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Approvals



UL Recognized: UL 353
 File # MH16628



CSA Certified: CSA C22.2 No. 14
 File # 201527



FM Approved: Class 3510, 3530
 File # J.I. 1T7A8.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 codes and standards: 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

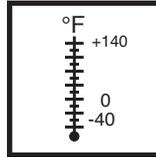
Specifications

AA...A1

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 micro-switch. The pressure switch operates without any auxiliary power.



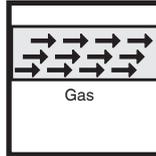
Max. Operating Pressure
MOP = 1.5 PSI (103 mbar)



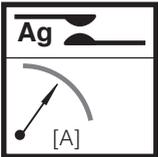
Ambient / Medium Temperature
-40 °F ... +140 °F
(-40 °C ... +60 °C)



Electrical Connection
1/4 x 1/32" (6.3 x 0.8 mm)
flat male terminals

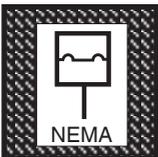


Gases
Air and non-aggressive gases.
Not suitable for natural gas, propane, butane and other combustible gases.



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

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



Enclosure
NEMA Type 1 / NEMA Type 12 with appropriate cover

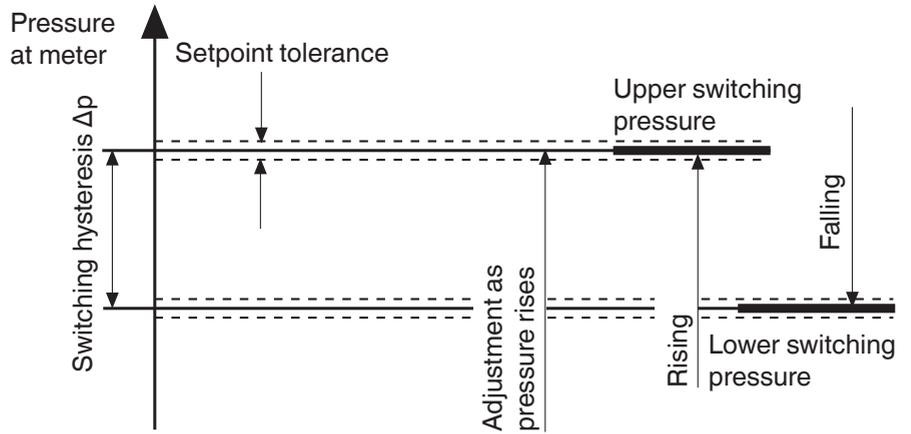
Models Designations & Ranges

Type	Version	Description	Order No.	Factory setting range in. W.C.	Switching hysteresis in. W.C.
AA-A1-0-...	AA-A1-0-2	No cover	266906	0.16 - 1.20	≤ 0.14
	AA-A1-0-3	No cover	266904	0.40 - 4.00	≤ 0.20
	AA-A1-0-4	No cover	266908	1.00 - 20.00	≤ 0.40
AA-A1-3-...	AA-A1-3-2	Includes NEMA Type 12 cover and 1/2 NPT conduit connection	266907	0.16 - 1.20	≤ 0.14
	AA-A1-3-3	Includes NEMA Type 12 cover and 1/2 NPT conduit connection	266905	0.40 - 4.00	≤ 0.20
	AA-A1-3-4	Includes NEMA Type 12 cover and 1/2 NPT conduit connection	266909	1.00 - 20.00	≤ 0.40

Operation

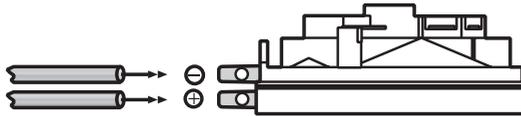
Definition of switching hysteresis Δp

The pressure difference between the upper and lower switching pressures.



