

Installation Instructions for the IP Series Pressure Transducer

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WARNING

PERSONAL INJURY

DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

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

WARNING

RISK TO LIFE OR PROPERTY

- Never use this product for an application involving serious risk to life or property without ensuring that the system as a whole has been designed to address the risks, and that this product is properly rated and installed for the intended use within the overall system.

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

GENERAL INFORMATION

PRESSURE OVERLOADS

CAUTION

PRODUCT DAMAGE

- Do not exceed the pressure overload rating.
- Failure to comply with these instructions may result in reduced life, or electrical failure.**

The IP Series pressure sensors will withstand high overloads; however, if the overload rating is exceeded, the life of the IP Series may be reduced and electrical failure may occur. Both static and dynamic overloads must be considered, particularly in hydraulic system applications. Hydraulic pressure fluctuations can have very high and very fast peak pressures, as in a water hammer effect.

An oscilloscope is recommended for determining if high-pressure transients exist in a system. If system pressure pulses are expected, choose a sensor with a pressure rating high enough to allow continuous operation at the highest expected pressure spikes.

A pressure 'snubber' may be used to reduce the peak pressure applied to the sensor. Snubbers may be obtained from the Mott Corp., Farmington, CT, USA (860) 747-6333. Catalog #4100-1/8-SS is recommended.

The IP Series pressure port and diaphragm is an assembly of Hastelloy alloy and 300 series stainless steel.

The IP Series has been rated for high immunity to electrical noise; however, care should be taken when used around high voltage sources that emit high levels of radiated

MEDIA COMPATIBILITY

CAUTION

PRODUCT DAMAGE

- Use non-abrasive, chemically compatible media to prevent damage to diaphragm or port materials.

Failure to comply with these instructions may result in product failure.

INSTALLATION

CAUTION

PRODUCT DAMAGE

- Use a hex wrench for installation. Never apply torque to the connector housing or the body of the sensor.
- Do not subject the sensor to high temperatures from soldering, brazing, or welding of the system plumbing or operating environments above the specified maximum temperature.

Failure to comply with these instructions may result in product damage.

ELECTROMAGNETIC ENERGY/NOISE

CAUTION

PRODUCT DAMAGE/ERRATIC OPERATION

- Do not use in areas where electromagnetic energy may affect sensor operation.

Failure to comply with these instructions may result in improper operation and/or product failure.

electromagnetic energy like variable frequency motor drives, solenoids, radio transmitters and engine ignition systems. The use of shielded cable and grounding of pressure port is also recommended.

BENCH TEST

For incoming inspection or sensor failure evaluation, connect the sensor to a dc voltage supply (off). The supply voltage should be set within the range specified for the model. Based on the sensors specified output, connect the output lead(s) to a digital dc or mA meter. With no pressure on the sensor, turn on the power supply and read the output signal on the voltmeter. The reading should correspond to the specification indicated for null offset. If not, check the connections, wire color code and the setting of the power supply.

WIRING INSTRUCTIONS

The wiring code for electrical connection is shown in Table 3. When using a connector, the use of the correct size wire is important to ensure environmental sealing. Fill all holes in the connector seal even if only two leads are used. Honeywell recommends using a crimping tool for crimping wires to the connector pins. Contact the individual connector manufacturer for mating connector wiring.

TABLE 1. SPECIFICATIONS

Parameter	Current	Regulated	Regulated
Zero output	4 mA	0.25 Vdc	0.5 Vdc
Full scale span (FSS)	16 mA (4 mA to 20 mA)	10 Vdc (0.25 Vdc to 10.25 Vdc)	4 Vdc (0.5 Vdc to 4.5 Vdc)
Excitation	9.5 Vdc to 30 Vdc	14 Vdc to 30 Vdc	7 Vdc to 30 Vdc
Supply current	N/A	5 mA typ. (17 mA max.)	5 mA typ. (17 mA max.)
Source (nominal)	N/A	1 mA	1 mA
Sink (nominal)	N/A	1 mA at zero output	1 mA at zero output
Supply rejection ratio	90 dB	90 dB	90 dB
Output impedance	N/A	25 Ω max.	25 Ω max.
Compensated temperature range			
100 psi to 5000 psi	-10 °C to 85 °C [-14 °F to 185 °F]		
5 psi to 75 psi and 7500 psi to 10000 psi (0.5 bar to 3.5 bar, 700 bar)	4 °C to 60 °C [40 °F to 140 °F]		
Operating & storage temperature range	-40 °C to 125 °C [-40 °F to 257 °F]		
Weight			
100 psi to 5000 psi	158 g [5.6 oz] (1/4 BSP port with DIN 43650)		
5 psi to 75 psi and 7500 psi to 10000 psi (0.5 bar to 3.5 bar, 700 bar)	186 g [6 oz] (1/4 BSP port with DIN 43650)		

