

Pressure Switch for gas and air

GAO-A4...
GMH-A4...
GML-A4...

DUNGS[®]
Combustion Controls



UL Listed

- UL 353
- File # MH 16628

CSA Certified

- CSA C22.2 No. LR 53222
- Certification file # 201527

FM Approved

- Class 3510, 3530
- File # J.I. 1Y919.AF

Commonwealth of Massachusetts Approved Product

- Approval code G3-0106-191
- Gas pressure switch

Codes and Standards

This product is intended for installations covered by but not limited to NFPA 85, NFPA 86, UL 795, CSD-1, ANSI Z83.4, ANSI Z83.18, ANSI Z21.13, CSA B149.1, CSA B149.3 and CSA B149.6.

DUNGS is an ISO 9001 manufacturing facility.



Description

The GAO-, GMH- and GML-A4... ventless pressure switches are adjustable pressure switches for automatic burner controls.

These pressure switches are suitable for making and/or breaking a circuit when the medium pressure changes relative to the set point. The set point can be set in the field by an adjustable dial with an integrated scale. Test nipple integrated in metal housing to verify set point.

Application

The GAO-, GMH-, and GML-A4... pressure switch is recommended for industrial and commercial heating, ventilation and air-conditioning systems.

The GAO-, GMH-, and GML-A4... pressure switch is suitable for dry natural gas, propane, butane, air and other inert gases. Suitable for up to 0.1 % by volume, dry H₂S.

A “dry” gas has a dew point lower than +15 °F and its relative humidity is less than 60 %.

GAO-A4... SPDT pressure switch requires no auxiliary power. The GAO-A4... is suitable for making and/or breaking a circuit when the set point is exceeded or undershot. A tripped switch is indicated by a neon light after set point is exceeded or undershot. Automatic reset when pressure returns below or above set point.

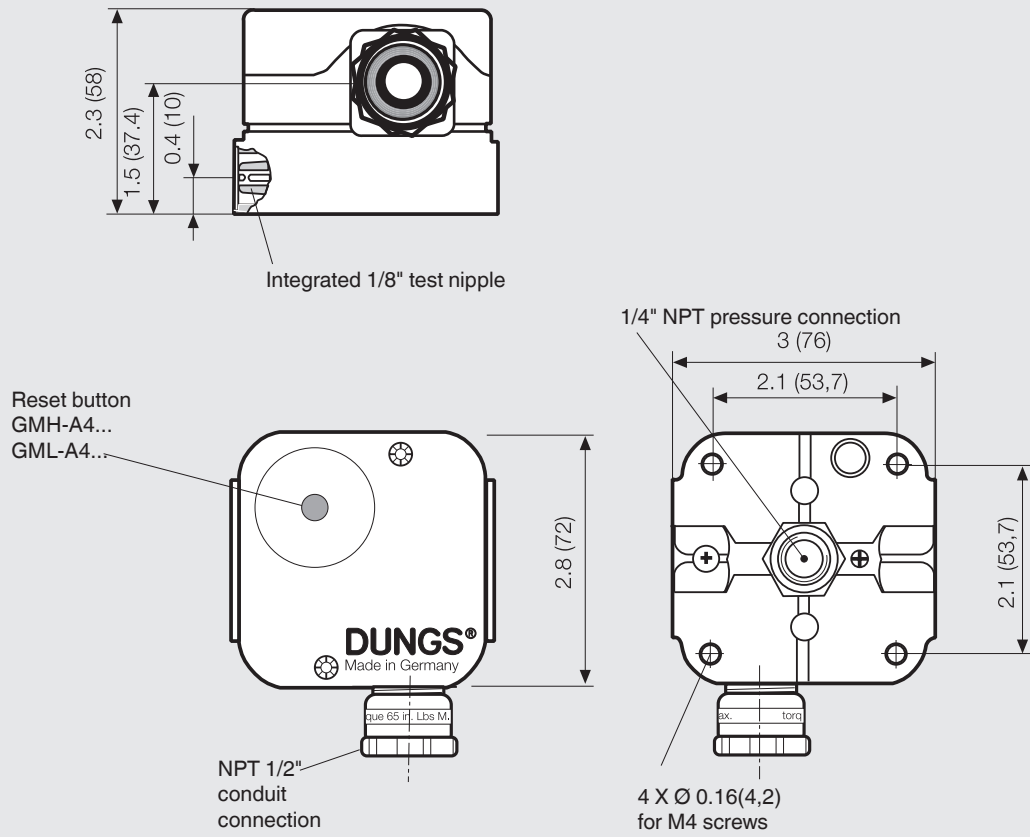
GMH-A4... SPDT pressure switch requires no auxiliary power. The GMH-A4... is suitable for making and/or breaking a circuit when the set point is exceeded. A tripped switch is indicated by a neon light after set point is exceeded. Manual reset is required to reset the switch.