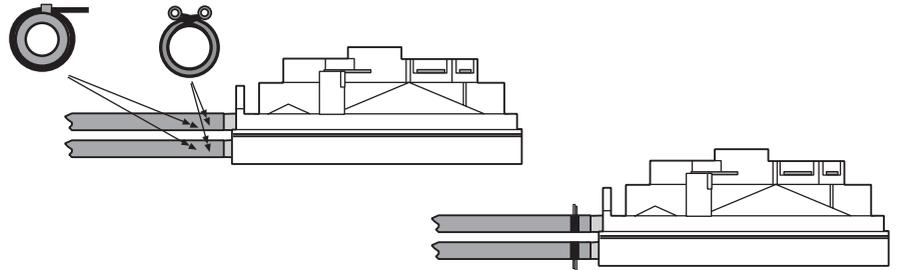
Pressure Connection

Connection p2 (-) = lower pressure
Connection p1 (+) = higher pressure

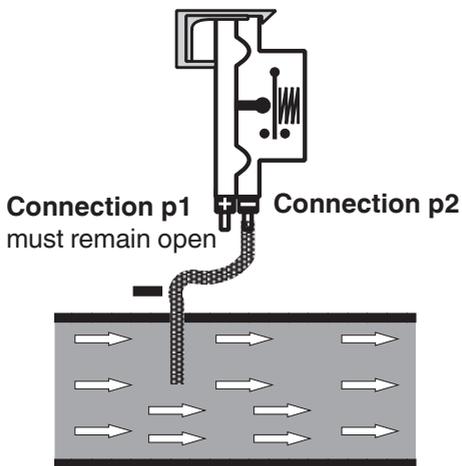


AA...A1 Mounting Procedure

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

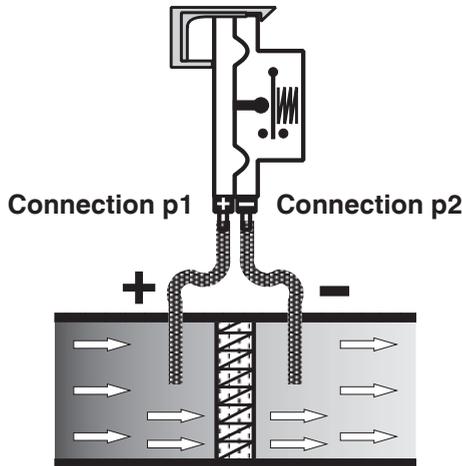


Application & Connection Examples



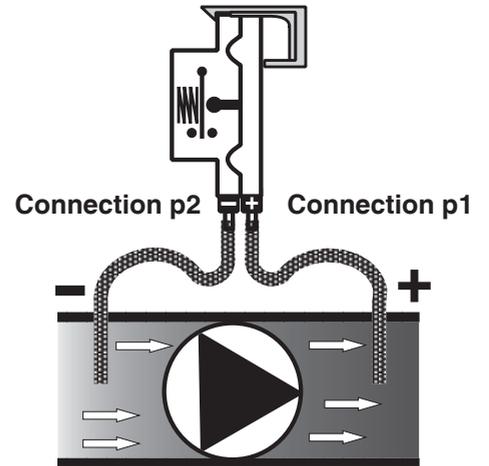
System vacuum monitor

AA...A1 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...A1 can be connected as shown above.



Blower monitoring

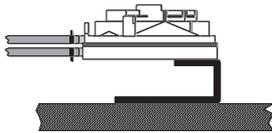
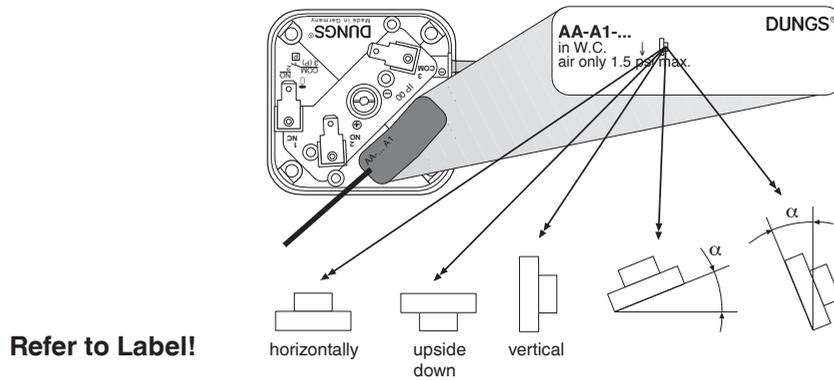
For blower monitoring, connect connection p1 (+) to the air duct on the downstream side of the blower and connection p2 (-) to the air duct upstream of the blower.

