

## All Metal Pressure Sensors

### MLH Pressure Sensors

### MLH Series

#### FEATURES

- All metal wetted parts – for use in wide variety of fluid applications
- No Internal elastomeric seals – no o-ring compatibility issues
- Amplified outputs – eliminates cost of external amplifiers
- Reverse polarity and overvoltage protection – protection against reversed excitation
- Less than 500  $\mu$ s response time – accurate high speed measurement
- Rated IP65 or better – protection from harsh environments
- Exceeds CE heavy industrial EMC – can be used in areas of high RFI/EMI

#### TYPICAL APPLICATIONS

- Diesel Engines
- Refrigeration and HVAC/R
- General industrial
- General hydraulics
- Off road vehicles
- Braking systems
- Natural gas vehicles

#### **⚠ 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.**



Model MLH pressure sensors combine the latest in Application Specific Integrated Circuit (ASIC) technology with proven media isolated metal diaphragm design. This digitally compensated sensor offers an unparalleled value and performance combination making it the ideal pressure sensing solution for demanding applications. Fully temperature compensated, calibrated, and amplified, the MLH is available in 50 psi to 8,000 psi pressure ranges.

The MLH has six standard output options:

- 0.5 Vdc to 4.5 Vdc ratiometric output from 5 Vdc excitation
- 4 mA to 20 mA current from 9.5 Vdc to 35 Vdc excitation
- 1.0 Vdc to 6.0 Vdc regulated output from 8 Vdc to 35 Vdc excitation
- 0.25 Vdc to 10.25 Vdc regulated output from 14 Vdc to 35 Vdc excitation
- 0.5 Vdc to 4.5 Vdc regulated output from 7 Vdc to 35 Vdc excitation
- 0 mV to 50 mV from 5 Vdc excitation

MLH sensors deliver  $\pm 0.25$  % full scale accuracy Best Fit Straight Line (BFSL) and 1 % Total Error over a temperature range of -40 °C to 125 °C [-40 °F to 257 °F]. Industry standard, field proven connectors and process ports are offered for high reliability and user flexibility.

#### **⚠ WARNING**

##### **MISUSE OF DOCUMENTATION**

- The information presented in this product sheet is for reference only. Do not use this document as a product installation guide.
- Complete installation, operation, and maintenance information is provided in the instructions supplied with each product.

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## SPECIFICATIONS

### Pressure Ranges

Units (psi)	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	10000	16000
Burst Pressure	500	1000	1500	2000	2500	3000	5000	10000	20000	30000	30000	30000

Units (bar)	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	1000	1100
Burst Pressure	60	100	160	250	400	600	1000	1600	2068	2068	2068	2068

(Comparable metric units follow same proof and burst specifications)

### Physical

Material in contact with media	Stainless steel and Haynes 214 alloy (all wetted materials are equivalent or better than 300 series stainless steel)
Weight	57.0 gm [2.0 oz]

### Environmental

Shock	50 g's peak [5 milliseconds], 100 g's peak [11 ms]
Vibration	Figure 514.2-5, Curve AK, Table 514.2-V, Random Vibration Test [Overall g rms = 20.7 minimum]

### Electrical

	Ratiometric (A)	Current (B)	Regulated (C)	Regulated (D)	Regulated (E)	milliVolt (F)
Zero Output	0.5 Vdc	4.0 mA	1.0 Vdc	0.25 Vdc	0.5 Vdc	0 +/- 2.5 mV
Full Scale Output <sup>1</sup>	4.0 Vdc (0.5 to 4.5 Vdc)	16 mA (4 to 20 mA)	5.0 Vdc (1.0 to 6.0 Vdc)	10.0 Vdc (0.25 to 10.25 Vdc)	4.0 Vdc (0.5 to 4.5 Vdc)	50 mV (0 to 50 mV)
Excitation	5 Vdc ± 250 mV (6.0 Vdc max.)	9.5 Vdc to 35.0 Vdc	8.0 Vdc to 35.0 Vdc	14.0 Vdc to 35.0 Vdc	7.0 Vdc to 35.0 Vdc	5.0 Vdc (6.0 Vdc Max.)
Supply Current	4.0 mA typical (8 mA max.)	N/A	5.0 mA typical (17 mA max.)	5.0 mA typical (17 mA max.)	4.0 mA typical (8 mA max.)	8.0 mA typical (17 mA max.)
Source (nominal)	1.0 mA	N/A	1.0 mA	1.0 mA	1.0 mA	N/A
Sink (nominal)	1.0 mA @ zero output	N/A	1.0 mA @ zero output	1.0 mA @ zero output	1.0 mA @ zero output	N/A
Supply Rejection Ratio	90 db	90 db	90 db	90 db	90 db	N/A
Output Impedance	25 Ohm max.	N/A	25 Ohm max.	25 Ohm max.	25 Ohm max.	≥ 2000 Ohms

