

±1% Total Error Band, Digital Output, 1 psi to 150 psi (60 mbar to 10 bar)

Table 3. Environmental Specifications

Parameter	Characteristic
Humidity:	
Dry gases only (See "Options N and D" in Figure 1.)	0% to 95% RH, non-condensing
Liquid media (See "Options T and V" in Figure 1.)	100% condensing or direct liquid media on Port 1
Vibration	MIL-STD-202F, Curve AK (20.7 g random)
Shock	MIL-STD-202F, Method 213B, Condition F
Life ⁹	1 million cycles minimum
Solder reflow	J-STD-020-C

Table 4. Wetted Materials¹⁰

Parameter	Port 1 (Pressure Port)	Port 2 (Reference Port)
Covers	high temperature polyamide	high temperature polyamide
Substrate	alumina ceramic	alumina ceramic
Adhesives	epoxy, silicone	epoxy, silicone
Electronic components	ceramic, glass, solder, silicon	silicon, glass, gold, solder

Notes:

1. Absolute maximum ratings are the extreme limits the device will withstand without damage.
2. Ratiometricity of the sensor (the ability of the digital device to maintain performance parameters independent of supply voltage) is achieved within the specified operating voltage for each option.
3. The sensor is not reverse polarity protected. Incorrect application of supply voltage or ground to the wrong pin may cause electrical failure.
4. The compensated temperature range is the temperature range over which the sensor will produce an output proportional to pressure within the specified performance limits.
5. The operating temperature range is the temperature range over which the sensor will produce an output proportional to pressure but may not remain within the specified performance limits.
6. Accuracy: The maximum deviation in output from a Best Fit Straight Line (BFSL) fitted to the output measured over the pressure range at 25 °C [77 °F]. Includes all errors due to pressure non-linearity, pressure hysteresis, and non-repeatability.
7. Total Error Band: The maximum deviation from the ideal transfer function over the entire compensated temperature and pressure range. Includes all errors due to offset, full scale span, pressure non-linearity, pressure hysteresis, repeatability, thermal effect on offset, thermal effect on span, and thermal hysteresis.
8. Full Scale Span (FSS) is the algebraic difference between the output signal measured at the maximum (Pmax.) and minimum (Pmin.) limits of the pressure range. (See Figure 1 for ranges.)
9. Life may vary depending on specific application in which sensor is utilized.
10. Contact Honeywell Customer Service for detailed material information.

