

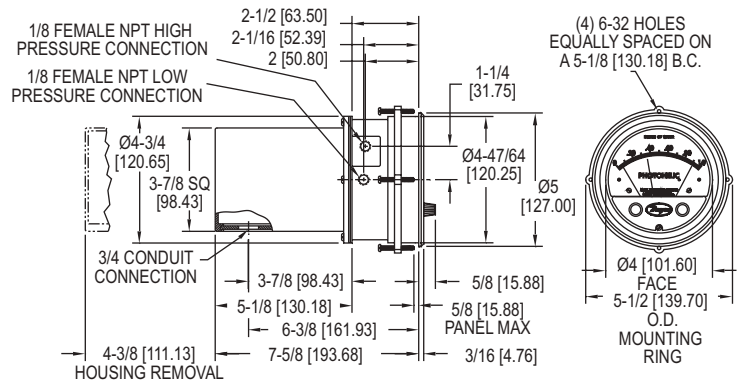
PHOTOHELIC® PRESSURE SWITCH/GAGE

3-in-1 Indicating Gage, Lo-Limit and Hi-Limit Control

CALIBRATION SERVICES AVAILABLE



Set points are instantly
adjusted with front knobs



The **Series A3000 Photohelic® Pressure Switch/Gage** functions as versatile, highly repeatable pressure switches combined with a precise pressure gage employing the time-proven Magnehelic® gage design. The Photohelic® switch/gage measures and controls positive, negative or differential pressures of air and compatible gases. Standard models are rated to 25 psig (1.7 bar) with options to 35 (2.4) or 80 (5.5 bar) psig. Two phototransistor actuated, DPDT relays are included for low/high limit control. Easy to adjust set point indicators are controlled by knobs located on the gage face. Individual set point deadband is one pointer width - less than 1% of full-scale. Set points can be interlocked to provide variable deadband - ideal for control of fans, dampers, etc. Gage reading is continuous and unaffected by switch operation, even during loss of electrical power. Choose from full-scale pressure ranges from a low 0-25 in (0-6 mm) w.c. up to 30 psi (21 bar).

BENEFITS/FEATURES

- 3-in-1 instrument allows the reduction of several instruments with one product, saving inventory, installation time and money
- Patented design and 1% full-scale dead band provides quick response to pressure changes means no delay in switching and chatter-free operation
- A wide range of models that can meet pressure measurement specifications from low to very high

APPLICATIONS

- Air conditioning systems
- Clean rooms
- Fume exhaust systems

SPECIFICATIONS

GAGE SPECIFICATIONS

Service: Air and non-combustible, compatible gases.

Wetted Materials: Consult factory.

Accuracy: ±2% of FS at 70°F (21.1°C). ±3% on -0 and ±4% on -00 models.

Pressure Limits: -20" Hg to 25 psig (-0.677 to 1.72 bar); MP option: 35 psig (2.41 bar); HP option: 80 psig (5.52 bar).

Temperature Limits: 20 to 120°F (-6.67 to 48.9°C). Low temperature option available.

Process Connections: 1/8" female NPT.

Size: 4" (101.6 mm) dial face, 5" (127 mm) OD x 8-1/4" (209.55 mm).

Weight: 4 lb (1.81 kg).

SWITCH SPECIFICATIONS

Switch Type: Each set point has 2 form C relays (DPDT).

Repeatability: ±1% of FS.

Electrical Rating: 10 A @ 28 VDC, 10 A @ 120, 240 VAC.

Electrical Connections: Screw terminals. Use 167°F (75°C) copper conductors only.

Power Requirements: 120 VAC, 50/60 Hz; 240 VAC and 24 VAC power optional.

Mounting Orientation: Diaphragm in vertical position. Consult factory for other position orientations.

Set Point Adjustment: Adjustable knobs on face.

Agency Approvals: CE, CSA, UL.

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Bezel and front cover (with set point knobs and zero adjustment screw) removed to expose Photohelic® gage set point mechanism. Cover is clear polycarbonate plastic.

