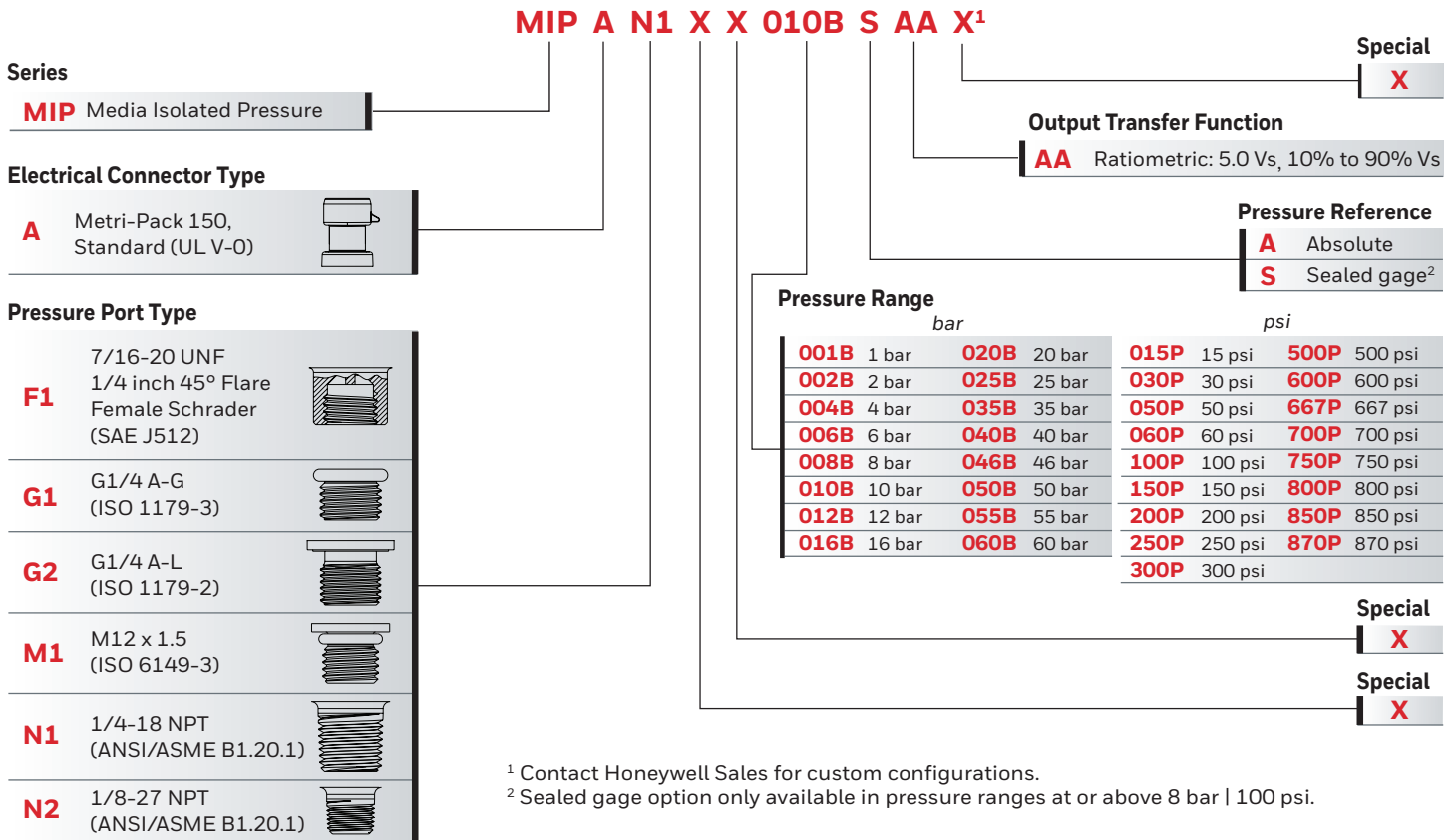


# HEAVY DUTY, MEDIA-ISOLATED PRESSURE TRANSDUCERS, MIP SERIES

FIGURE 1. NOMENCLATURE AND ORDER GUIDE

For example, **MIPAN1XX010BSAAX** defines an MIP Series Heavy Duty, Media Isolated Pressure Transducer, Metri-Pack 150, standard (UL V-0) electrical connector type, 1/4-18 NPT pressure port type, 10 bar pressure range, sealed gage pressure reference, ratiometric: 5 Vs, 10% to 90% Vs output transfer function



## CAUTION PRODUCT DAMAGE DUE TO MISUSE

- Ensure torque specifications are determined for the specific application. Values provided are for reference only. (Mating materials and thread sealants can result in significantly different torque values from one application to the next.)
- Use appropriate tools (such as an open ended wrench or deep well socket) to install transducers.
- Ensure that the proper mating electrical connector with a seal is used to connect the transducer. Improper or damaged seals can compromise ingress protection, leading to short circuits.
- Ensure that filters are used upstream of the transducers to keep media flow free of large particulates and condensed moisture. MIP Series transducers are dead-end devices. Particulate accumulation may clog the port or damage the diaphragm.
- Ensure the transducer is installed with the port facing downwards. Any particulates in the system are less likely to enter and settle within the transducer if it is in this position.
- Ensure that the media does not create a residue when dried. Build-up of residue inside the transducer may affect transducer output

