

Installation Instructions for the MLH Series Pressure Sensors

ISSUE 2
50010132

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.

GENERAL INFORMATION

Sensors with pressure ranges less than 300 psi are vented to the atmosphere through a case vent hole that is protected with a vapor inhibiting material.

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 MLH Series pressure sensors will withstand high overloads; however, if the overload rating is exceeded, the life of the MLH 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.

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.

The MLH Series pressure port and diaphragm is an assembly of Haynes 214 alloy (or equivalent) and 304 stainless steel.

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.

Ratiometric voltage and mV output devices require a regulated 5.0 Vdc supply. All other versions can use an unregulated supply within the ranges noted under the excitation specifications. The power supply should be off while wiring.

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.

The MLH 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 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 Tables 2 and 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	Excitation	Signal Output
Ratiometric	5.0 Vdc ±0.25 Vdc	0.5 Vdc to 4.5 Vdc
Regulated	7.0 Vdc to 35 Vdc	0.5 Vdc to 4.5 Vdc
	8.0 Vdc to 35 Vdc	1.0 Vdc to 6.0 Vdc
	14.0 Vdc to 35 Vdc	0.25 Vdc to 10.25 Vdc
	7.0 Vdc to 30 Vdc	1 Vdc to 5 Vdc
Unamplified output	5.0 Vdc	0 mV to 50 mV
Current output	9.5 Vdc to 35 Vdc	4 mA to 20 mA with 25 Vdc excitation
Compensated operating and storage temperature	-40 °C to 125 °C [-40 °F to 257 °F]	
Weight	57 g [2 oz]	

TABLE 2. PRESSURE RANGES

Units	psiG	psiG	psiG	psiG	psiG	psiS	psiS	psiS	psiS	psiS	psiS	psiS
Pressure	50	100	150	200	250	300	500	1000	2000	3000	5000	8000
Proof pressure	150	300	450	600	750	900	1500	2000	4000	6000	7500	12000
Burst pressure	500	1000	1500	2000	2500	3000	5000	10000	20000	30000	30000	30000

Units	barG	barG	barG	barS	barS	barS	barS	barS	barS	barS	barS	barS
Pressure	6	10	16	25	40	60	100	160	250	350	500	550
Proof pressure	18	30	48	75	80	120	200	320	500	700	750	825
Burst pressure	60	100	160	250	400	600	1000	1600	2068	2068	2068	2068

FIGURE 1. MOUNTING DIMENSIONS (For reference only. mm [in].)

A variety of pressure port and electrical termination connection options is available. Contact your Honeywell representative for more details.

