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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. 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 fuel gas codes and standards: NFPA 54, IFGC (International Fuel Gas Code) or CSA B149.1 (for Canada) or the following equipment codes and standards: NFPA 37, NFPA 85, NFPA 86, ANSI Z83.4/ CSA 3.7, ANSI Z83.18/CSA 4.9, ANSI Z21.13, CSD-1, UL 795, CSA B149.1 or CSA B149.3

Explanation of symbols

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

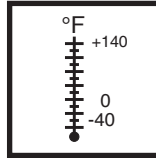
Specification

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.



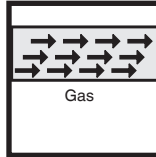
Max. Operating Pressure
MOP = 7 PSI (500 mbar)



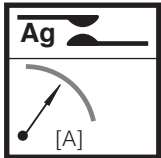
Ambient / Medium Temperature
-40 °F ... +140 °F
(-40 °C ... +60 °C)



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

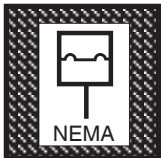


Gases
Air and non-aggressive gases only.
Not suitable for natural gas, propane, butane or other combustible gases.



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 of differential pressure switch

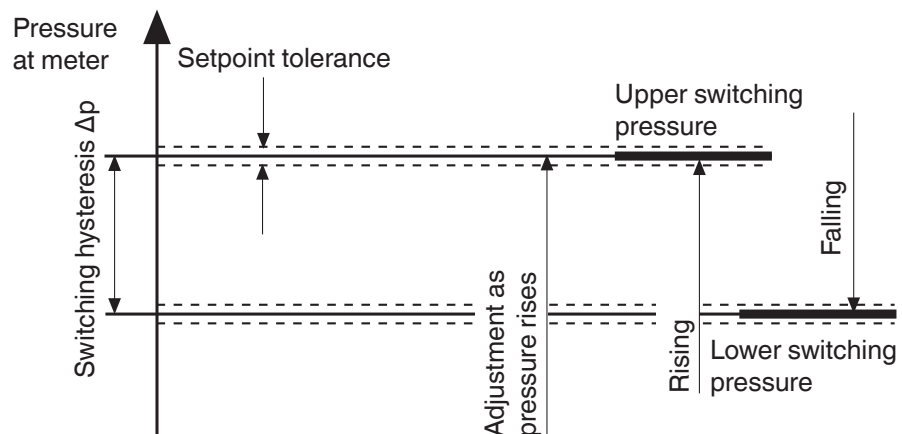
Model Description & Part Number

Type	Version	Description	Order No.	Setting range in. W.C.	Switching hysteresis in. W.C.	Factory Calibration
AA-A2-4-... pressure switch	AA-A2-4-2	Hose connection	266910	0.16 - 1.20	≤ 0.12	
	AA-A2-4-3	Hose connection	266911	0.40 - 4.00	≤ 0.20	
	AA-A2-4-5	Hose connection	266912	2.00 - 20.00	≤ 0.40	
	AA-A2-4-6	Hose connection	266913	12.00 - 60.00	≤ 1.2	
AA-A2-6-... pressure switch	AA-A2-6-2	Threaded connection	266932	0.16 - 1.20	≤ 0.12	
	AA-A2-6-3	Threaded connection	266934	0.40 - 4.00	≤ 0.20	
	AA-A2-6-5	Threaded connection	266936	2.00 - 20.00	≤ 0.40	
	AA-A2-6-6	Threaded connection	266938	12.00 - 60.00	≤ 1.2	

Operation

Definition of switching hysteresis Δp

The pressure difference between the upper and lower switching pressures.



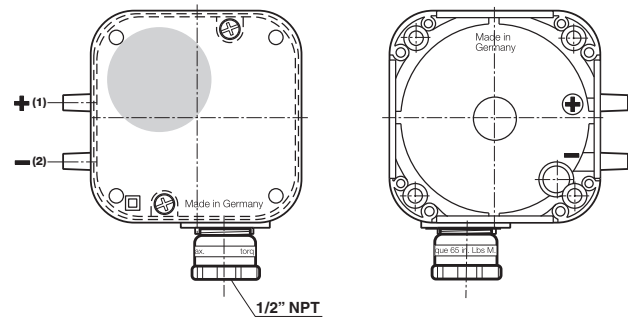
Pressure Connection & Mounting AA...A2-4

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

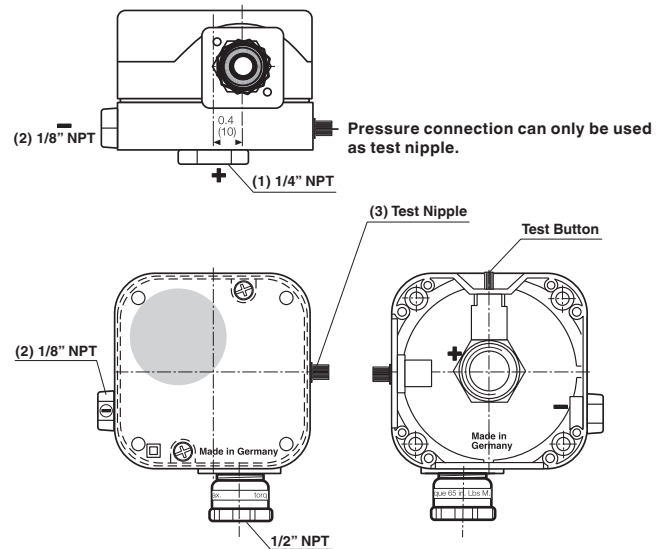
- Pressure connection (+) 1/4" NPT
- Pressure connection (-) 1/8" NPT
- Test nipple p (+) \varnothing 0.18"

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.

