

ULTRA HIGH PURITY PRESSURE MEASUREMENT PRODUCTS

Model IPS-300 UHP Semiconductor Gas Indicating Pressure Switch

DESCRIPTION

The IPS-300 Ultra High Purity Indicating Pressure Switch is designed to provide economical pressure monitoring with setpoint indication of the high purity, toxic and corrosive gases used in the semiconductor manufacturing industry and gas distribution systems.

In addition to providing accurate ($\pm 2\%$ of span) indication of gas pressure, this 2 inch diameter instrument incorporates a magnetically actuated, switch capable of operating low voltage annunciators, lights or relays. When used with the appropriate pull-up or pull-down resistors, the monitor can be connected to the input port of a microprocessor or to a logic network. It may also be used as an input to a programmable controller.

Moving the colored index on the front dial to the desired set point sets the switch. A small magnet fastened to the indicating pointer actuates the switch. A magnetic latch on the switch permits the switch to remain "on" or "off" after the pointer passes the operating point, without restraint on the indicating pointer.

The switch can be factory ordered to close on increasing pressure (HA) or close on decreasing pressure (LA). The switch action will be noted on the tail of the pointer.

The IPS-300 Pressure Switch offers the ease of adjustment and economy that permits field use of several units covering a variety of pressure range set-points. It is also a low cost alternative to analog transducers with A/D conversion for digital input to PLCs and microprocessors.

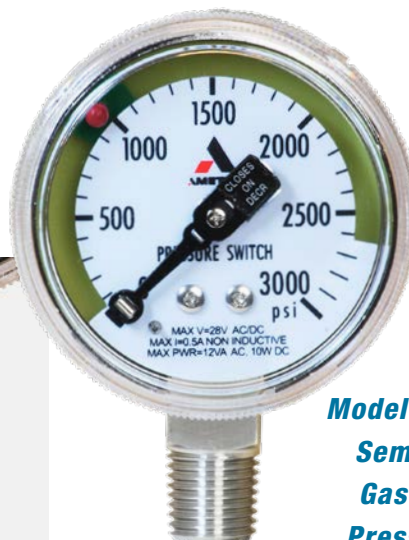
The IPS Pressure Switch provides many advantages over other instruments, including: fast, easy, accurate setting of set points; pressure and setpoint indication on the same dial face; quick, at a glance monitoring of the pressure and setpoint, and substantial cost savings to the end user.

FEATURES

- Operates low voltage audible/visual alarms and relays
- No switch input power required
- Provides input to logic networks, microprocessors and PLCs
- Ra: 10 μ inch (0.25 μ m) surface finish on VCR face seal connections
- Helium leak tested to 10^{-9} scc/sec
- Available in low mount and center-back mount configuration
- Available with VCR face seal fittings or NPT connections
- Switch setpoint adjustments accessible from front of monitor, just twist off window
- Switch setting may be adjusted on or off-line
- Type 316L stainless steel internal surfaces
- Case is 304 stainless steel, electropolished with pressure relief
- Cleaned and packaged for ultra high purity gas applications, exceeds ANSI B40.100



Close-up of VCR connection



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Semiconductor
Gas Indicating
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SPECIFICATIONS

Mechanical

Size: 2 inch diameter

Ranges (PSI or BAR):

Compound: VAC-0-30 psi,
VAC-0-60 psi, VAC-0-100 psi,
VAC-0-200 psi, VAC-0-300 psi

Note: VAC = 30 inches Hg vacuum

Gauge Pressure: 0 to 60, 100, 200, 300, 600, 1000, 2000, 3000,
and 4000 psi; dual scales are available (consult factory); proof
pressure is 130%

Internal Surface: Type 316L stainless steel

Case: 304 stainless steel, electropolished with pressure relief

Window: One piece, threaded polycarbonate

Set Point Index: Adjustable from 5% to 80% of span

Working Temperature:

Ambient: -4°F (-20°C) to 149°F (65°C)

Fluid: Maximum 212°F (100°C)

Movement: 300 series stainless steel

Dial: White polycarbonate with pointer stop pin

Bourdon Tube: Type 316L seamless stainless steel

Connection: Type 316L stainless steel face seal connection or
1/4 inch NPT; low mount or center-back mount