**Notes:** 1. All specifications are measured at 25 °C [77 °F] and at rated excitation unless otherwise specified.

### Performance

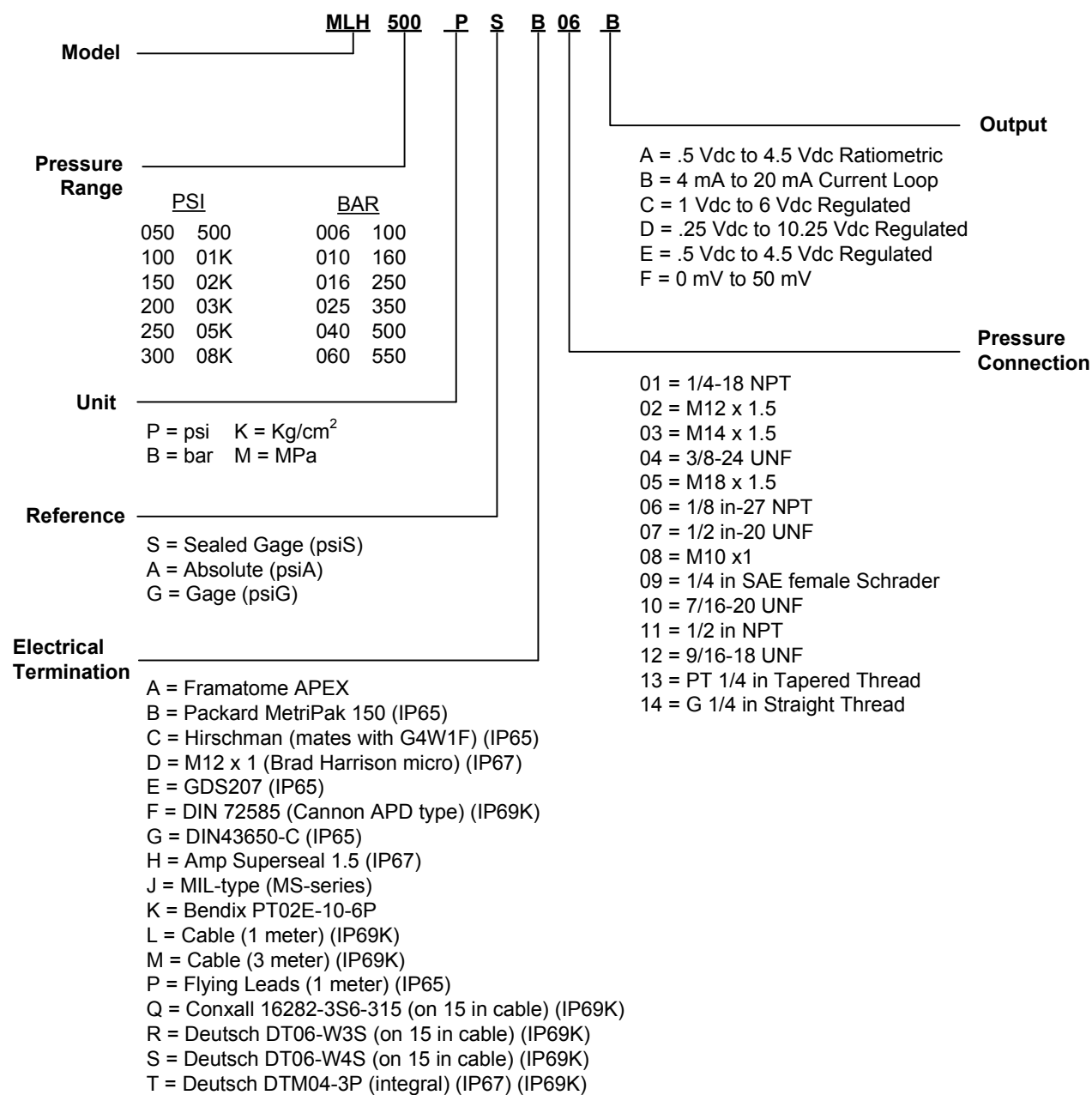
Response Time	< 500 μs
EMI/RFI	Exceeds CE heavy industrial [30 v/m radiated 150 kHz to 1 GHz]
Accuracy	± 0.25 % F.S.O. best fit straight line. Includes: non-linearity, hysteresis, non-repeatability. Thermal errors not included. 0.5 % < 100 psi
Total Error Band	±1 % Typical (+/- 2 % max.) F.S.O. Includes: zero offset error, span error, thermal effect on zero and thermal effect on span, non-linearity, hysteresis, non-repeatability
Compensated Operating and Storage Temperature Range	-40 °C to 125 °C [-40 °F to 257 °F]