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

# HEAVY DUTY, MEDIA-ISOLATED PRESSURE TRANSDUCERS, MIP SERIES

**TABLE 5. PRESSURE RATINGS**

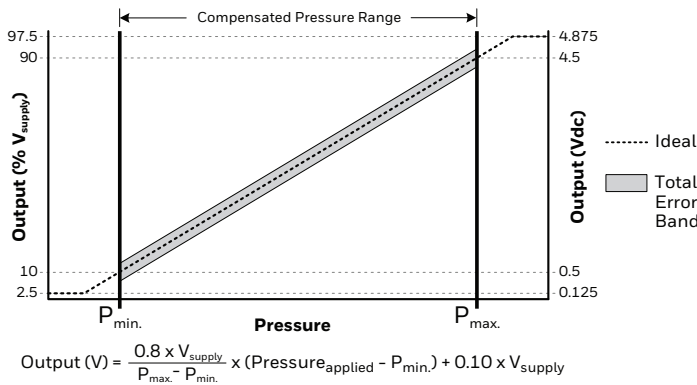
BAR			PSI		
OPERATING PRESSURE	OVER-PRESSURE <sup>1</sup>	BURST PRESSURE <sup>2</sup>	OPERATING PRESSURE	OVER-PRESSURE <sup>1</sup>	BURST PRESSURE <sup>2</sup>
1 to 3	6	207	15 to 43.5	87	3000
>3 to 12	24		>43.5 to 174	348	
>12 to 60	120		>174 to 870	1740	

<sup>1</sup>**Overpressure:** The maximum pressure which may safely be applied to the product for it to remain in specification once pressure is returned to the operating pressure range. Exposure to higher pressures may cause permanent damage to the product.

<sup>2</sup>**Burst Pressure:** The maximum pressure which may be applied without causing escape of pressure media. The product should not be expected to function after exposure to the burst pressure.

**FIGURE 2. ANALOG OUTPUT TRANSFER FUNCTION**

The transfer function shown here is applicable to a ratiometric output ranging between 10%  $V_{supply}$  at null pressure to 90%  $V_{supply}$  at full scale pressure.



**FIGURE 4. TEB COMPONENTS FOR THE MIP SERIES**

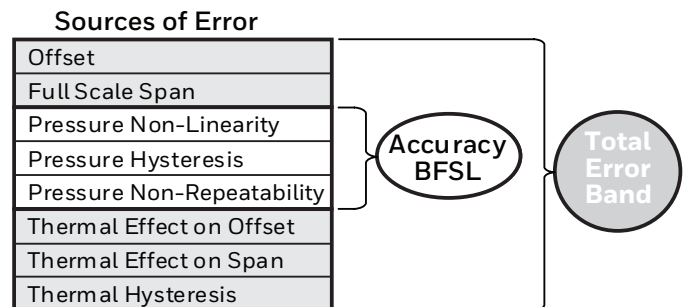
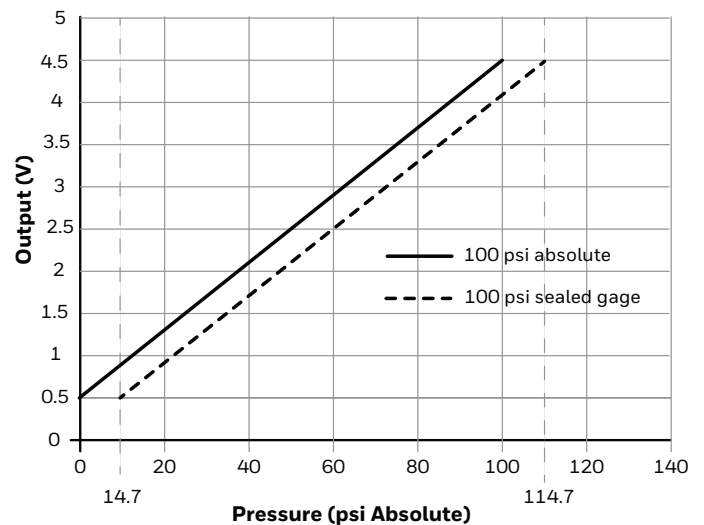
Total Error Band (TEB) is a single specification that includes the major sources of sensor error. TEB should not be confused with accuracy, which is actually a component of TEB. TEB is the maximum error that the sensor could experience.

Honeywell uses the TEB specification in its datasheet because it is the most comprehensive measurement of a sensor's true accuracy. Honeywell also provides the accuracy specification in order to provide a common comparison with competitors' literature that does not use the TEB specification.

Many competitors do not use TEB—they simply specify the accuracy of their device. Their accuracy specification, however, may exclude certain parameters. On their datasheet, the errors are listed individually. When combined, the total error (or what would be TEB) could be significant.

**FIGURE 3. ABSOLUTE VS SEALED GAGE**

Example shown is for 100 psi.



**TABLE 6. OUTPUT DIAGNOSTICS CODES**

FAULT CONDITION	ANALOG DIAGNOSTIC RAIL
Sensor internal failures	97.5% of $V_{supply}$ (See Figure 2.)
Over pressure	97.5% of $V_{supply}$ (See Figure 2.)
Under pressure	2.5% of $V_{supply}$ (See Figure 2.)
Power or ground loss	high (external pull-up resistor)
Power or ground loss	low (external pull-down resistor)