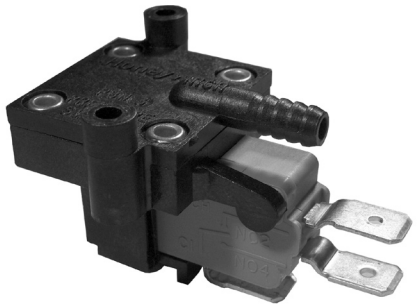
Honeywell

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.

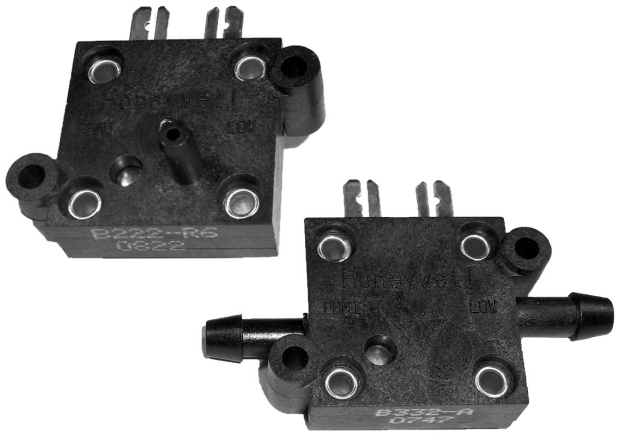
FEATURES

- 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

PBN1



DESCRIPTION

The PBN1 series is available in a wide range of actuation pressures. The required pressure can be supplied factory set or as an adjustable unit. Smooth 4 mm diameter ports perpendicular to the housing and 5 mm barbed radial ports are available. Nominal actuation pressure varies from 1 in-H_2O to 50 in-H_2O on factory set models. Adjustable models have actuation pressures which can be set up to 416 in-H_2O.

FEATURES

- Sensitive to ultra-low pressure
- Gauge, vacuum and differential measurement
- Miniature size
- Lightweight
- Fast response
- Rugged housings
- High shock and vibration resistant versions available
- Adjustable and non-adjustable models

POTENTIAL APPLICATIONS

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

MECHANICAL SPECIFICATIONS

Characteristic	Measure
Output	SPST normally open
Sensing medium	Air
Expected mechanical life	Up to 20 million cycles depending on load
Proof pressure	8 psi for units where set point is 3.0 in-H_2O or less; 15 psi for units where set point is greater than 3.0 in-H_2O
Weight	Less than 10 grams
Operating temperature	4 °C to 66 °C with Polyurethane (standard) diaphragm; -40 °C to 96 °C with Teflon (optional) diaphragm
Action pressure	Tolerance ±20 % for non-adjustable sensors except for PBN1XXXX-A which has a tolerance of +0 %/-100 %

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 standard (other materials available upon request)
Contact material	Gold inlay 18 carat on phosphor bronze
Diaphragm material	Polyurethane (standard) Teflon (optional)
Electrical connections	Terminals: 4,8 x 0,5 mm tab-type (bifurcated) for use with female quick disconnects (ref. AMP 2-520182-2 or equivalent)
Pressure ports	Smooth perpendicular and barbed radial
Pressure settings	Factory set or field adjustable (see chart). Switching hysteresis = 0 %

ELECTRICAL SPECIFICATIONS

Characteristic	Measure
Current rating	40 mA resistive for life up to 20 million cycles
Operating voltage	ac/dc – 30 V or less with resistive load or 120 Vac neon lamp load
Contact resistance	1 Ω or less at 150 % of actuation pressure