GML-A4... SPDT pressure switch requires no auxiliary power. The GML-A4... is suitable for making and/or breaking a circuit when the set point is undershot. A tripped switch is indicated by a neon light after set point is undershot. Manual reset is required to reset the switch.

Specifications

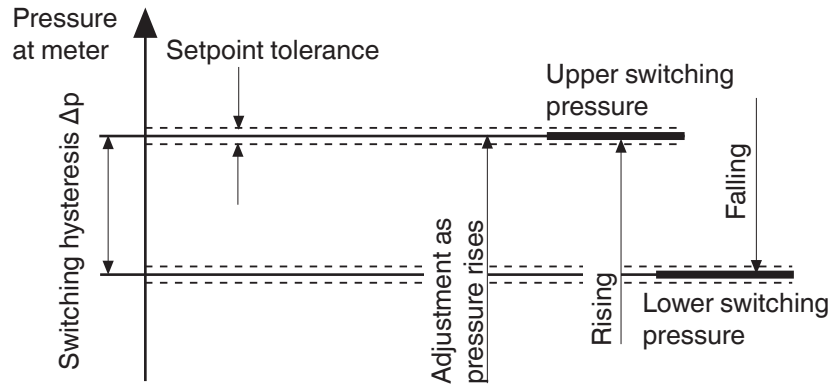
Max. operating pressure	GAO-A4-4-2,3,5,6 GMH- and GML-A4-4-4,6 GAO-, GMH- and GML-A4-4-8	7 PSI (500mbar) 7 PSI (500mbar) 14 PSI (1000 mbar)
Max. body pressure	15 PSI (1033 mbar)	
Pressure connection	Standard: 1/4" NPT female thread centered underside of housing.	
Temperature range:		
GAO-, GMH- and GML-A4-4	Ambient temperature	-40 °F to +140 °F (-40 °C to +60 °C)
	Medium temperature	-40 °F to +140 °F (-40 °C to +60 °C)
GAO-, GMH- and GML-A4-4-8	Ambient temperature	-22 °F to +140 °F (-30 °C to +60 °C)
	Medium temperature	-22 °F to +140 °F (-30 °C to +60 °C)
Materials	Housing Switch Diaphragm Switching contact	Aluminium Polycarbonate NBR-based rubber Silver or Gold
Electrical ratings	AC eff. DC	min. 24 V max. 240 V min. 24 V max. 48 V
Nominal current	Silver (Ag) contact ratings AC 10 A resistive @ 120 VAC AC 8 A inductive @ 120 VAC DC min. 20 mA @ 24 VDC DC max. 1 A @ 24 VDC & 48 VDC	Gold (Au) contact ratings DC max. 5 mA @ 5 VDC DC max. 20 mA @ 24 VDC
Indication light	0.30 W energy consumption	
Electrical connection	Screw terminals via 1/2" NPT conduit connection	
Enclosure rating	NEMA Type 4	
Setting tolerance	±15% switching point deviation referred to set point. Adjusted as pressure rises or as pressure falls, vertical diaphragm position.	
Vent Limiter	Incorporates a vent limiter as per UL 353 and limits the escape of gas less than 1.0 CFH of natural gas at 7 PSI if internal switch diaphragm ruptures	

Dimensions inch (mm)
GAO-, GMH-, GML-A4...

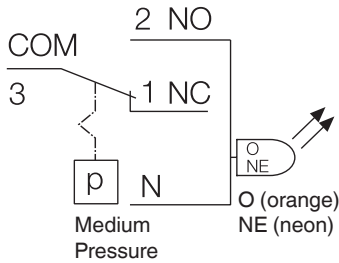


Definition of switching hysteresis Δp

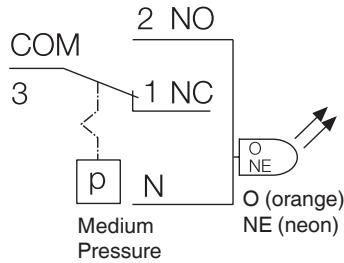
The pressure difference between the upper and lower switching pressures



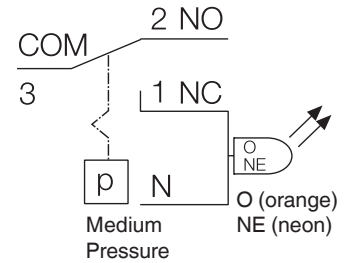
GAO (Shown as a high gas limit)
As pressure rises above set point, 1 NC opens, 2 NO closes, Neon light ON (fault). **As pressure falls** below setpoint, switch resets: 1 NC closes and 2 NO opens, Neon light off.



