

# Pressure Switch Gas-to-Gas Differential

## GGAO-A4...

**DUNGS**<sup>®</sup>  
Combustion Controls



### CSA Certified

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

### 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, CSD-1, ANSI Z83.4, ANSI Z83.18, ANSI Z21.13, CSA B149.1, CSA B149.3 and CSA B149.6.

### UL 508

**DUNGS is an ISO 9001  
manufacturing facility.**



### Description

The GGAO-A4... ventless differential pressure switch is an adjustable, gas-to-gas differential pressure switch for automatic burner controls.

These pressure switches are suitable for making and/or breaking a circuit when the differential 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 is integrated in metal housing to verify set point.

### Application

The GGAO-A4... differential pressure switch is recommended for industrial and commercial heating, ventilation and air-conditioning systems.

The GGAO-A4... differential pressure switch is suitable for dry natural gas, propane, butane, air and other inert gases. Suitable for up to 0.1 % by volume, dry H<sub>2</sub>S.

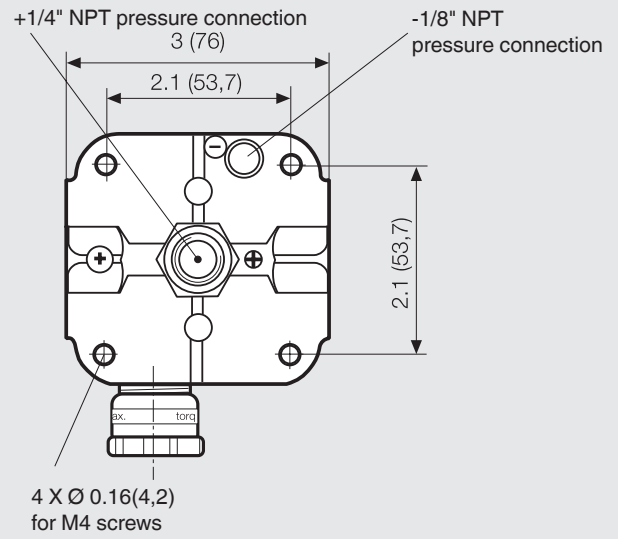
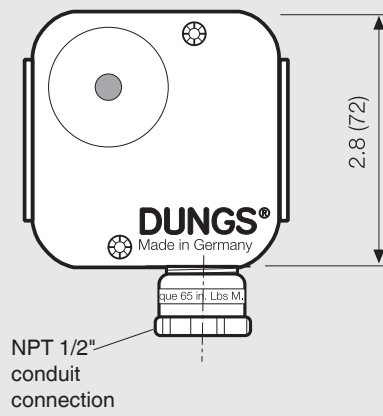
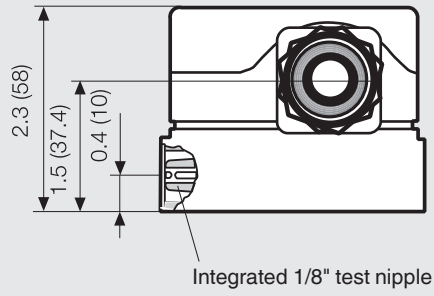
A "dry" gas has a dew point lower than +15 °F and its relative humidity is less than 60 %.

**GGAO-A4...** SPDT gas-to-gas differential gas pressure switch requires no auxiliary power. The GGAO-A4... is suitable for making and/or breaking a circuit when the set point is exceeded or undershot. Automatic reset when pressure returns below or above set point.

