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**Approvals**

-  **UL Listed: UL 353**  
File # MH 16628
-  **CSA Certificate: CSA C22.2 No. 14**  
File # 201527
-  **FM Approved: Class 3510, 3530**  
File # J.I.0D6A1.AF

Commonwealth of Massachusetts Approved Product Approval code G3-0106-191

**Attention**



The installation and maintenance of this product must be done under the supervision of an experienced and trained specialist. Never perform work if gas pressure or power is applied, or in the presence of an open flame.



Check the ratings in the specifications to verify that they are suitable for your application.



Please read the instruction before installing or operating. Keep the instruction in a safe place. You find the instruction also at [www.dungs.com](http://www.dungs.com). If these instructions are not heeded, the result may be personal injury or damage to property.



On completion of work on the pressure switch, perform a leakage and function test.



Any adjustment and application-specific adjustment values must be made in accordance with the equipment manufacturers instructions.



This product is intended for installations covered by, but not limited to, the following codes and standards: NFPA 54, IFGC (International Fuel Gas Code) or CSA B149.1 (for Canada) or the following equipment codes and standards: NFPA 86, ANSI Z83.4/CSA 3.7, ANSI Z83.18/CSA 4.9, ANSI Z21.13, CSD-1, UL 195, CSA B149.1 or CSA B149.3

**Explanation of symbols**

- 1, 2, 3 ... = Action
- = Instruction

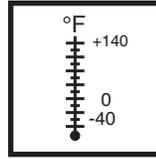
## Specification

AA...A2

SPDT differential pressure switch in pressure and vacuum ranges. The differential pressure acts via the diaphragm against the force of the setting spring on the microswitch. The pressure switch operates without any auxiliary power.



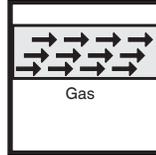
**Max. Operating Pressure**  
MOP = 7 PSI (500 mbar)



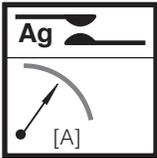
**Ambient / Medium Temperature**  
-40 °F ... +140 °F  
(-40 °C ... +60 °C)



**Electrical Connection**  
Screw terminals via 1/2" NPT conduit connection

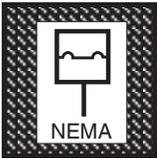


**Gases**  
Air and non-aggressive gases only.  
**Not** suitable for natural gas, propane, butane or other combustible gases.



**Contact Rating**  
5 A resistive,  
3 A inductive @ 120 VAC  
1 A max. @ 12 - 48 VDC

**Materials in contact with Gas**  
Housing: Polycarbonate  
Switch: Polycarbonate  
Diaphragm: NBR-based rubber  
Switching contact: Silver (Ag)



**Enclosure**  
NEMA Type 4



**Switch**  
SPDT  
**Switch action**  
Pressure, vacuum or differential pressure switch

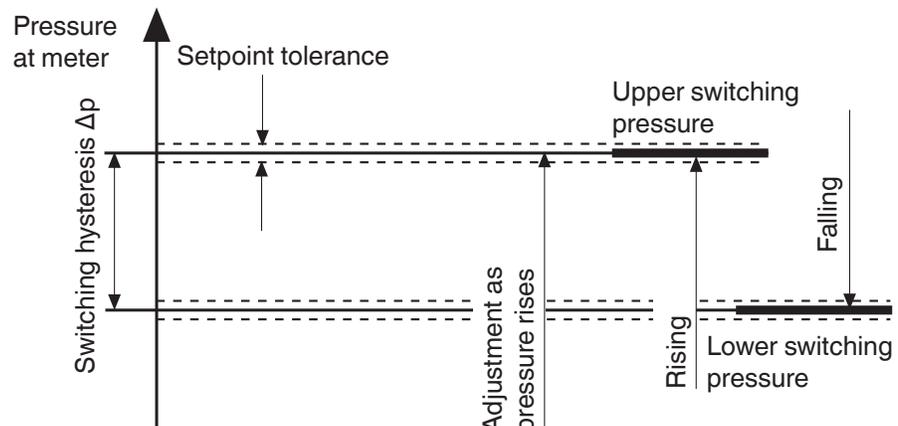
## Model Description & Part Number

Type	Version	Description	Order No.	Setting range in. W.C.	Switching hysteresis in. W.C.	Factory Calibration
<b>AA-A2-4-... pressure switch</b>	AA-A2-4-2	Hose connection	217-060A	0.16 - 1.20	≤ 0.12	↑ □
	AA-A2-4-3	Hose connection	217-061A	0.40 - 4.00	≤ 0.20	
	AA-A2-4-5	Hose connection	217-062A	2.00 - 20.00	≤ 0.40	
	AA-A2-4-6	Hose connection	217-063A	12.00 - 60.00	≤ 1.2	
<b>AA-A2-6-... pressure switch</b>	AA-A2-6-2	Threaded connection	217-329A	0.16 - 1.20	≤ 0.12	↑ □
	AA-A2-6-3	Threaded connection	217-330A	0.40 - 4.00	≤ 0.20	
	AA-A2-6-5	Threaded connection	217-331A	2.00 - 20.00	≤ 0.40	
	AA-A2-6-6	Threaded connection	217-332A	12.00 - 60.00	≤ 1.2	

## Operation

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

The pressure difference between the upper and lower switching pressures.