ORDERING INFORMATION

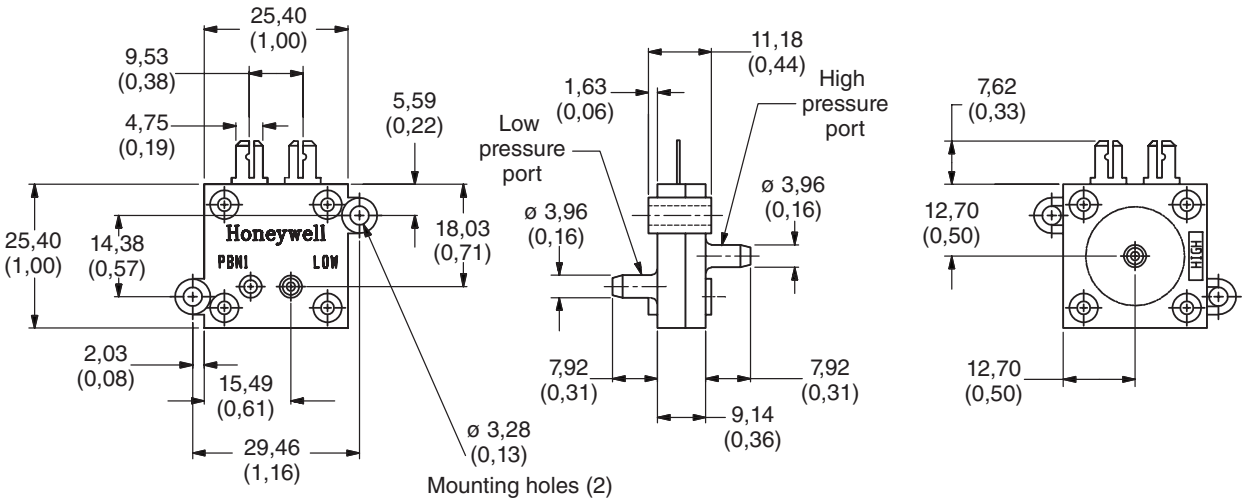
Model Number		Nominal Actuation Pressure			Proof Pressure
4mm smooth perpendicular ports	5mm barbed radial ports	in-H_2O	mbar	psi	psi
PBN1B222-A	PBN1B332-A	0.5	1,24	0.018	8
PBN1B222-B	PBN1B332-B	1.0	2,49	0.036	8
PBN1B222-C	PBN1B332-C	1.5	3,73	0.054	8
PBN1B222-D	PBN1B332-D	2.0	4,97	0.072	8
PBN1B222-E	PBN1B332-E	3.0	7,46	0.108	8
PBN1B222-F	PBN1B332-F	4.0	9,95	0.144	15
PBN1B222-G	PBN1B332-G	6.0	14,92	0.217	15
PBN1B222-J	PBN1B332-J	8.0	19,89	0.289	15
PBN1B222-K	PBN1B332-K	10.0	24,86	0.361	15
PBN1B222-L	PBN1B332-L	12.0	29,84	0.433	15
PBN1B222-M	PBN1B332-M	15.0	37,30	0.541	15
PBN1B222-N	PBN1B332-N	20.0	49,73	0.722	15
PBN1B222-P	PBN1B332-P	30.0	74,59	1.083	15
PBN1B222-Q	PBN1B332-Q	40.0	99,46	1.444	15
PBN1B222-S	PBN1B332-S	50.0	124,32	1.804	15
Adjustable models					
PBN1B222-R6	PBN1B332-R6	10.0 to 50.0	24,9 to 124,5	0.36 to 1.80	15
PBN1B222-R7	PBN1B332-R7	51.0 to 416.0	127.0 to 1036.0	1.84 to 15.01	15

