

Differential pressure switch for air, flue and exhaust gases

AA-C2...

DUNGS[®]
Combustion Controls



Approvals

UL Listed

- UL 353
- File # MH 16628

CSA Certified

- CSA C22.2 No. 14
- File # 201527

FM Approved

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

Commonwealth of Massachusetts Approved Product

- Approval code G3-0106-191
- Air pressure switch for differential, vacuum or pressure

Codes and Standards

This product is recommended for installations covered by but not limited to 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.

DUNGS is an ISO 9001 manufacturing facility.



Description

AA-C2... differential pressure switches are field adjustable, compact pressure switches for automatic burner controls.

AA-C2... differential 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.

Application

Differential pressure monitoring in firing, ventilation and air-conditioning systems. The AA-C2... can be used as a pressure, vacuum or differential pressure switch for air and non-aggressive gases. Not suitable for natural gas, propane, butane and other combustible gases.

AA-C2... 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

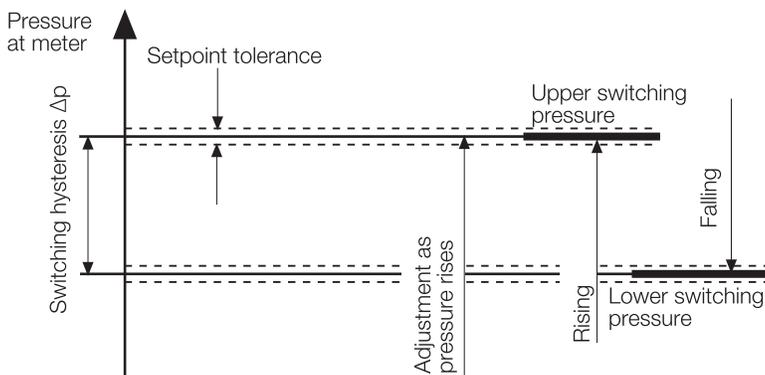
Specifications

Max. operating pressure	20 In W.C. (50 mbar)		
Pressure connection	0.16" (4 mm) diameter hose connection 0.24" (6 mm) diameter hose connection		
Temperature range	Ambient temperature	+5 °F to +140 °F (-15 °C to +60 °C)	
	Medium temperature	+5 °F to +140 °F (-15 °C to +60 °C)	
Materials	Housing:	Polycarbonate	
	Switch:	Polycarbonate	
	Diaphragm:	NBR-based rubber	
	Switching contact:	Silver (Ag)	
Electrical ratings	AC eff. min.	24 V	max. 250 V
	DC min.	24 V	max. 48 V
Current ratings	AC 5 A resistive @ 120 VAC AC 2.5 A inductive @ 120 VAC DC min. 20 mA @ 24VDC DC max. 1 A @ 48 VDC		
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, vertical diaphragm position		

 Installation position: Standard installation position is vertical upright diaphragm. When installed horizontally, the pressure switch switches at a pressure higher by approx. 0.08 in. W.C. When installed upside down, the pressure switch switches at a pressure lower by approx. 0.08 in. W.C. When installed in other positions, the pressure switch switches at pressure deviating from the set reference value by max. ± 0.08 in. W.C.

Definition of switching hysteresis Δp

The pressure difference between the upper and lower switching pressures.



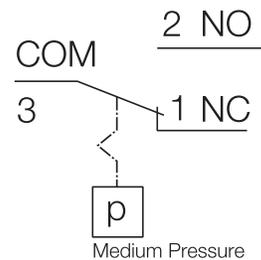
AA-C2... switching function

As pressure rises:

1 NC opens, 2 NO closes

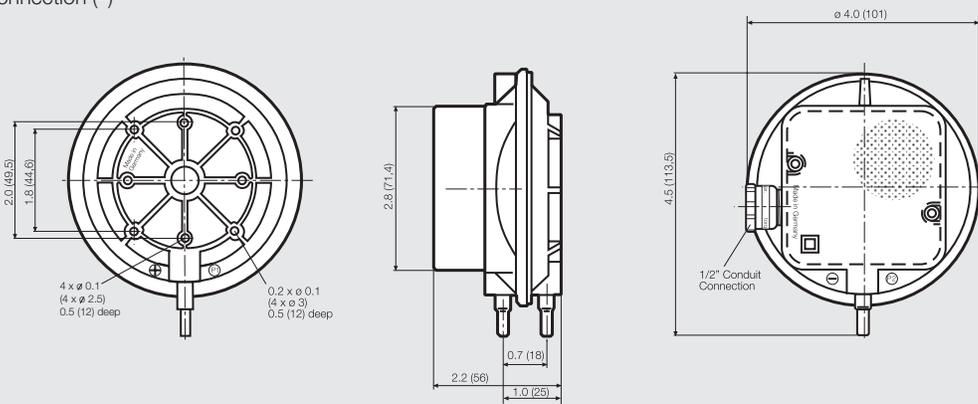
As pressure falls:

1 NC closes, 2 NO opens



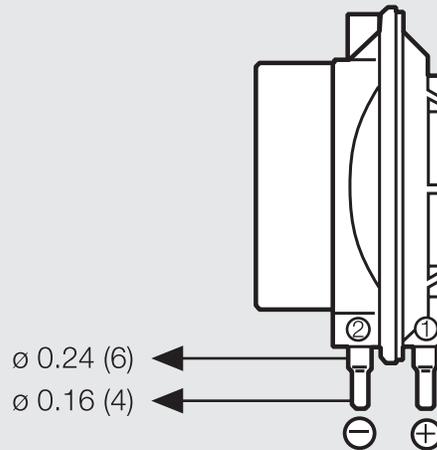
Dimensions inch (mm)

- 1 Pressure connection (+)
- 2 Pressure connection (-)

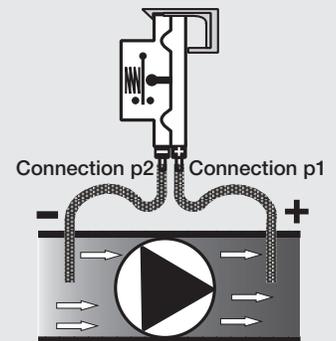
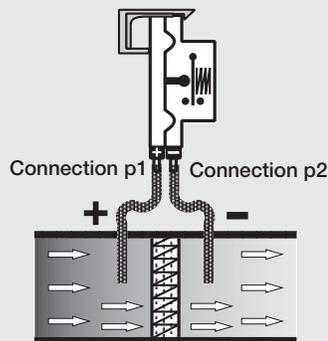
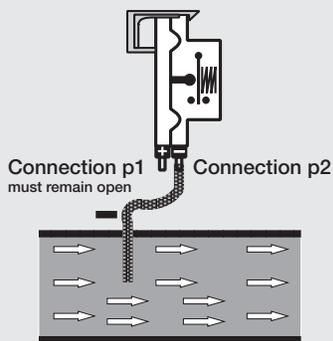


Pressure connection

Pressure connection
0.16" dia. (4 mm) and
0.24" dia. (6 mm)



Application and connection examples



System vacuum monitor

AA-C2... 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.

Caution: Prevent dirt from entering into the device through connection p1(+).

Filter monitoring

To monitor a filter, the AA-C2... 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.

Always connect higher pressure to connection p1 (+).

Always connect higher vacuum to connection p2 (-).

Example of vacuum connections

lower vacuum:
e.g. -1 in W.C.: connection p1 (+)
higher vacuum:
e.g. -3 in W.C.: connection p2 (-)

Example of blower connections

higher pressure:
e.g. 3.5 in W.C.: connection p1 (+)
lower pressure:
e.g. 3 in W.C.: connection p2 (-)

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AA-C2...



Type	Version	Order No.	Setting range in. W.C	Switching difference in. W.C.	Factory Calibration
AA-C2-4-...	AA-C2-4-1	217-333A	0.08 - 0.60	≤ 0.08	
	AA-C2-4-2	217-334A	0.16 - 1.20	≤ 0.12	
	AA-C2-4-3	217-336A	0.40 - 4.00	≤ 0.16	

Accessories for pressure switch Order No.

Klima-Set (Duct mounting kit)	217-897
Replacement cover	228-732
Mounting bracket (plastic)	230-273
120 VAC light mounting kit (orange)	231-772
24 Vdc light mounting kit (orange)	231-774
120 VAC light (green)	248-240 (for switches with light mouting kit 231-772 already installed)
Replacement PG 11 conduit adapter	220-566
DIN connector (female plug)	210-318
Male plug for DIN connector	219-659

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

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