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### HOW TO ORDER



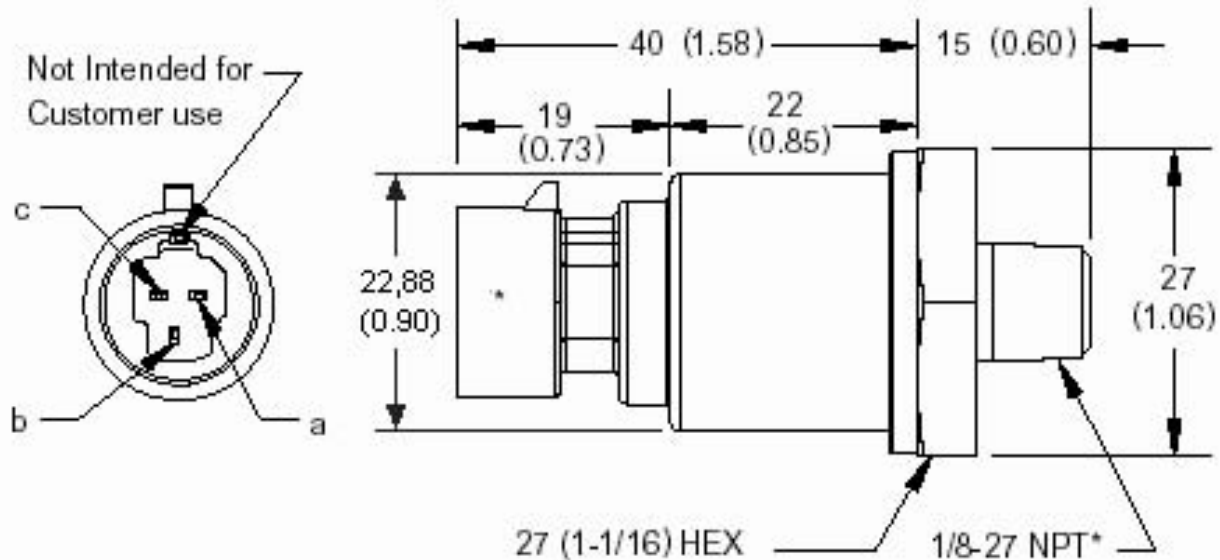
**Note:** Not all combinations are available. Minimum quantity orders apply. Additional pressure ranges and special calibration versions are available contact your local sales representative for assistance.

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**DIMENSIONS** for reference only mm (in)



\* A variety of pressure ports and electrical termination connection options are available. Refer to the "How to Order" on previous page for possible combinations. Contact your Honeywell representative for details.

## PIN AND WIRE CODES

Pins	Voltage	Current
a	+ Excitation	+ Excitation
b	Output	- Excitation
c	Common	No Connection

## WARRANTY/REMEDY

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Contact your local sales office for warranty information. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace 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.**

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.

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.

For application assistance, current specifications, or name of the nearest Authorized Distributor, contact a nearby sales office. Or call:

1-800-537-6945 USA/Canada

1-815-235-6847 International

### FAX

1-815-235-6545 USA

### INTERNET

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**Honeywell**

Sensing and Control

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