Note: Electrical ratings – 40 mA. 30 V ac/dc. 120 Vac neon lamp load

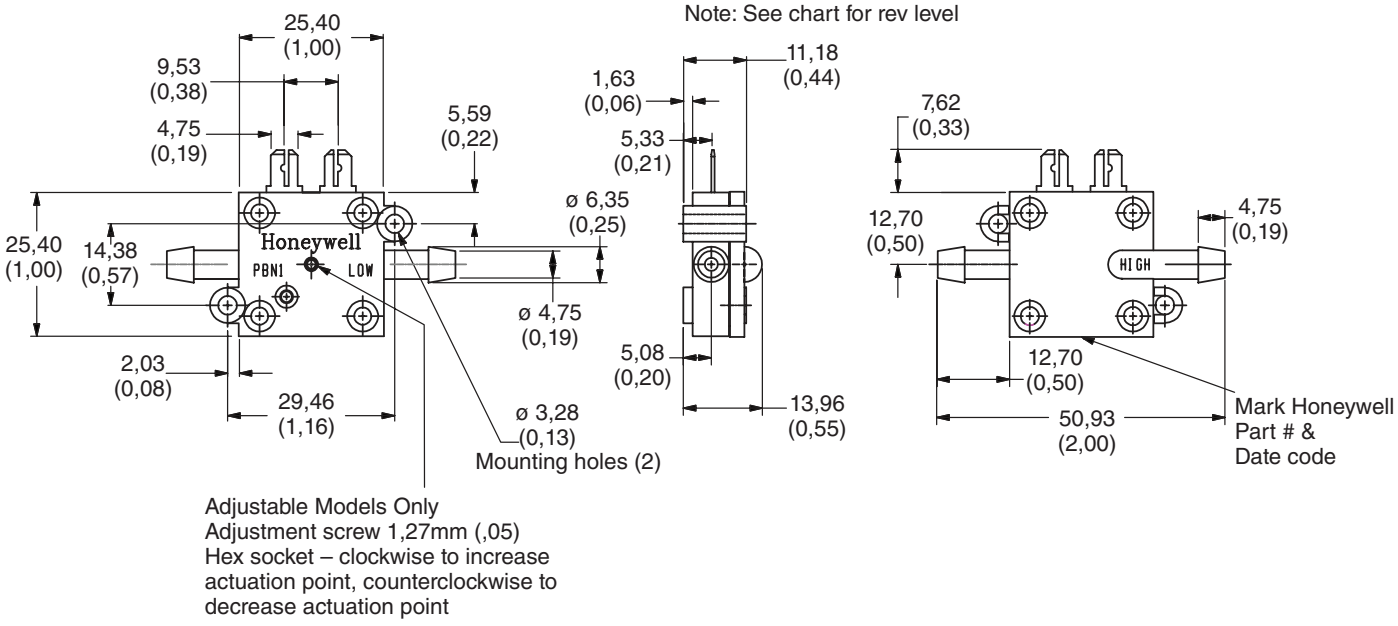
Note: Adjustable models – following adj.. set screw should be sealed using suitable RTV sealant

DIMENSIONS

4 mm smooth perpendicular ports

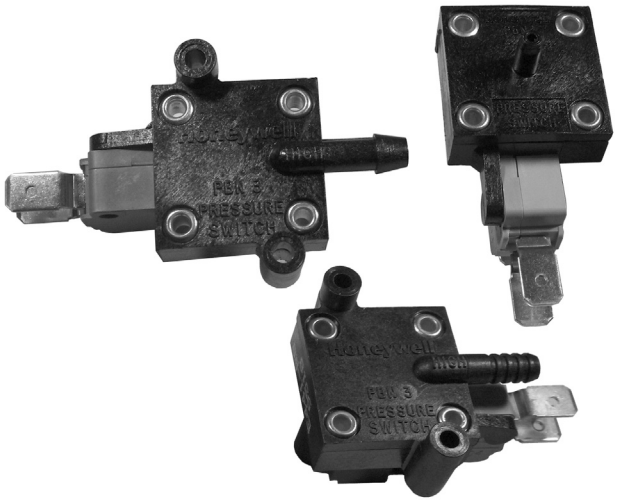


5 mm barbed radial ports



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_2O to 6,5 in-H_2O. Adjustable models have actuation pressures which can be set from 10 in-H_2O to 1109 in-H_2O.