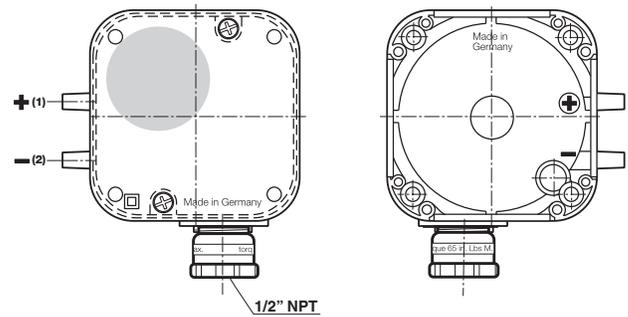
## Pressure Connection & Mounting AA...A2-4

### AA...A2-4 Hose Connection

- (1) Pressure connection (+)  $\varnothing$  0.18"
- (2) Pressure connection (-)  $\varnothing$  0.18"

### AA...A2-4 Mounting Procedure

- Use suitable hoses for the medium.
- Use a maximum 5/32" ID. hose
- Secure the hoses with a cable tie or a cable clip.



## Pressure Connection & Mounting AA...A2-6

### AA...A2-6 Threaded Connection

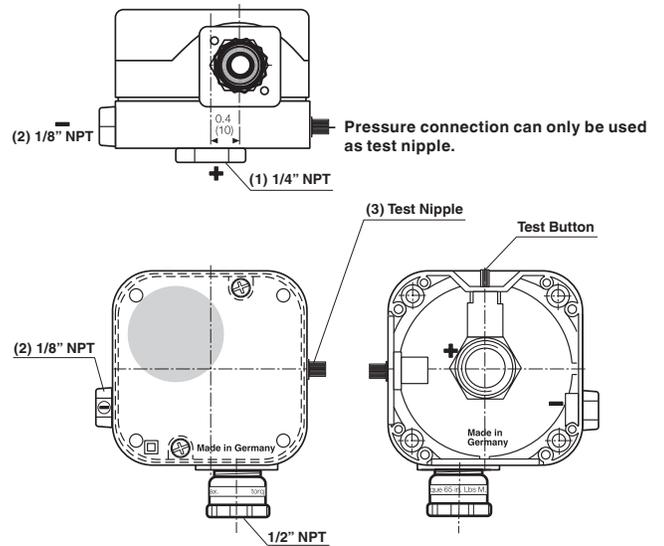
- Pressure connection (+) 1/4" NPT
- Pressure connection (-) 1/4" NPT
- Test nipple p (+)  $\varnothing$  0.18"

### AA...A2-6 Mounting Procedure

- Apply good quality pipe sealant to the male threads only.
- Use 13/16" Wrench to secure the switch to the pipe.
- DO NOT Exceed 45 lb-in of Torque on 1/8" Connections**
- DO NOT Exceed 60 lb-in of Torque on 1/4" Connections**
- After installation is complete, perform a leak test.

### Test button (for AA-A2-6 series only)

When the test button is pressed the 1/4" NPT pressure connection is interrupted and the pressure below the diaphragm is relieved. The pressure switch changes the contact position from NO to NC. When the test button is released, the pressure is built up again and the switch changes to its original position.

