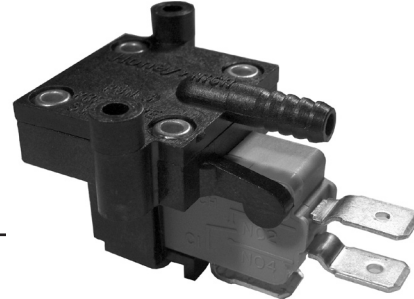


## PBN Series

### 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 reliability, 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

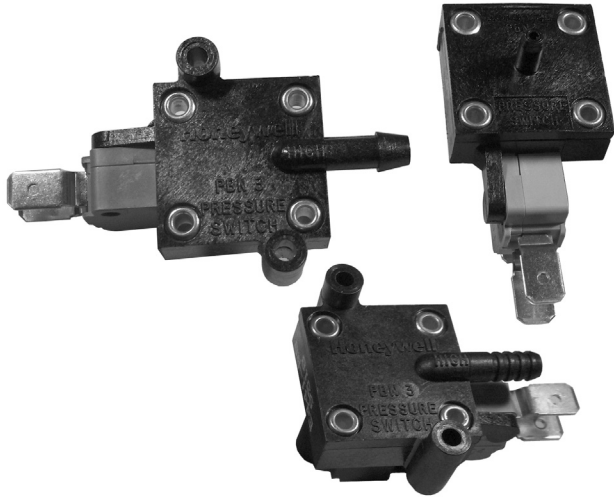
- Sensitive to ultra-low pressures
- Gage, vacuum and differential measurement
- Miniature size
- Lightweight
- Fast response
- Rugged housings
- Shock and vibration resistant
- Low and high current versions

#### 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, low-pressure 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 <sub>2</sub> O or less; 80 psi for units where set point is greater than 75 in-H <sub>2</sub> O |
| 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 terminals 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)<br>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                                     |

# PBN3

## ORDERING INFORMATION

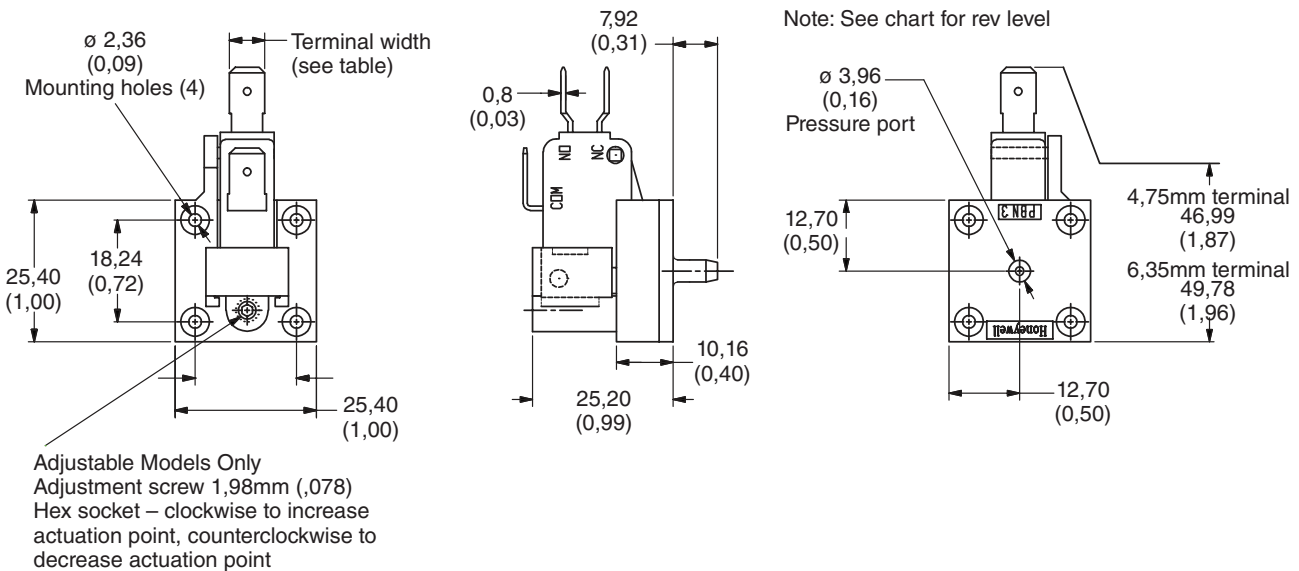
| Model Number   |                          |                              | Actuation Pressure  |                  | Tolerance from nominal | AMP rating | Terminal width mm | Proof pressure psi |
|--|--------------------------|------------------------------|---------------------|------------------|------------------------|------------|-------------------|--------------------|
| 4 mm smooth perpendicular ports                      | 5 mm barbed radial ports |                              | in-H <sub>2</sub> O | mbar             |                        |            |                   |                    |
|  | Same side as terminals   | Opposite side from terminals |                     |                  |                        |            |                   |                    |
| 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                 |
| <b>Adjustable models</b>                             |                          |                              |                     |                  |                        |            |                   |                    |
| 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                 |
| <b>Listings with polyetherimide as case material</b> |                          |                              |                     |                  |                        |            |                   |                    |
| 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

