Material of Wetted Parts							◆	◆	◆				◆				◆	◆		

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MEASUREMENT AND CONTROL

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