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

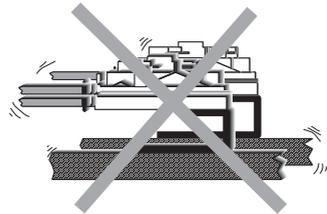
Installation Position

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. ± 0.2 in. W.C.



Ensure that the pressure switch is installed free of vibration!



Wiring

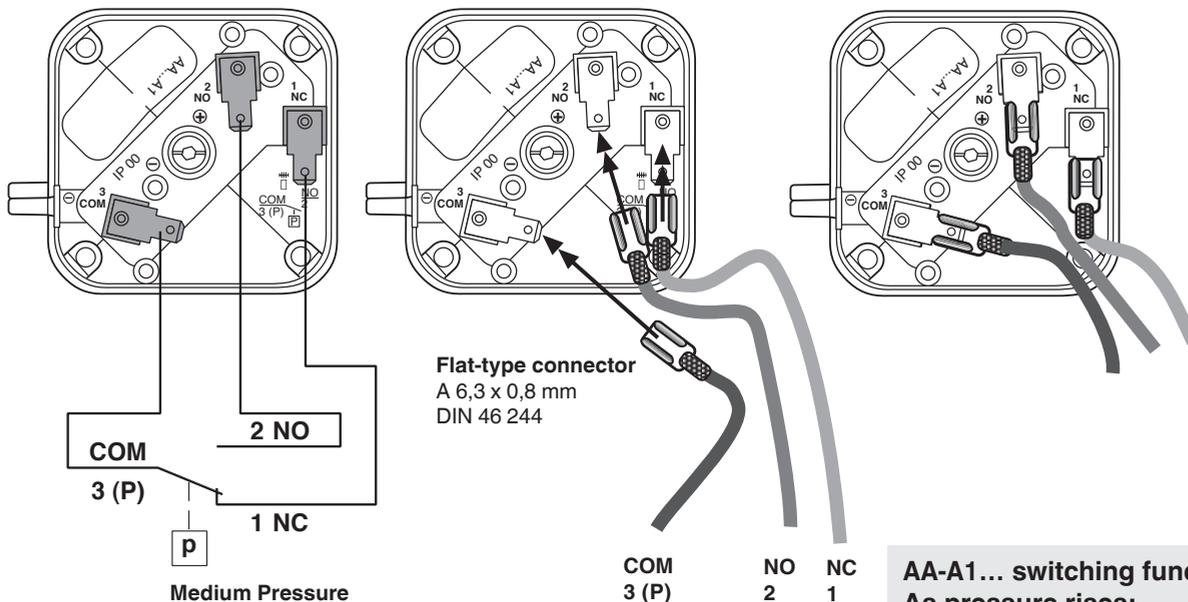
- If applicable, remove the clear cover from the switch.
- Use 14 or 16 AWG wire rated for at least 75 °C.
- Connect the wiring to the appropriate 1/4 x 1/32" (6.3 x 0.8 mm) flat male terminals.



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-A1... switching function
As pressure rises:
 1 NC opens, 2 NO closes
As pressure falls:
 1 NC closes, 2 NO opens

Operation & Adjustment

Adjusting the Set Point

- Do NOT attempt to adjust the factory setting of the switch. Breaking the seal affects the switches ability to act as a differential switch.

Automatic Reset

- The NC contact of the AA...A1 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

1. Connect a meter capable of reading +/- 0.1 ohms to the NC and COM contacts.
2. 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.

3. 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.

4. Connect a meter capable of reading +/- 0.1 ohms to the NO and COM contacts.

5. 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.
Mounting plate (flat plastic)	230301
NEMA Type 1 Cover (1pcs)	230216
NEMA Type 1 Cover (77 pcs)	231432
NEMA Type 2 Cover (1pcs)	230280
NEMA Type 2 Cover (200 pcs)	250107
NEMA Type 12 cover with 1/2 NPT conduit connection	225816

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