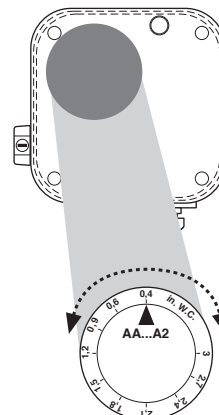


Installation Position

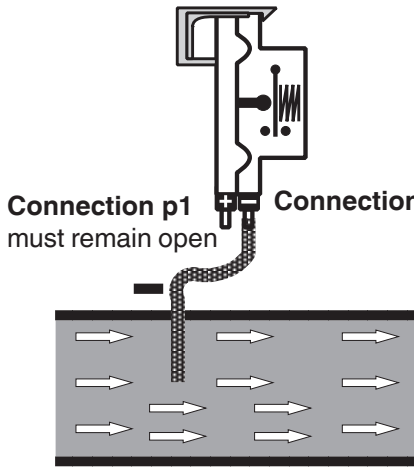
	Standard installation position is vertical upright diaphragm.
	When installed horizontally , the pressure switch switches at a pressure higher by approx. 0.2 in. W.C.
	When installed upside down , the pressure switch switches at a pressure lower by approx. 0.2 in. W.C.
	When installed in other positions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

Adjustment

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



Application & Connection Examples



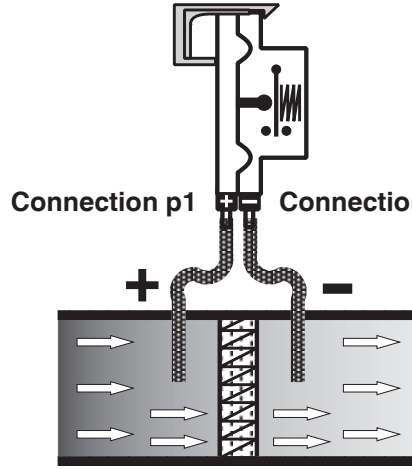
Connection p1 must remain open

System vacuum monitor

AA...A2 is connected to the air duct with the p2 (-) connection. p1 (+) is not connected with the air duct.

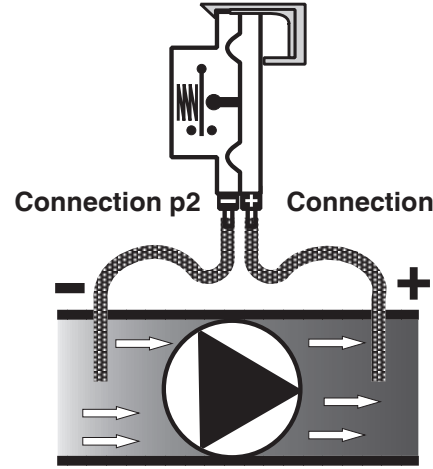
Do not seal the p1 (+) connection; it must be open to the atmosphere.

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



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.

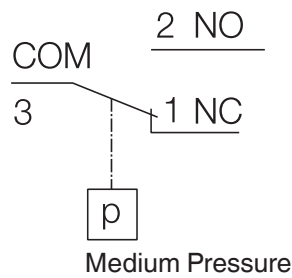
Note: For NFPA 86, a manual reset may be required if this switch trips during operation.

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.

⚠ 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.



AA...A2 switching function

As pressure rises above setpoint:

1 NC opens, 2 NO closes

As pressure falls below setpoint:

2 NO opens, 1 NC closes

Operation & Adjustment

Adjusting the Set Point

1. Remove the clear cover ① 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 ②.
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 appressure 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 or 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 switch contacts are starting to either corrode or carbonizing.

Accessories & Replacement

Accessory for pressure switch	Order No.
Klima-Set (Duct mounting kit)	258247
Mounting plate (flat plastic)	230301 (recommended mounting bracket)
Mounting bracket (plastic)	230273 (optional mounting bracket)
Mounting bracket (metal)	230288 (optional mounting bracket)
Replacement cover (Includes screws and o-rings)	228732
120 VAC light mounting kit (orange)	231772
120 VAC light only (orange)	244156 (for switches with kit 231772 already installed)
24 VDC/VAC light mounting set (orange)	231774
24 VAC light mounting set (green)	248240
Replacement conduit adapter PG 11 to 1/2" NPT	220566
Replacement conduit adapter M20 to 1/2" NPT	240671
DIN connector (female plug)	210318
Male plug for DIN connector 3 PIN without ⊕	219659

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