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 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) 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

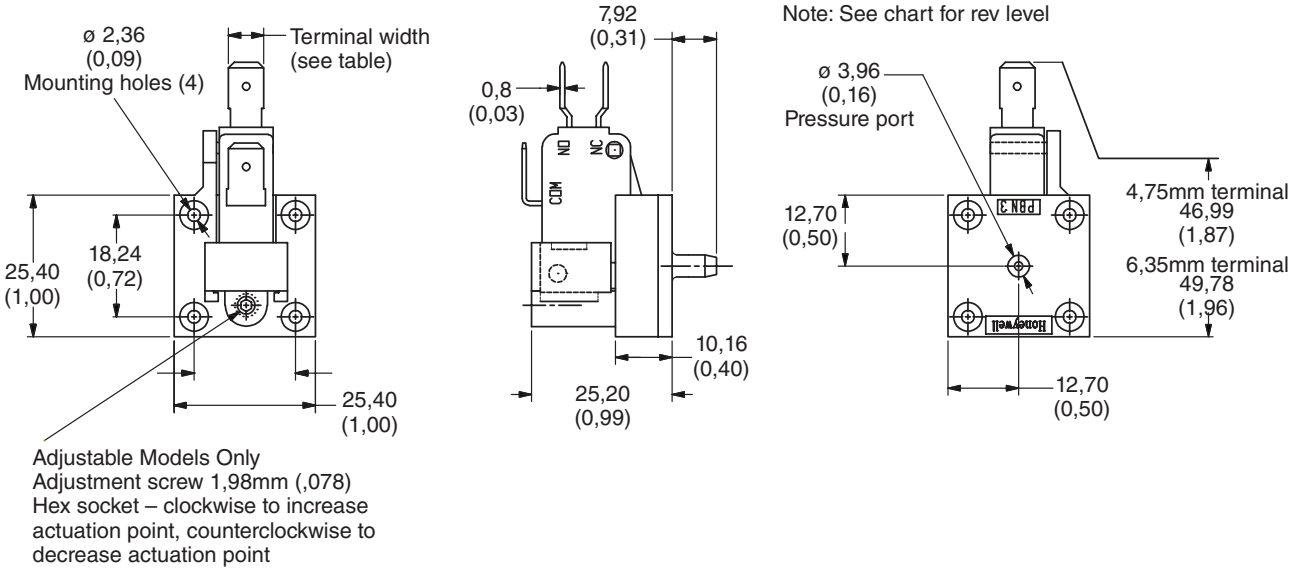
Model Number			Actuation Pressure					
4 mm smooth perpendicular ports	5 mm barbed radial ports		in-H_2O	mbar	Tolerance from nominal	AMP rating	Terminal width mm	Proof pressure psi
	Same side as terminals	Opposite side from terminals						
PBN3C421-B*	PBN3C441-B*	PBN3C451-B*	1.0	2,49	+100% -50%	3	4,75	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
Adjustable models								
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 polyetherimide as case material								
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