TABLE 2. PRESSURE RANGES

psi (gauge)										
Pressure	5	10	15	25	30	50	75	100	150	
Proof pressure	20	40	60	100	120	200	300	400	450	
Burst pressure	1000	1000	1000	1000	1000	1000	1000	1000	1500	
psi (gauge)										
Pressure	200	250	500	750	1000	1500	3000	5000	7500	10000
Proof pressure	600	750	1500	2250	2000	3000	6000	7500	15000	15000
Burst pressure	2000	2500	5000	7500	10000	15000	30000	30000	15000	15000
bar (gauge)										
Pressure	0.5	1	2	3.5	4	7	10	16	25	
Proof pressure	2	4	8	14	16	28	30	48	75	
Burst pressure	100	100	100	100	100	100	100	160	250	
bar (gauge)										
Pressure	40	60	100	160	250	350	700			
Proof pressure	80	120	200	320	500	700	1000			
Burst pressure	400	600	1000	1600	2068	2068	1000			

FIGURE 1. MOUNTING DIMENSIONS (FOR PRESSURE RANGES 100 PSI TO 5000 PSI)

FIGURE 2. MOUNTING DIMENSIONS (FOR PRESSURE RANGES 5 PSI TO 75 PSI, 7500 PSI, AND 10000 PSI)

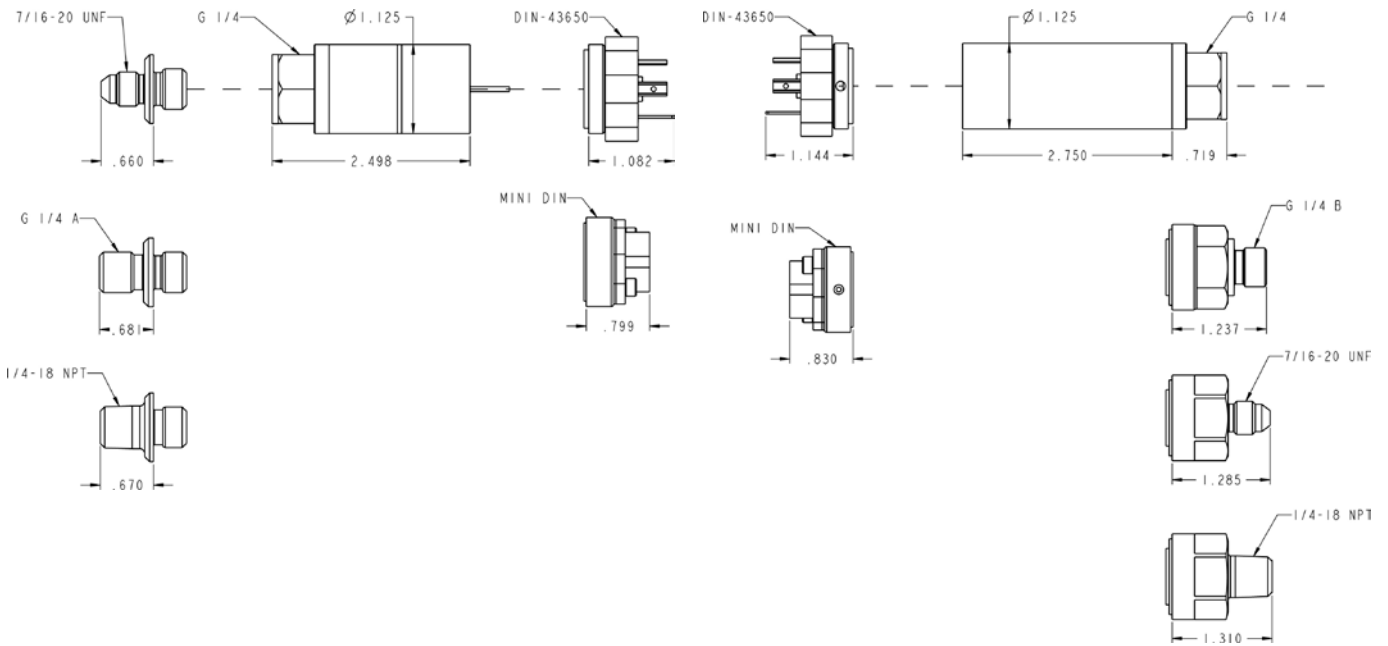


TABLE 3. PINOUTS

Hirschmann, 4-pin	43650 DIN, 4-pin
Regulated	
1.) + Power	1.) + Power
2.) + Output	2.) + Output
3.) Common	3.) Common
4.) N/C	4.) N/C
Current	
1.) + Power	1.) + Power
2.) + Output	2.) + Output
3.) N/C	3.) N/C
4.) N/C	4.) N/C

WARRANTY/REMEDY

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgement or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items it finds defective. **The foregoing is buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.**

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

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