### Specifications

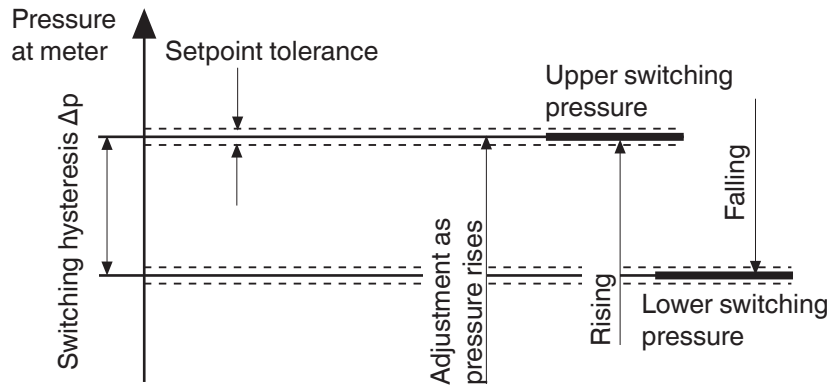
Max. operating pressure	GGAO-A4-2,-3,-5,-6	7 PSI (500mbar)
Max. body pressure	15 PSI (1033 mbar)	
Pressure connection	– 1/8" NPT threaded connection may be used as a vent connection. + 1/4" NPT female thread centered underside of housing.	
Temperature range GGAO	Ambient temperature	-40 °F to +153 °F (-40 °C to +67 °C)
	Medium temperature	-40 °F to +153 °F (-40 °C to +67 °C)
Materials	Housing	Aluminium
	Switch	Polycarbonate
	Diaphragm	NBR-based rubber
	Switching contact	Gold
Electrical ratings	AC eff.	min. 24 V max. 240 V
	DC	min. 24 V max. 48 V
Nominal current	Standard with Gold (Au) contact ratings • DC min. 5 mA @ 5 VDC • DC max. 20 mA @ 24 VDC Contact ratings if more than 20 mA @ 24 VDC applied to contacts AC 10 A resistive @ 120 VAC AC 8 A inductive @ 120 VAC DC min. 20 mA @ 12 - 48 VDC DC max. 1 A @ 12 - 48 VDC	
Indication light	0.30 W energy consumption (optional, not standard)	
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 ANSI Z21.18 / CSA 6.3 and limits the escape of gas to less than 2.5 CFH of natural gas at 7 PSI if internal switch diaphragm ruptures.	

**Dimensions inch (mm)**  
**GGAO**

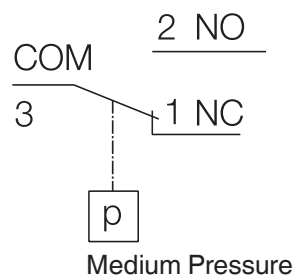


**Definition of switching hysteresis  $\Delta p$**

The pressure difference between the upper and lower switching pressures



**Switching function**



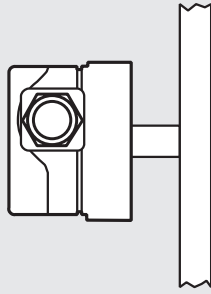
**As pressure rises above set point:**

1 NC opens, 2 NO closes

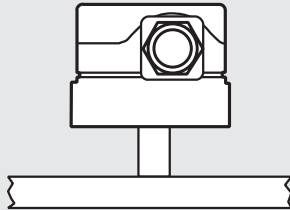
**As pressure falls below set point:**

2 NO opens, 1 NC closes

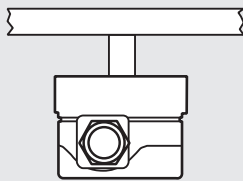
## Installation position



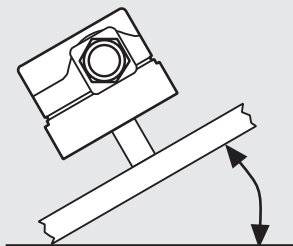
**Standard installation position**



**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 positions, the pressure switch switches at pressure deviating from the set reference value by max.  $\pm 0.2$  in. W.C. (0.5 mbar).**



**NOTE: Always calibrate the switch in the desired mounting position**

**Pressure Switch  
Gas-to-Gas Differential**

**GGAO-A4...**



Type	Version	Order No.	Setting range in. W.C.	Switching hysteresis in. W.C.	Factory Calibration
<b>GGAO-A4... pressure switch</b>	GGAO-A4-4-2	271329	0.16 - 1.20	≤ 0.12	
	GGAO-A4-4-3	271330	0.40 - 4.00	≤ 0.20	
	GGAO-A4-4-5	271331	2.00 - 20.00	≤ 0.40	
	GGAO-A4-4-6	271332	12.00 - 60.00	≤ 1.2	

**Accessories for pressure switch      Order No.**

Replacement cover (screws not included)	228732 (for GGAO 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 (yellow)	244156
24 VAC/VDC light (yellow)	244157
DIN connector (female plug)	210318
DIN connector (male plug)	219659 (for GGAO switches)

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

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