



PRESSURE

DIFFERENTIAL PRESSURE SWITCH

RH-3, RH-3-2



DESCRIPTION

The **Columbus Electric Model RH-3 and RH-3-2 differential pressure switches** monitor low-air pressure, vacuum, or differentials of air pressure. These switches are commonly used to prove fan operation, to sense dirty filters, and to monitor pressure drop across coils.

Models RH-3 and RH-3-2 are shipped with 1/4" compression fittings, suitable for use with 1/4" OD copper or plastic tubing, and a 12" (30.5 cm) length of 1/4" plastic tubing.

OPERATION

When pressure is applied to the high side of the airflow switch or vacuum is applied to the low side, an internal diaphragm moves against and operates the lever of the snap-switch. When the airflow switch is at rest (not operating), the snap-switch N.C. (normally closed) contact is made to the common terminal. When an increase in differential pressure operates the snap-switch, the N.O. (normally open) contact is made to the common terminal. The action of the diaphragm on the snap-switch is the same whether pressure or vacuum is being sensed. The wiring from the air sensing switch to other devices depends upon the application.



RH-3



SPECIFICATIONS

Supply Voltage	Not required	Operating Pressure Range	0.05 to (12" WC or 2.0" WC)(See ordering)
Contact Type	SPDT	Overpressure (Burst)	13.85"WC (3.45kPa)
Contact Rating	0.5A @24V AC/DC, 15A resistive @120-277VAC 1/4 HP @125V, 1/2HP @250VAC	Max Operating Pressure (Proof)	13.85"WC (3.45kPa)
Setpoint (SP)	Model See model number	Operating Temperature	-40 to 180°F (-40 to 82°C)
Dial Pressure Gauge		Operating Humidity	10 to 90% Non-condensing
RH-3	Adjustable, 0.05 to 12.0" WC	Media Compatibility	Inert dry air
RH-3-2	Adjustable, 0.05 to 2.0" WC	Process Connection	1/4" compression
Differential		Wiring Terminations	3 Terminals (SPDT)
Model	See model number	Mounting	Vertical, 2 tabs w/Holes 0.19" (0.48cm)
RH-3	Fixed progressive, 0.05" to 2.0" WC over SP range	Enclosure Rating	NEMA 1
RH-3-2	Fixed progressive, 0.02" to 0.8" WC over SP range	Dimensions	4"W x 6.1"H x 1.69"D, (10.2 x 15.5 x 4.3 cm)
Reset	Automatic reset by differential	Weight	2.0lb (0.91kg)
Visual	Indication None	Approvals	UL listed, file #MH10196, CSA
Sensor Type	Silicone Diaphragm	Warranty	2 years

INSTALLATION

Mounting

The RH-3 and RH-3-2 may be used to sense pressure, vacuum, or differentials of pressure and vacuum. Using sheet metal screws, mount the control vertically on the duct or equipment. Avoid areas of high vibration. Connect the 1/4" tubing to the air flow switch using 1/4" compression fittings. Insert the other end of the tubing into area to be sensed. See ordering information for static pressure tips and duct impact (total pressure) tubes for use with **RH-3** and **RH-3-2** switches.