Gage pointer and light shutter are mounted on helix and balancing counterweight. Shutter passes through slot in optical limit switch to expose phototransistors to integral infrared light source or mask them depending on applied pressure.

Light shield effectively protects phototransistors from strong outside light sources yet allows free pointer movement. It also gives interior a clean "finished" look.

Optical limit switches are used for reliability and long service life. Attached directly to set pointers, they are individually aligned to assure precise switching accuracy.

Semi-Flexible drive shaft connects to set point knobs.



Plastic enclosure protects electronic components and electrical connections.

Polycarbonate connection or terminal board is self-extinguishing.

Glass-epoxy printed circuit boards for durability and performance.

Load relays are DPDT with latching feature for maximum application versatility.

Electronics are designed to operate on 50/60 Hz, 120 volt current with 10% over or under voltage. Special units for other voltages are available.

Switch set pointers show switch settings at all times.

Spring loaded friction clutch prevents operator damage of set point mechanism.

Zero adjustment screw connects to screw in cover to adjust zero pressure reading.

MODEL CHART

Zero Center Ranges		Zero Center Ranges	
Model	Range, in w.c.	Model	Range, in w.c.
A3000-00	0-.25	A3300-0	.25-0-.25
A3000-0	0-.50	A3301	.5-0-.5
A3001	0-1.0	A3302	1-0-1
A3002	0-2.0	A3304	2-0-2
A3003	0-3.0	A3310	5-0-5
A3004	0-4.0	A3320	10-0-10
A3005	0-5.0	A3330	15-0-15
A3006	0-6.0		
A3008	0-8.0		
A3010	0-10		
A3015	0-15		
A3020	0-20		
A3025	0-25		
A3030	0-30		
A3040	0-40		
A3050	0-50		
A3060	0-60		
A3080	0-80		
A3100	0-100		
A3150	0-150		
Bi-Directional Range			
A3000-00N	.05-.20		
Zero Center Ranges		Zero Center Ranges	
Model	Range, mm w.c.	Model	Range, Pa
A3000-6MM	0-6	A3300-250PA	125-0-125
A3000-10MM	0-10	A3300-500PA	250-0-250
A3000-25MM	0-25		
A3000-50MM	0-50		
A3000-80MM	0-80		
A3000-100MM	0-100		
Zero Center			
A3300-20MM	10-0-10		
A3300-30MM	15-0-15		
Zero Center		Zero Center	
Model	Range, Pascals	Model	Range, kPa
A3000-60PA	0-60	A3000-1KPA	0-1
A3000-125PA	0-125	A3000-1.5KPA	0-1.5
A3000-250PA	0-250	A3000-2KPA	0-2
A3000-500PA	0-500	A3000-3KPA	0-3
A3000-750PA	0-750	A3000-4KPA	0-4
		A3000-5KPA	0-5
		A3000-8KPA	0-8
		A3000-10KPA	0-10
		A3000-15KPA	0-15
		A3000-20KPA	0-20
		A3000-25KPA	0-25
		A3000-30KPA	0-30
Zero Center Ranges			
Model	Range, kPa		
A3300-1KPA	.5-0-.5		
A3300-3KPA	1.5-0-1.5		

OPTIONS

To order add suffix:	Description
-HP	High pressure
-LT	Low temperature (-20°F)
-MP	Medium pressure
-NIST	NIST traceable calibration certificate
-OLS	OEM model
-RMR	Remote mounted relay
-SRH	Single relay activates on increase
-SRL	Single relay activates on decrease
-TAMP	Tamper proof knobs

ACCESSORIES

Model	Description
A-298	Flat flush mounting bracket
A-601	Manual reset switch net

Note: Special models can be built to OEM customers' specifications with scales reading in special pressure units like ounces per square inch, inches of mercury, etc. Square Root Scales reading in FPM or SCFM are also available. Custom logos and special graduations can also be included. Contact factory for minimum quantities and pricing.

Process Tubing Options: See page 453 (Gage Tubing Accessories)