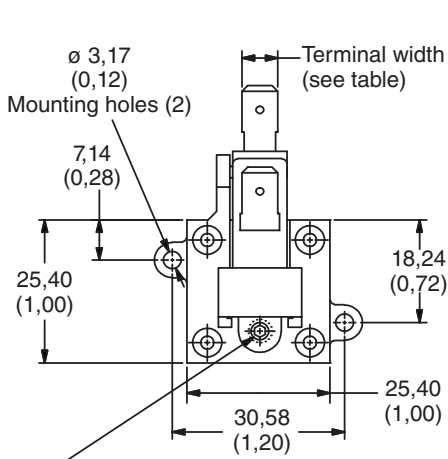
## DIMENSIONS

4mm smooth perpendicular ports

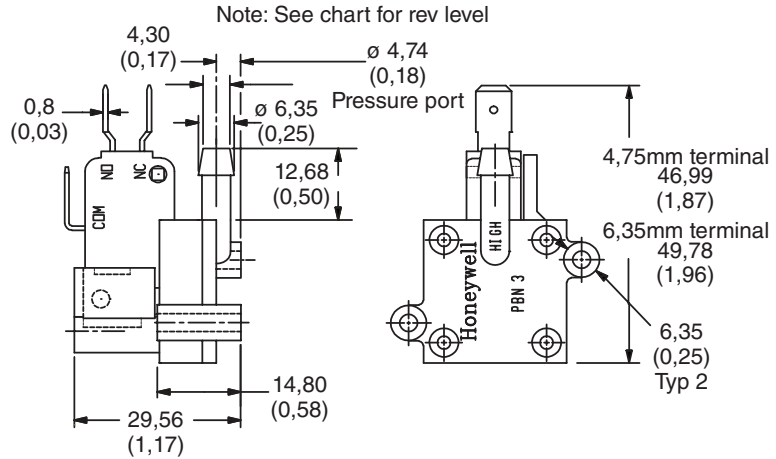


## High-Current, Low Pressure Sensors

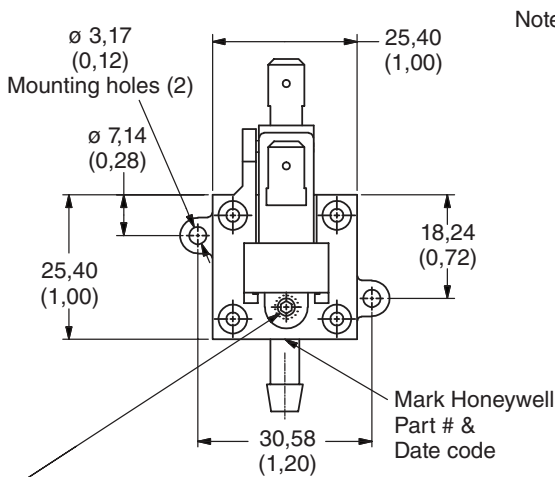
5 mm barbed radial ports, opposite side from terminals



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



Adjustable Models Only  
 Adjustment screw 1.98mm (.078)  
 Hex socket – clockwise to increase  
 actuation point, counterclockwise to  
 decrease actuation point