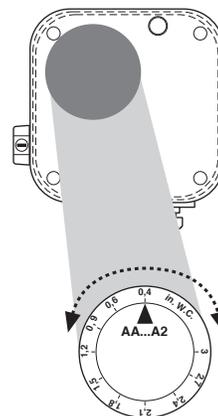


## Installation Position

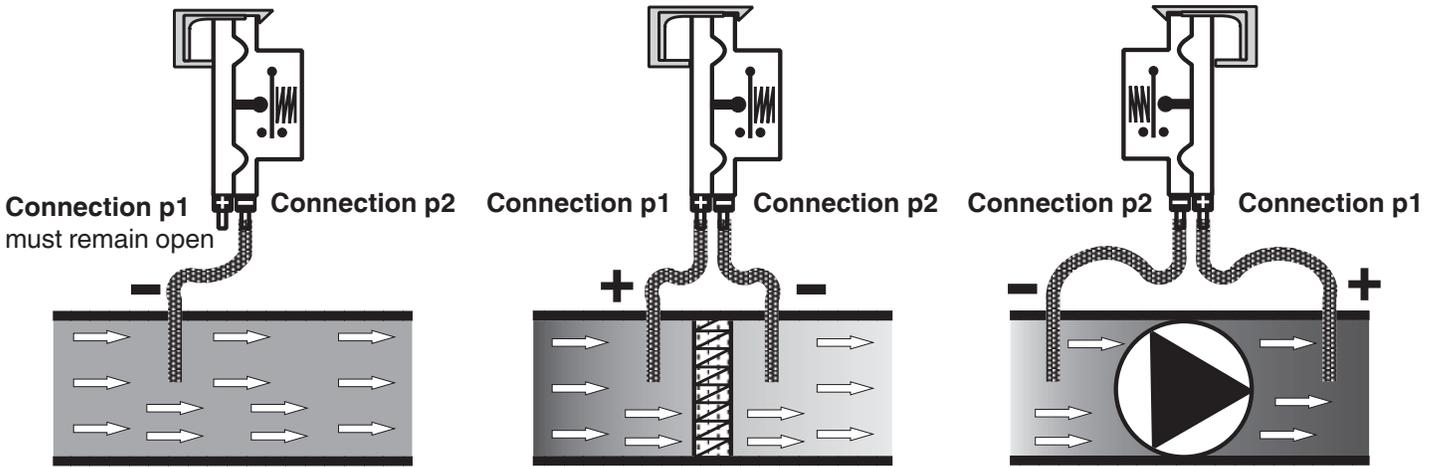
	Standard installation position is <b>vertical</b> upright diaphragm.
	When installed <b>horizontally</b> , the pressure switch switches at a pressure higher by approx. 0.2 in. W.C.
	When installed <b>upside down</b> , the pressure switch switches at a pressure lower by approx. 0.2 in. W.C.
	When installed in <b>other positions</b> , the pressure switch switches at pressure deviating from the set reference value by max. $\pm$ 0.2 in. W.C.

### Adjustment

The scale indicates the setpoint when switch is mounted in the vertical position and increasing pressure.



## Application & Connection Examples



### System vacuum monitor

AA...A2 is connected to the air duct with the p2 (-) connection. p1 (+) is not connected with the air duct. Do not seal the p1 (+) connection; it must be open to the atmosphere.

### Filter monitoring

To monitor a filter, the AA...A2 can be connected as shown above.

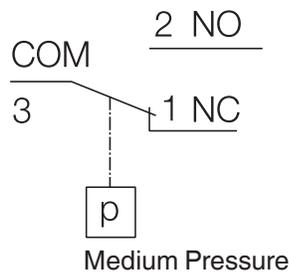
### Blower monitoring

For blower monitoring, connect connection p1 (+) to the air duct on the downstream side of the blower and connection p2 (-) to the air duct upstream of the blower.

 **Prevent dirt from entering into the device through connection p1(+)**

## Wiring

1. Remove the clear cover from the switch.
2. Use 14 or 16 AWG wire rated for at least 75 °C.
3. Route the wires through the conduit connector.
4. Connect the wiring to the appropriate screw terminals.
5. Replace the clear cover from the switch.



### AA...A2 switching function

**As pressure rises above setpoint:**

1 NC opens, 2 NO closes

**As pressure falls below setpoint:**

1 NC closes, 2 NO opens

 **All wiring must comply with local electrical codes, ordinances and regulations.**

 **Do not exceed the switch ratings given in the specifications and on the switch.**

## Operation & Adjustment

### Adjusting the Set Point

1. Remove the clear cover ❶ from the switch.
2. Adjust the switch to the desired set point by turning the dial. The white arrow on the dial indicates the set point ❷.
3. After adjusting the set point, verify that the pressure switch operates as intended by using an accurate pressure gauge connected upstream of the switch.
4. Replace the clear cover.

### Automatic Reset and Operation

The NC contact of the AA...A2 breaks when pressure rises above the set point. It makes automatically when pressure falls below set point.



## Maintenance & Testing

### Annually check the switch for proper operation

#### Set Point Calibration

- Connect a meter capable of reading +/- 0.1 ohms to the NC and COM contacts.
- Measure the resistance across the NC and COM contacts. If the resistance is more than 1.0 ohm, the switch should be replaced, since this indicates that the switch contacts are starting to either corrode or carbonizing.
- Apply pressure to the + air pressure connection, and confirm that the NC contact breaks when pressure rises above the set point and that the NO contact makes. The NC contact will make automatically when pressure falls below the set point pressure.
- Connect a meter capable of reading +/- 0.1 ohms to the NO and COM contacts.
- Measure the resistance across the NO and COM contacts. If the resistance is more than 1.0 ohm, the switch should be replaced, since this indicates that the switch contacts are starting to either corrode or carbonizing.

## Accessories & Replacement

Accessory for pressure switch	Order No.
Klima-Set (Duct mounting kit)	214-828
Replacement cover	228-732
Mounting plate (flat plastic)	230-301 (recommended mounting bracket)
Mounting bracket (plastic) (1 pcs)	230-273 (optional mounting bracket)
120 VAC light mounting set (orange)	231-772
120 VAC light only	244-156 (for switches with kit 231-772 already installed)
24 VDC/VAC light mounting set (orange)	231-774
120 VAC light mounting set (green)	248-240
PG 11 - 1/2" NPT conduit adapter (10 pcs)	231-214
PG 11 - 1/2" NPT conduit adapter (1 pcs)	220-566
DIN connector	210-318

We reserve the right to make modifications in the course of technical development.

