

# PHOTOHELIC® SWITCH/GAGES

Combines Differential Pressure Gage with Low/High Set-Points, Compact Size



Note: Shown with optional -SS bezel.  
Backward compatible\* with Magnehelic® gage.

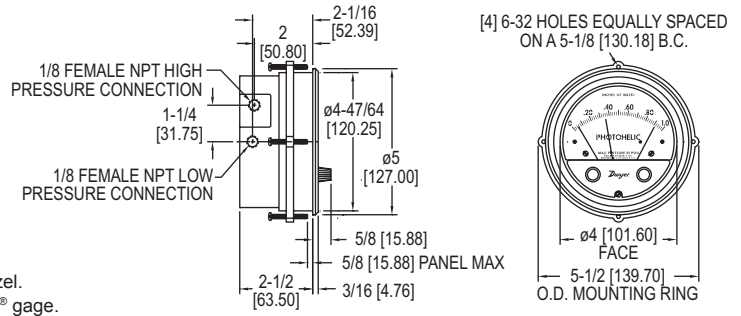
Using solid state technology, the Series 3000MR & 3000MRS Photohelic® Switch/Gages combine the functions of a precise, highly repeatable differential pressure switch with a large easy-to-read analog pressure gage employing the durable, time-proven Magnehelic® gage design. Switch setting is easy to adjust with large external knobs on the gage face. Gage reading is unaffected by switch operation - will indicate accurately even if power is interrupted. Solid state design now results in greatly reduced size and weight. Units can be flush mounted or surface mounted with hardware supplied. 3000MR models employ versatile electromechanical relays with gold over silver contacts - ideal for dry circuits. For applications requiring high cycle rates, choose 3000MRS models with SPST (N.O.) solid state relays. All models provide both low and high limit control and include 18-inch (45 cm) cable assemblies for electrical connections. Compatible with air and other non-combustible, non-corrosive gases, they can be used in systems with pressures to 25 psig (1.725 bar). Optional construction is available for use to either 35 psig (2.42 bar) or 80 psig (5.51 bar).

**FEATURES/BENEFITS**

- Gage reading unaffected by switch operation and will continue to read pressure even during power loss
- Zero and range adjustments outside of gage means no disassembly in normal service
- Solid-state design allows for switching in high cycle rate applications without degradation
- Optional stainless steel bezel is the same installation diameter as Magnehelic® gage and simplifies field upgrade to Photohelic® switch/gage

**APPLICATIONS**

- Pneumatic conveying
- Air conditioning systems
- Clean rooms



**SPECIFICATIONS**

<p><b>GAGE SPECIFICATIONS</b>  <b>Service:</b> Air and non-combustible, compatible gases.  <b>Wetted Materials:</b> Consult factory.  <b>Accuracy:</b> ±2% of FS (3000-0 ±3% of FS). (3000-00 ±4% of FS).  <b>Pressure Limit:</b> -20" Hg. to 25 psig (-0.677 bar to 1.72 bar). MP option: 35 psig (2.41 bar), HP option: 80 psig (5.52 bar).  <b>Temperature Limits:</b> 20 to 120°F (-6.67 to 48.9°C).  <b>Process Connections:</b> 1/8" female NPT (duplicated side and back).  <b>Size:</b> 4" (101.6 mm) dial face, 5" (127 mm) OD x 3-1/8" (79.38 mm); -SS bezel: 4-3/4" (120.7 mm) OD x 2-21/32 (67.5 mm).  <b>Weight:</b> 1.8 lb (816 g).</p>	<p><b>Electrical Connections:</b> 18" (46 cm) cable assembly with 8 conductors. Optional lengths to 100' (30.5 m).  <b>Power Requirements:</b> 24 VDC, regulated ±10%.  <b>Mounting Orientation:</b> Diaphragm in vertical position. Consult factory for other position orientations.  <b>Set Point Adjustment:</b> Adjustable knobs on face.  <b>Agency Approvals:</b> CE.</p>
<p><b>SWITCH SPECIFICATIONS 3000MR</b>  <b>Switch Type:</b> Each setpoint has 1 form C relays (SPDT).  <b>Relay Contacts:</b> (Resistive load) 1 form C rated 1.0A @ 30 VDC, 0.3A @ 110 VDC or 0.5A @ 125 VAC. Gold over clad silver - suitable for dry circuits.</p>	<p><b>SWITCH SPECIFICATIONS 3000MRS</b>  <b>Switch Type:</b> Each setpoint has a solid state relay.  <b>Switching Voltage:</b> 20-280 VAC (47-63 Hz).  <b>Switching Current:</b> 1.0 amp (AC) max., 0.01 mA (AC) min., (2) SPST NO.  <b>Electrical Connections:</b> 18" (46 cm) cable assembly with 6 conductors, optional lengths to 100' (30.5 m).  <b>Power Requirements:</b> 24 VDC, regulated ±10%.  <b>Mounting Orientation:</b> Diaphragm in vertical position. Consult factory for other position orientations.  <b>Set Point Adjustment:</b> Adjustable knobs on face.  <b>Agency Approvals:</b> CE.</p>