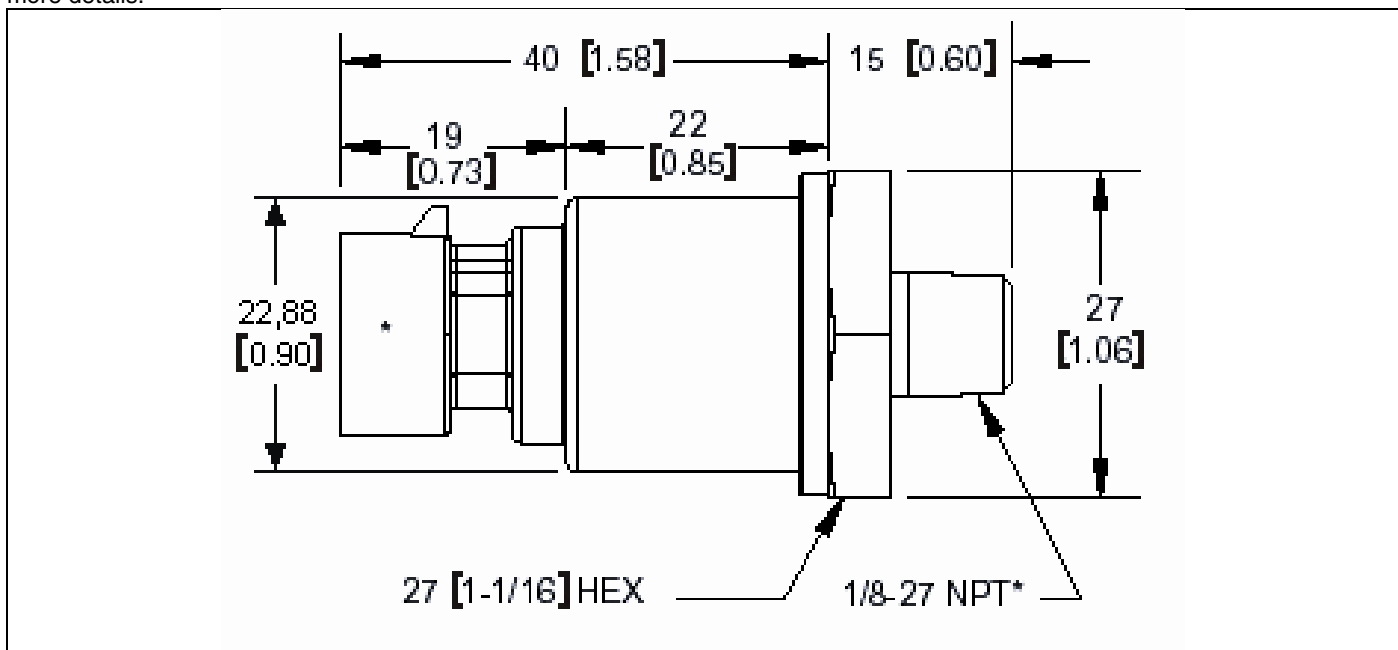


TABLE 3. VOLTAGE AND CURRENT OUTPUT MODELS WITH PIN ASSIGNMENTS

Data Sheet Code	Connector Name	Sensor Back View	VOLTAGE OUTPUT (3-WIRE) MODELS Pin Assignments				CURRENT OUTPUT (2-WIRE) MODELS Pin Assignments			
			A	B	C	D	A	B	C	D
			1	2	3	4	1	2	3	4
B	Packard Metripack		+ Excitation	Output	Common	—	+ Excitation	- Excitation (return)	N/C	
C	Hirschmann G4W		N/C	Output	Common	+ Excitation	N/C	N/C	- Excitation (return)	+ Excitation
G	Din 43650 form C		+ Excitation	Common	N/C	Output	+ Excitation	- Excitation (return)	N/C	N/C
H	AMP 1.4 Superseal		Common	Output	+ Excitation	—	N/C	- Excitation (return)	+ Excitation	—
L, M or P	Cable Lead	Red = A White = B Black = C	+ Excitation	Output	Common	—	+ Excitation	- Excitation (return)	N/C	—
D	M12-1 Brad Harrison		+ Excitation	Common	Output	N/C	+ Excitation	- Excitation (return)	N/C	N/C
T	Deutsch DTM04-3P		+ Excitation	Common	Output	—	+ Excitation	- Excitation (return)	N/C	—

TABLE 4. MILLIVOLT OUTPUT MODELS WITH PIN ASSIGNMENTS

Data Sheet Code	Connector Name	Sensor Back View	(4-WIRE) MODELS Pin Assignments			
			A	B	C	D
			1	2	3	4
C	Hirschmann G4W		+ Signal	- Excitation	- Signal	+ Excitation
G	Din 43650 form C		+ Excitation	- Signal	+ Signal	- Excitation
L, M or P	Cable Lead	Red = A Green = B Black = C White = D	+ Excitation	+ Output	Common	- Output
D	M12-1 Brad Harrison		+ Signal	- Excitation	- Signal	+ Excitation

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.

SALES AND SERVICE

Honeywell serves its customers through a worldwide network of sales offices, representatives and distributors. For application assistance, current specifications, pricing or name of the nearest Authorized Distributor, contact your local sales office or:

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