CAUTION

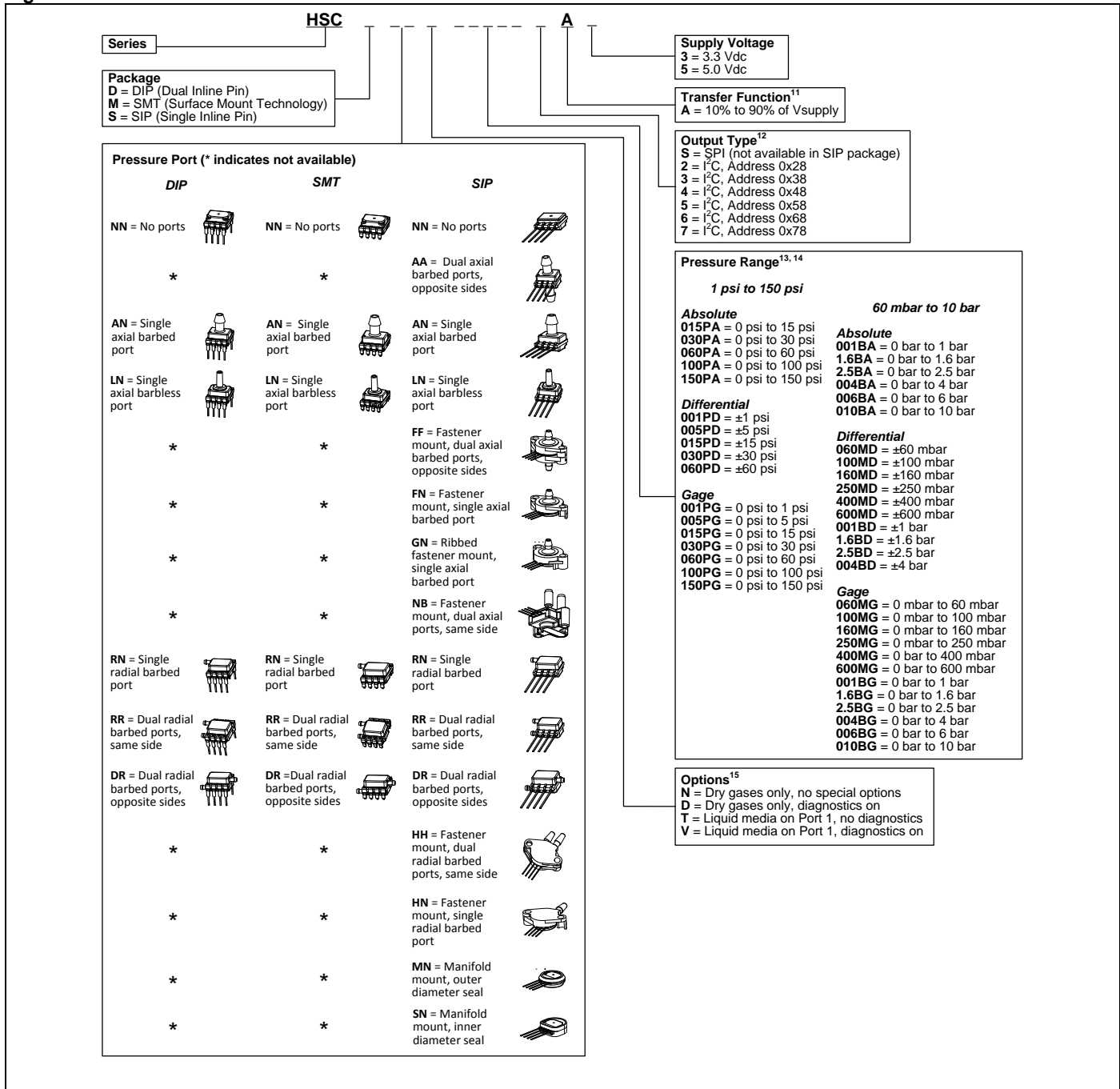
PRODUCT DAMAGE

- Ensure liquid media is applied to Port 1 only; Port 2 is not compatible with liquids.
- Ensure liquid media contains no particulates. All TruStability[®] sensors are dead-ended devices. Particulates can accumulate inside the sensor, causing damage or affecting sensor output.
- Recommend that the sensor be positioned with Port 1 facing downwards; any particulates in the system are less likely to enter and settle within the pressure sensor if it is in this position.
- Ensure liquid media does not create a residue when dried; build-up inside the sensor may affect sensor output. Rinsing of a dead-ended sensor is difficult and has limited effectiveness for removing residue.
- Ensure liquid media are compatible with wetted materials. Non-compatible liquid media will degrade sensor performance and may lead to sensor failure.

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

TruStability® Silicon Pressure Sensors: HSC Series—High Accuracy

Figure 1. Nomenclature and Order Guide



Notes:

- The transfer function limits define the output of the sensor at a given pressure input. By specifying P_{min.} and P_{max.}, the output at P_{min.} and P_{max.}, the complete transfer function of the sensor is defined. See Figure 2 for a graphical representation of the transfer function. Other transfer functions are available. Contact Honeywell Customer Service for more information.
- Analog output is also available. Contact Honeywell Customer Service for more information.
- Custom pressure ranges are available. Contact Honeywell Customer Service for more information.
- See Table 5 for an explanation of sensor pressure types.
- See **CAUTION** on previous page.