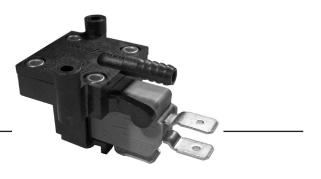
# Honeywell

# **PBN Series** Pressure Switches and Sensors



#### DESCRIPTION

The Honeywell PBN series is a range of versatile, low-cost, ultra-low pressure switches and sensors.

PBN products are compact, lightweight, feature high reliablity, and are designed to yield a repeatable response over millions of cycles. They can be mounted in virtually any orientation and their rugged construction allows use in the most rigorous environments.

Product specifications such as operating characteristics, termination type and contact materials can be customised for certain applications.

### FEATURES

- Sensitive to ultra-low pressures
- Gage, vacuum and differential measurement
- Miniature size
- Lightweight
- Fast response
- Rugged housings
- Shock and vibration resistant
- Low and high current versions

#### POTENTIAL APPLICATIONS

- Arc fault detection
- Filter restriction
- Safety interlock
- HVAC
- Vacuum control
- Liquid level sensing
- Pick and place machinery
- Pump control
- Counters
- Edge detection
- Traffic counters
- Motor control

# PBN3

# High-Current, Low Pressure Sensors



#### DESCRIPTION

The PBN3 series is a range of miniature, high-current, lowpressure devices which measure gauge pressure and can switch up to 16(4) A. Smooth 4 mm perpendicular ports and 5 mm barbed radial ports are available. Nominal actuation pressure varies from 1 in-H<sub>2</sub>O to 6,5 in-H<sub>2</sub>O. Adjustable models have actuation pressures which can be set from 10 in-H<sub>2</sub>O to 1109 in-H<sub>2</sub>O.

PBN3 devices comprise a snap-action SPDT pressure switch which contains an actuator assembly and miniature micro switch. The devices are designed to respond to positive air pressure but may also be activated by non-corrosive liquids at low pressures.

#### FEATURES

- High current switching capacity
- Sensitive to low gauge pressures
- Miniature size
- Lightweight
- Fast response
- Rugged housings
- Adjustable and non-adjustable models

### POTENTIAL APPLICATIONS

- Counting
- Edge detection
- Liquid level sensing
- Traffic counters
- Motor control

### **MECHANICAL SPECIFICATIONS**

Characteristic	Measure				
Switch type	SPDT normally open or normally closed				
Switching medium	Air or compatible fluids				
Expected mechanical life	Up to five million cycles depending on load				
Proof pressure	15 psi for units where set point is 75 in- $H_2O$ or less; 80 psi for units where set point is greater than 75 in- $H_2O$				
Weight	Less than 20 grams				
Operating temperature	4 °C to 66 °C with Polyurethane (standard) diaphragm; -40 °C to 96 °C with Teflon (optional)diaphragm				

#### PHYSICAL SPECIFICATIONS

Characteristic	Measure			
Mounting	2,6 mm (No 4), thread size screws through mounting lugs or 2 mm (No 2) thread size screws through eyelets			
Case material	Polycarbonate and Polyetherimide standard (other materials available upon request) (see chart)			
Contact material	Silver (gold available on special order for "dry contact" applications)			
Electrical connections	6,3 mm x 0,8 mm quick connect termi- nals supplied on all listings except PBN3XXXX-B and -D which have 4,8 mm x 0,5 mm connections			
Pressure ports	Smooth perpendicular and barbed radial			
Pressure settings	Factory set or field adjustable (see chart) Switching hysteresis = 25 % to 50 % of set point			

### **ELECTRICAL SPECIFICATIONS**

Characteristic	Measure			
Switch type	Single pole double throw			
Switch rating	Dependent on actuation pressure (see chart)			
Contact voltage	250 Vac			