Surface Finish: VCR face seal connections Ra: 10 μ inch
(0.25 μ m), 1/4 inch NPT connections 32 Ra, connectors
shipped with protective plastic caps

Electrical

Connection: 26 AWG, Teflon, 10' (3 meter) leads

Maximum Power: 10 watts DC, 12 VA AC

Maximum Switching Current: 0.5 amps AC/DC noninductive
(consult factory when using for inductive loads such
as relays)

Maximum Switch Voltage: 28 V AC/DC

Indication Accuracy: $\pm 2\%$ of span

Switch Point Accuracy: Switch will operate when pressure is
within $\pm 2\%$ span of full scale

Switch Operation:

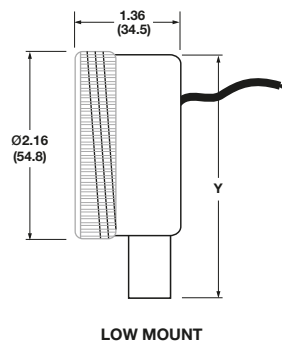
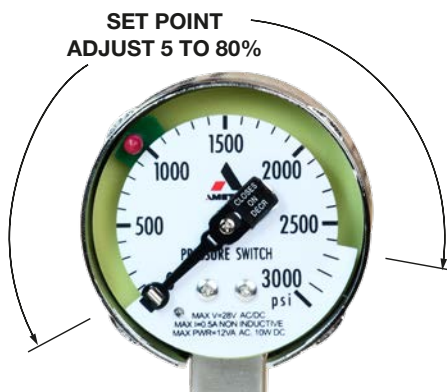
End user configurable for set point with factory set choices of:

Closes on decreasing pressure/open on increasing pressure
(LA option);

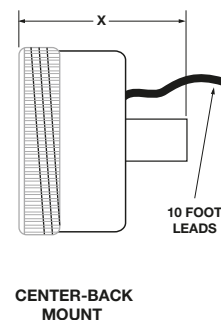
Closes on increasing pressure/opens on decreasing pressure
(HA option)

Dimensions

Inches (mm)	1/4 NPT	Swivel Male Face Seal	Female Face Seal
X	2.70 (68.5)	2.91 (74.0)	2.90 (73.3)
Y	2.95 (74.9)	3.28 (83.4)	3.21 (81.6)



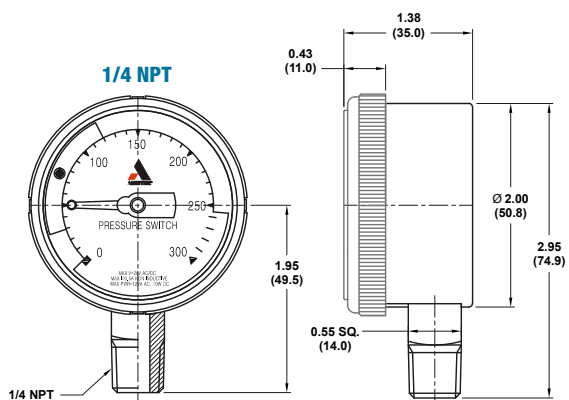
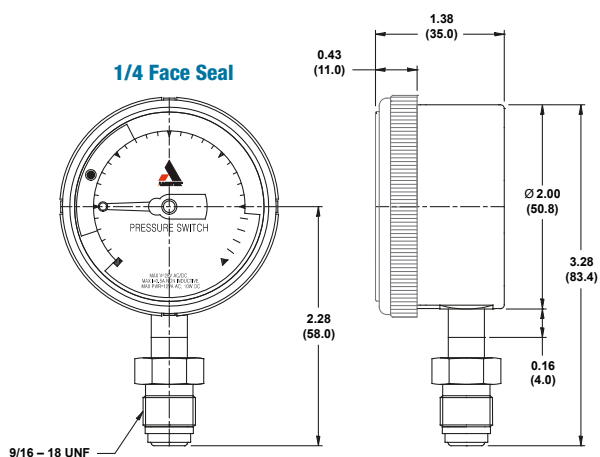
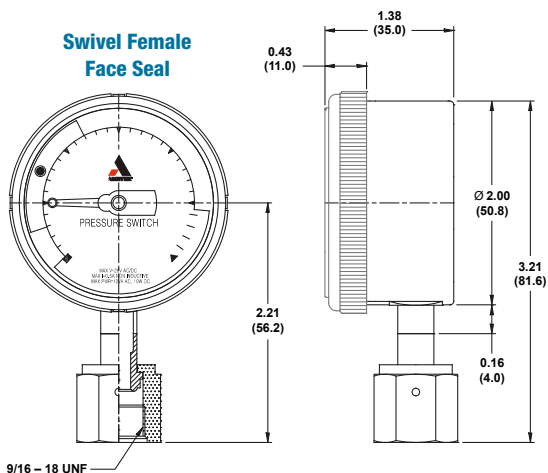
INCHES
(MM)