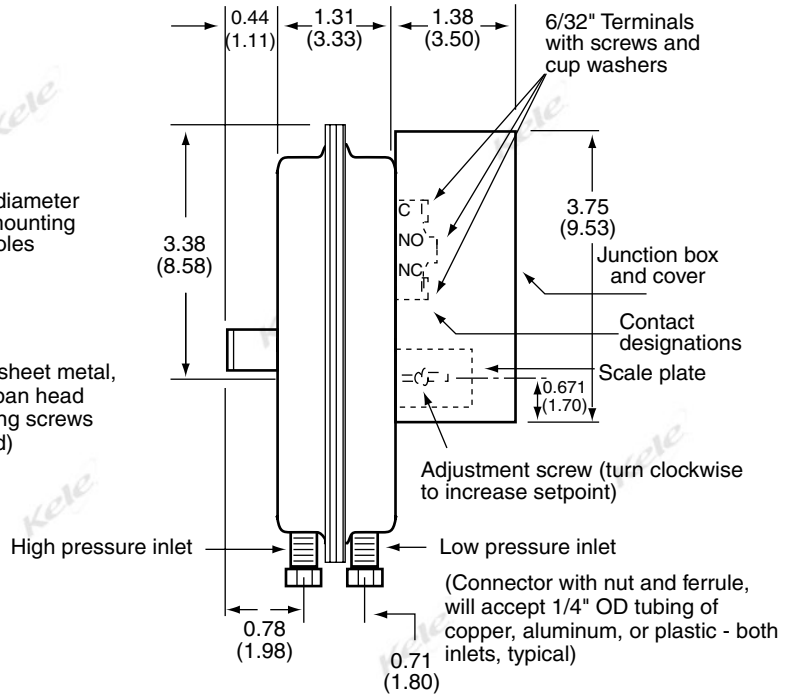
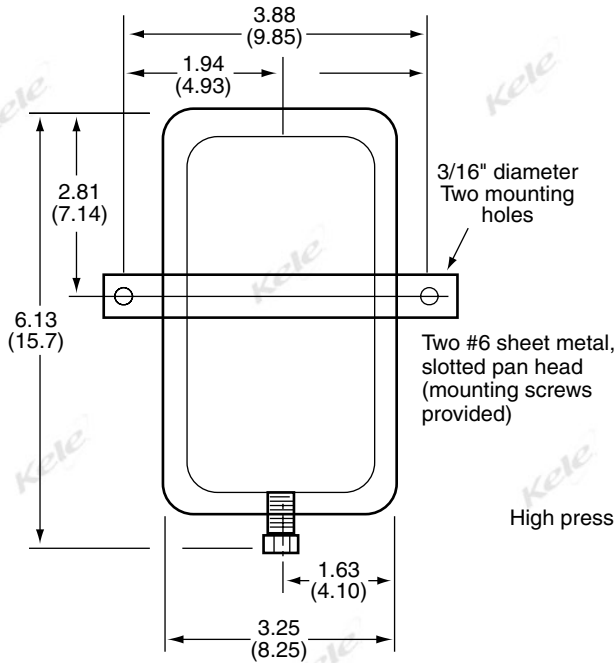
Adjustment

The adjusting screw located in the junction box may be used to change the operating point. The operating range is 0.05" to 12.0" W.C. for the RH-3, and 0.05" to 2.0" W.C. for the **RH-3-2**. The differential is 0.02" rising to 0.8" at the highest setting. The switch will operate at 0.05" and reset before 0.03" on the low end. It will operate at 12.0" and reset before 11.2" on the high end. Rotate the adjusting screw clockwise to increase setting.



DIMENSIONS

in
(cm)



ORDERING INFORMATION

MODEL	DESCRIPTION
RH-3	0.05" to 12.0" W.C. (12.5 to 2989 Pa)
RH-3-C	0.05" to 12.0" W.C. (12.5 to 498 Pa) custom calibration
RH-3-2	0.05" to 2.0" W.C. (12.5 to 2989 Pa)
RH-3-2-C	0.05" to 2.0" W.C. (12.5 to 498 Pa) custom calibration

RELATED PRODUCTS

21122	6" aluminum impact tube, 1/4" OD connection
21122-112	6" aluminum impact tube for 1/8" thru 1/4" ID flexible plastic tubing
60681	Static or total pressure sensing kit
A-301-K	Duct static pressure tip, 1/4" compression
A-302-K	Duct static pressure tip, 1/4" barb
A-345-K	Flange mounting kit (1 required for each A-301-K or A-302-K)
T-101	1/4" OD black poly tubing, 1 coil, 250 ft (76 m)