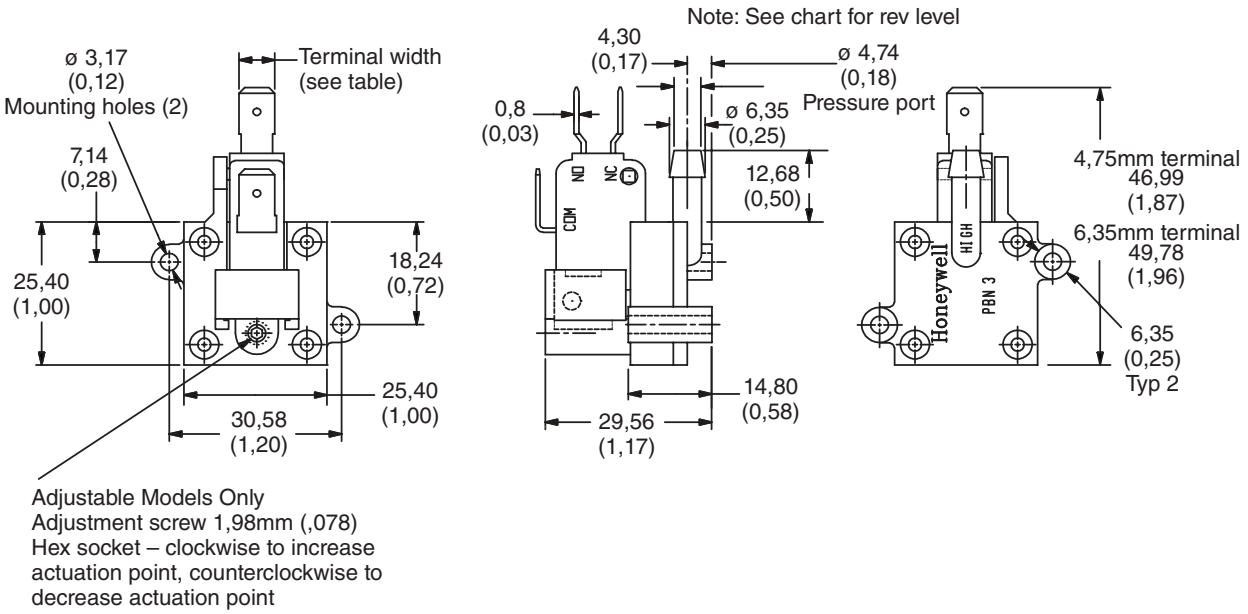
DIMENSIONS

4mm smooth perpendicular ports

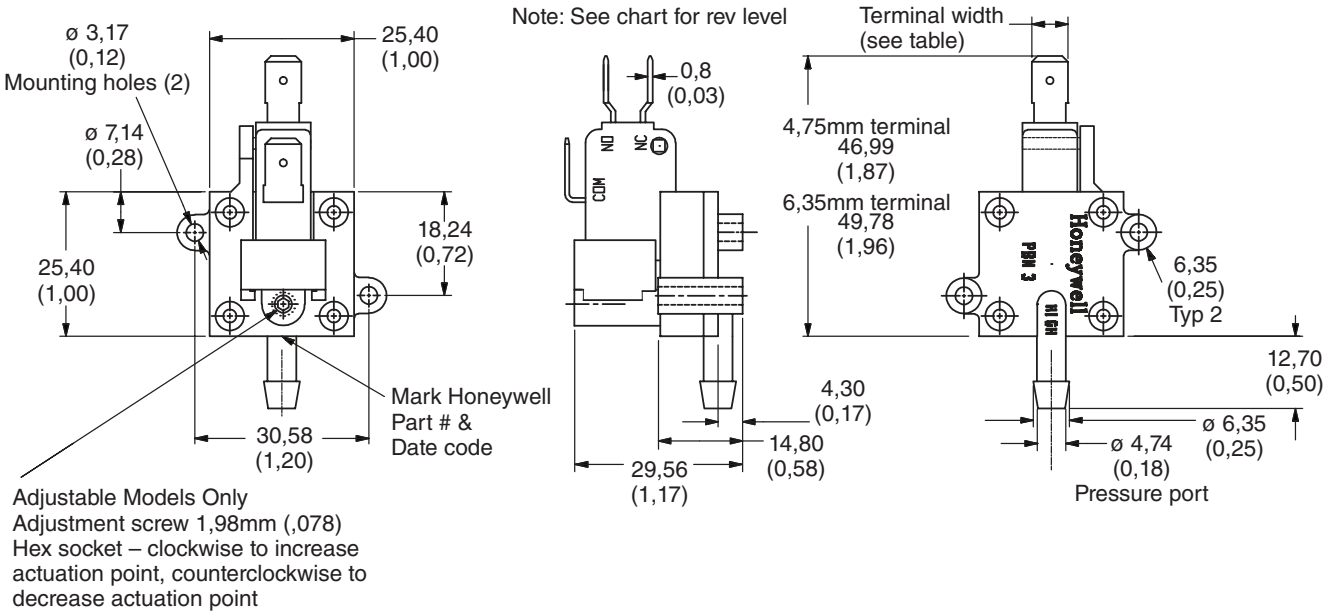


High-Current, Low Pressure Sensors

5 mm barbed radial ports, opposite side from terminals



5 mm barbed radial ports, same side from terminals



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Email inquiries to info.sc@honeywell.com

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Failure to comply with these instructions could result in death or serious injury.

⚠ WARNING

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- The information presented in this catalogue is for reference only. DO NOT USE this document as product installation information.
- Complete installation, operation and maintenance information is provided in the instructions supplied with each product.

Failure to comply with these instructions could result in death or serious injury.

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