MODEL CHART					
Model	Range, in w.c.	Minor Divs.	Model	Range, in w.c.	Minor Divs.
3000MR-00	0-0.25	.005	3000MRS-00**	0-0.25	.005
3000MR-0	0-0.5	.01	3000MRS-0*	0-0.5	.01
3001MR	0-1.0	.02	3001MRS	0-1.0	.02
3002MR	0-2.0	.05	3002MRS	0-2.0	.05
3003MR	0-3.0	.10	3003MRS	0-3.0	.10
3005MR	0-5.0	.10	3005MRS	0-5.0	.10
3010MR	0-10	.20	3010MRS	0-10	.20
3015MR	0-15	.50	3015MRS	0-15	.50
3020MR	0-20	.50	3020MRS	0-20	.50
3030MR	0-30	1.0	3030MRS	0-30	1.0
3050MR	0-50	1.0	3050MRS	0-50	1.0
3100MR	0-100	2.0	3100MRS	0-100	2.0
3000MR-60PA**	0-60	2.0	3000MRS-60PA**	0-60	2.0
3000MR-125PA*	0-125	5.0	3000MRS-125PA*	0-125	5.0
3000MR-250PA	0-250	5.0	3000MRS-250PA	0-250	5.0
3000MR-500PA	0-500	10.0	3000MRS-500PA	0-500	10.0
3000MR-1KPA	0-1.0	.02	3000MRS-1KPA	0-1.0	.02
3000MR-3KPA	0-3.0	.10	3000MRS-3KPA	0-3.0	.10
3000MR-4KPA	0-4.0	.10	3000MRS-4KPA	0-4.0	.10
3000MR-6MM**	0-6	.20	3000MRS-6MM**	0-6	.20
3000MR-10MM*	0-10	.50	3000MRS-10MM*	0-10	.50
3000MR-25MM	0-25	.50	3000MRS-25MM	0-25	.50
3000MR-50MM	0-50	1.0	3000MRS-50MM	0-50	1.0
3000MR-100MM	0-100	2.0	3000MRS-100MM	0-100	2.0
3000MR-20CM	0-20	.50	3000MRS-20CM	0-20	.50

\*±3% of full-scale. \*\*±4% of full-scale.  
 Note: To order, select either MR or MRS suffix to Series 3000 number.  
 Examples: 3001MR or 3001MRS

ACCESSORIES	
Model	Description
A-298	Flat aluminum bracket for flush mounting 3000MR/MRS
A-370	Mounting bracket flush mount 3000MR/MRS bracket. Bracket is then surface mounted. Steel with gray hammer tone epoxy finish
A-600	R/C snubber recommended for inductive loads like a solenoid or contactor

ACCESSORIES - STANDARD	
Description	
Mounting ring, snap ring, 18" (45 cm) cable assembly, (2) 3/16" tubing to 1/8" NPT adapters, (2) 1/8" NPT pipe plugs, (4) 6-32 x 1-1/4" RH machine screws (panel mounting), (3) 6-32 x 5/16" RH machine screws (surface mounting)	

OPTIONS	
To order add suffix:	Description
-SS	304 brushed stainless steel bezel. *Backward compatible with standard Magnehelic® gage installation diameter
Example: 3001MR-SS	
-TAMP	Tamper-proof knobs; require spanner key (supplied) to change setpoints
-LT	Low temperature option; for use under 20°F (-6.7°C)
-MP	Medium pressure; increases maximum rated pressure to 35 psig (2.41 bar)
-HP	High pressure; increases maximum rated pressure to 80 psig (5.5 bar)
-WP	Weatherproof housing option
-NIST	NIST traceable calibration certificate
Example: 3001MR-NIST	