#### **ORDERING INFORMATION**

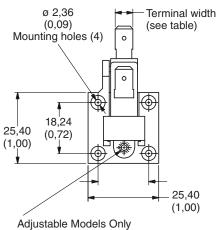
Model Number		Actuation Pressure						
4 mm smooth perpendicular ports	5 mm barbed radial ports		in-H <sub>2</sub> O	mbar	Tolerance	AMP	Terminal	Proof pressure
	Same side as terminals	Opposite side from terminals			from nominal	rating	width mm	psi
PBN3C421-B*	PBN3C441-B*	PBN3C451-B*	1.0	2,49	+100% -50%	3	4,75	15
PBN3C421-D*	PBN3C441-D*	PBN3C451-D*	2.0	4,98	±20 %	3	4,75	15
PBN3C421-H	PBN3D441-H	PBN3D451-H	6.5	16,19	±30 %	5	6,35	15
Adjustable mode	ls	<u>^</u>	^ ^	``````````````````````````````````````	•			
PBN3D421-R1	PBN3D441-R1	PBN3D451-R1	10.0 to 28.0	24,9 to 69,8	N/A	5	6,35	15
PBN3E421-R2	PBN3E441-R2	PBN3E451-R2	35.0 to 75.0	87,0 to 187,0	N/A	16	6,35	15
Listings with poly	yetherimide as ca	se material	Ŷ	<u>`</u>	•			
PBN3E421-R8	PBN3E441-R8	PBN3E451-R8	83.0 to 416.0	207,0 to 1034,0	N/A	16	6,35	80
PBN3E421-R9	PBN3E441-R9	PBN3E451-R9	416.0 to 1109.0	1034,0 to 2758,0	N/A	16	6,35	80

Note: Contact voltage 250 Vac max

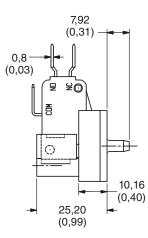
\*Supplied with terminals 4, 8mm x 0,5 mm instead of standard 6,3 mm x 0,8 mm

#### DIMENSIONS

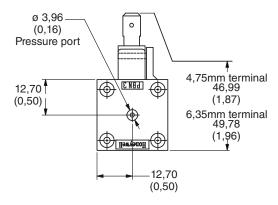
4mm smooth perpendicular ports



Adjustable Models Only Adjustment screw 1,98mm (,078) Hex socket – clockwise to increase actuation point, counterclockwise to decrease actuation point

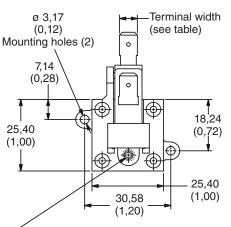


Note: See chart for rev level

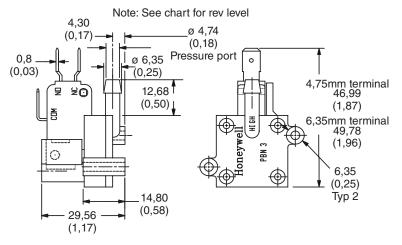


## High-Current, Low Pressure Sensors

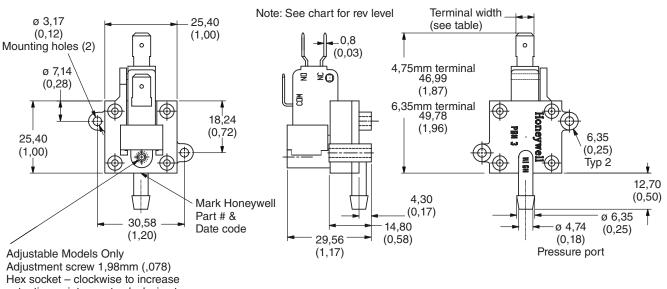
5 mm barbed radial ports, opposite side from terminals



Adjustable Models Only Adjustment screw 1,98mm (,078) Hex socket - clockwise to increase actuation point, counterclockwise to decrease actuation point



5 mm barbed radial ports, same side from terminals



actuation point, counterclockwise to decrease actuation point