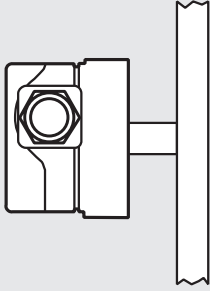
GMH (Operating state shown)
As pressure rises, 2 NO closes, 1 NC opens, and Neon light ON (fault), switch trips and locks out.



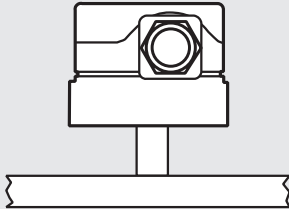
GML (Operating state shown)
As pressure falls, 2 NO opens, 1 NC closes, Neon light ON (fault), switch trips and locks out.



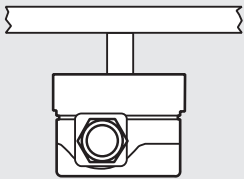
Installation position



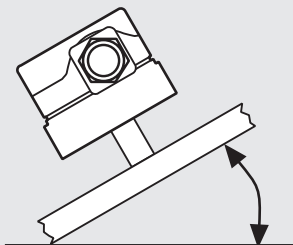
Standard installation position



When installed horizontally, the pressure switch switches at a pressure higher by approximately 0.2 in. W.C. (0.5 mbar).



When installed upside down, the pressure switch switches at a pressure lower by approximately 0.2 in. W.C. (0.5 mbar).



When installed in other position the pressure switch switches at pressure deviating from the set reference value by max. ± 0.2 in. W.C. (0.5 mbar).



NOTE: Always calibrate the switch in the desired mounting position

**Pressure Switch
for gas and air**

**GAO-A4...
GMH-A4...
GML-A4...**



Type	Version	Order No.	Setting range in. W.C.	Switching hysteresis in. W.C.	Factory Calibration
GAO-A4... pressure switch	GAO-A4-4-2	266919	0.16 - 1.20	≤ 0.12	
	GAO-A4-4-3	266920	0.40 - 4.00	≤ 0.20	
	GAO-A4-4-5	266921	2.00 - 20.00	≤ 0.40	
	GAO-A4-4-6	266922	12.00 - 60.00	≤ 1.2	
	GAO-A4-4-8	266923	40.00 - 200.00	≤ 4.0	
	GAO-A4-4-2 Gold	266965	0.16 - 1.20	≤ 0.12	
	GAO-A4-4-3 Gold	266958	0.40 - 4.00	≤ 0.20	
	GAO-A4-4-5 Gold	266959	2.00 - 20.00	≤ 0.40	
	GAO-A4-4-6 Gold	266960	12.00 - 60.00	≤ 1.2	
	GAO-A4-4-8 Gold	266966	40.00 - 200.00	≤ 4.0	
GMH-A4... pressure switch	GMH-A4-4-4	266927	1.00 - 20.00	--	
	GMH-A4-4-6	266928	12.00 - 60.00	--	
	GMH-A4-4-8	266930	40.00 - 200.00	--	
	GMH-A4-4-4 Gold	266961	1.00 - 20.00	--	
	GMH-A4-4-6 Gold	266962	12.00 - 60.00	--	
GML-A4... pressure switch	GML-A4-4-4	266945	1.00 - 20.00	--	
	GML-A4-4-6	266947	12.00 - 60.00	--	
	GML-A4-4-8	266948	40.00 - 200.00	--	
	GML-A4-4-4 Gold	266963	1.00 - 20.00	--	

**All switches with Silver contacts have 120 VAC neon lights factory installed
All switches with Gold contacts have 24 V lights factory installed**

Accessories for pressure switch	Order No.
Replacement cover (screws not included)	228732 (for GAO switches) and 233113 (for GMH and GML switches)
Screw for replacement cover	237675
PG 11 - 1/2" NPT conduit adapter	220566
M 20 - 1/2" NPT conduit adapter	240671
120 VAC neon light (orange)	244156
24 VAC/VDC light (orange)	244157
DIN connector (female plug)	210318
Male plug for DIN connector	219659 (for GAO switches) and 227644 (for GMH and GML switches)

We reserve the right to make any changes in the interest of technical progress.



Karl Dungs, Inc.
3890 Pheasant Ridge Drive NE
Suite 150
Blaine, MN 55449, U.S.A.
Phone 763 582-1700
Fax 763 582-1799
e-mail info@karldungsusa.com
Internet <http://www.dungs.com/usa/>

Karl Dungs GmbH & Co. KG
P.O. Box 12 29
D-73602 Schorndorf, Germany
Phone +49 (0)7181-804-0
Fax +49 (0)7181-804-166
e-mail info@dungs.com
Internet <http://www.dungs.com>