

# General Specifications

**Table 1. Absolute Maximum Ratings<sup>1</sup>**

Characteristic	Min.	Max.	Unit
Supply voltage ( $V_{supply}$ )	-0.3	6.0	Vdc
Voltage on any pin	-0.3	$V_{supply} + 0.3$	V
Digital interface clock frequency:			
I <sup>2</sup> C	100	400	kHz
SPI	50	800	
ESD susceptibility (human body model)	2	—	kV
Storage temperature	-40 [-40]	85 [185]	°C [°F]
Soldering time and temperature:			
lead solder temperature (DIP)		4 s max. at 250 °C [482 °F]	
peak reflow temperature (Leadless SMT, SMT)		15 s max. at 250 °C [482 °F]	

<sup>1</sup>Absolute maximum ratings are the extreme limits the device will withstand without damage.

**Table 2. Environmental Specifications**

Characteristic	Parameter
Humidity (Gases only; see “Options N and D” in Figure 2.)	0% to 95% RH, non-condensing
Vibration	15 g, 10 Hz to 2 kHz
Shock	100 g, 6 ms duration
Life <sup>1</sup>	1 million pressure cycles minimum
Solder reflow	J-STD-020-D.1 Moisture Sensitivity Level 1 (unlimited shelf life when stored at ≤30 °C/85 % RH)

<sup>1</sup>Life may vary depending on specific application in which the sensor is used.

**Table 3. Wetted Materials<sup>1</sup>**

Component	Pressure Port	
	No Silicone Gel Coating Option	Silicone Gel Coating Option
Ports and covers	high temperature polyamide	
Substrate	alumina ceramic	not exposed; protected by silicone gel
Adhesives	epoxy, silicone	epoxy
Electronic components	ceramic, silicon, glass, solder, gold	not exposed; protected by silicone gel

<sup>1</sup>Contact Honeywell Customer Service for detailed material information.

**Table 4. Sensor Pressure Types**

Pressure Type	Description
Gage	Output is proportional to the difference between applied pressure and atmospheric (ambient) pressure.
Differential	Output is proportional to the difference between the pressures applied to each port (Port 1 – Port 2).

# Operating Specifications

**Table 5. Operating Specifications**

Characteristic	Analog			Digital			Unit
	Min.	Typ.	Max.	Min.	Typ.	Max.	
Supply voltage ( $V_{\text{supply}}$ ) <sup>1, 2, 3</sup>							
3.3 Vdc	3.0	3.3	3.6	3.0	3.3	3.6	Vdc
5.0 Vdc	4.75	5.0	5.25	4.75	5.0	5.25	
Supply current:							
3.3 Vdc	—	2.1	2.8	—	3.1	3.9	mA
5.0 Vdc	—	2.7	3.8	—	3.7	4.6	mA
sleep mode option	—	—	—	—	1	10	μA
Operating temperature range <sup>4</sup>	-40 [-40]	—	85 [185]	-40 [-40]	—	85 [185]	°C [°F]
Compensated temperature range <sup>5</sup>	0 [-32]	—	50 [122]	0 [-32]	—	50 [122]	°C [°F]
Temperature output option <sup>6</sup>	—	—	—	—	1.5	—	°C
Startup time (power up to data ready)	—	—	5	—	—	3	ms
Response time	—	1	—	—	0.46	—	ms
Clipping limit:							
upper	—	—	97.5	—	—	—	%Vsupply
lower	2.5	—	—	—	—	—	
SPI/I <sup>2</sup> C voltage level:							
low	—	—	—	—	—	20	%Vsupply
high	—	—	—	80	—	—	
Pull up on SDA/MISO, SCL/SCLK, SS	—	—	—	1	—	—	kOhm
Accuracy <sup>7</sup>	—	—	±0.25	—	—	±0.25	%FSS BFSL <sup>8</sup>
Output resolution	0.03	—	—	—	—	—	%FSS bits
	—	—	—	12	—	—	

<sup>1</sup>Sensors are either 3.3 Vdc or 5.0 Vdc based on the catalog listing selected.

<sup>2</sup>Ratiometricity of the sensor (the ability of the device output to scale to the supply voltage) is achieved within the specified operating voltage.

<sup>3</sup>The sensor is not reverse polarity protected. Incorrect application of supply voltage or ground to the wrong pin may cause electrical failure.

<sup>4</sup>Operating temperature range: The temperature range over which the sensor will produce an output proportional to pressure.

<sup>5</sup>Compensated temperature range: The temperature range over which the sensor will produce an output proportional to pressure within the specified performance limits.

<sup>6</sup>Temperature Output Option: Continuous operation in Sleep Mode only may provide different results.

<sup>7</sup>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.

<sup>8</sup>Full Scale Span (FSS): The algebraic difference between the output signal measured at the maximum (Pmax.) and minimum (Pmin.) limits of the pressure range. (See Figure 3 for ranges.)

**Table 6. Sensor Output at Significant Percentages (Digital Versions Only)**

% Output	Digital Counts	
	decimal	hex
0	0	0x0000
10	1638	0x0666
50	8192	0x2000
90	14746	0x399A
100	16383	0x3FFF