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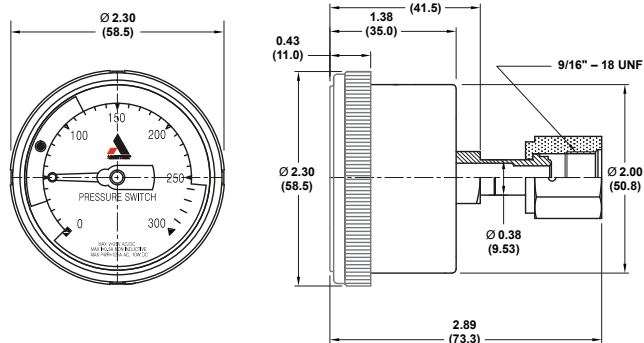
Model IPS-300 UHP Semiconductor Gas Indicating Pressure Switch

LOW MOUNT

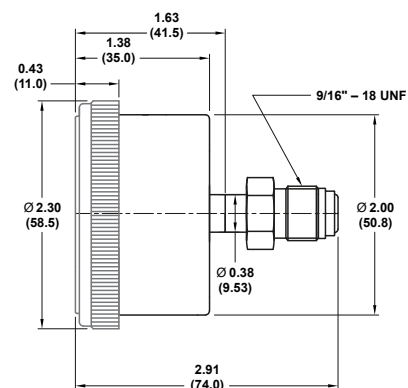


CENTER BACK MOUNT

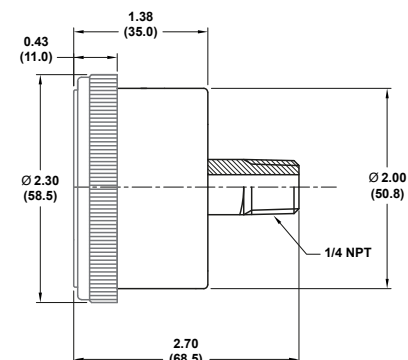
Swivel Female Face Seal



1/4 Face Seal



1/4 NPT





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Model Numbering:		
● IPS-300 Gas indicating pressure switch		
IPS	Indicating pressure switch	
● Setpoints		
300	Single	
● Switch action		
LA	Closes on decreasing pressure	
HA	Closes on increasing pressure	
● Pressure ranges		
0060	0 to 60 psi	
0100	0 to 100 psi	
0200	0 to 200 psi	
0300	0 to 300 psi	
0600	0 to 600 psi	
1000	0 to 1000 psi	
2000	0 to 2000 psi	
3000	0 to 3000 psi	
4000	0 to 4000 psi	
V to 0 to 30	Compound (Vac to 30 psig)	
V to 0 to 60	Compound (Vac to 60 psig)	
V to 0 to 100	Compound (Vac to 100 psig)	
V to 0 to 200	Compound (Vac to 200 psig)	
V to 0 to 300	Compound (Vac to 300 psig)	
● Process connection		
LM-NPT	Low mount, 1/4 NPT male	
CBM-NPT	Center-back mount, 1/4 NPT male	
LM-FVCR	Low mount, female face seal	
LM-MVCR	Low mount, male face seal	
CBM-FVCR	Center-back mount, female face seal	
CBM-MVCR	Center-back mount, male face seal	
IPS	300	LA 0200 LM-NPT