

HAF Series-High Accuracy

Table 3. Environmental Characteristics

Characteristic	Parameter
Humidity	0% to 95% RH, non-condensing
Shock	100 g, 11 ms
Vibration	15 g at 20 Hz to 2000 Hz
ESD	Class 3B per MIL-STD 883G
Radiated immunity	Level 3 from (80 MHz to 1000 MHz) per spec IEC61000-4-3

Table 4. Wetted Materials

Characteristic	Parameter
Covers	high temperature polymer
Substrate	PCB
Adhesives	epoxy
Electronic components	silicon, gold
Compliance	RoHS, WEEE

Table 5. Recommended Mounting and Implementation

Characteristic	Parameter
Mounting screw size	5-40
Mounting screw torque	0.68 N m [6 in-lb]
Tubing for long port style	70 durometer, size 0.125 inch inside diameter, 0.250 inch outside diameter silicone tubing
O-ring for short port style	AS568A, Size 7, Silicone, Shore A 70
O-ring for long port style	AS568A, Size 10, Silicone, Shore A 70
Filter recommendation	5-micron filter upstream of the sensor

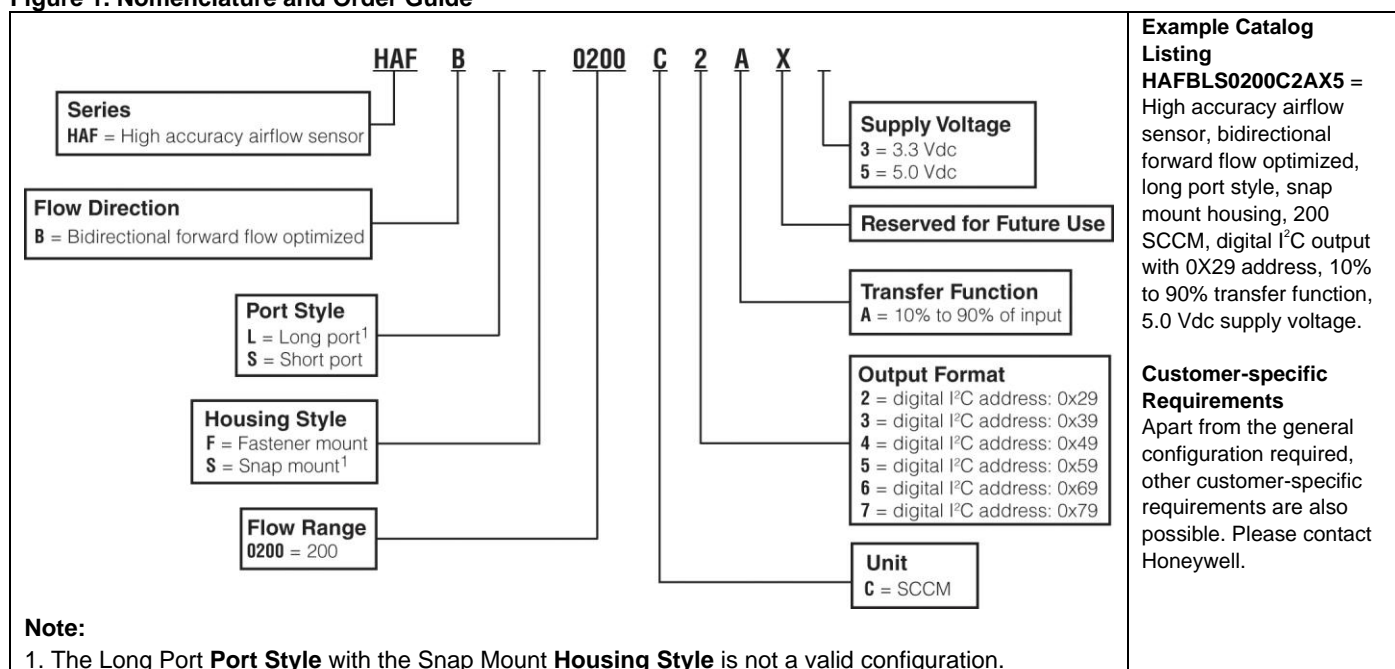
CAUTION

LARGE PARTICULATE DAMAGE

Use a 5-micron filter upstream of the sensor to keep media flow through the sensor free of condensing moisture and particulates. Large, high-velocity particles or conductive particles may damage the sensing element.

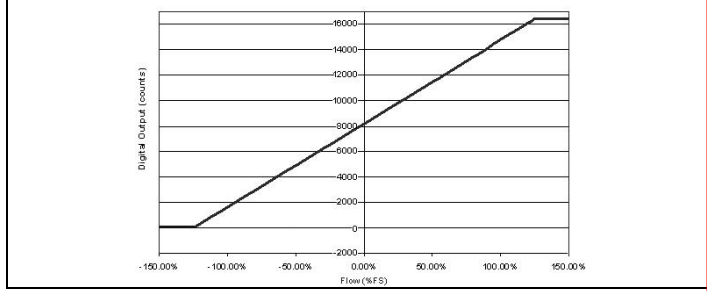
Failure to comply with these instructions may result in product damage.

Figure 1. Nomenclature and Order Guide



Honeywell Zephyr™ Digital Airflow Sensors

Figure 2. Nominal Digital Output



Ideal Transfer Function

$$\text{Digital Output Code} = 16383 * [0.5 + 0.4 * (\text{Flow Applied}/\text{Full Scale Flow})]$$

$$\text{Flow Applied} = \text{Full Scale Flow} * [(\text{Digital Output Code}/16383) - 0.5]/0.4$$

Figure 3. Accuracy Error Band

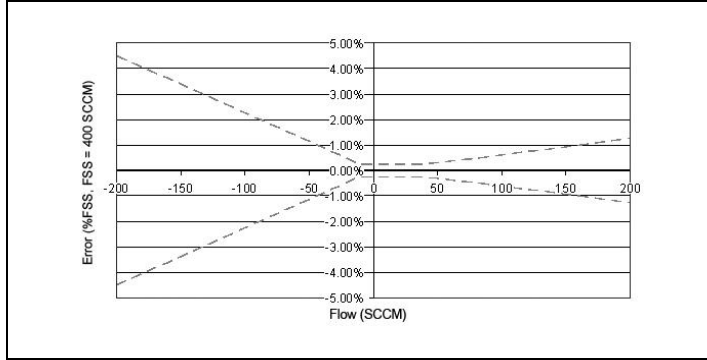


Figure 4. Total Error Band

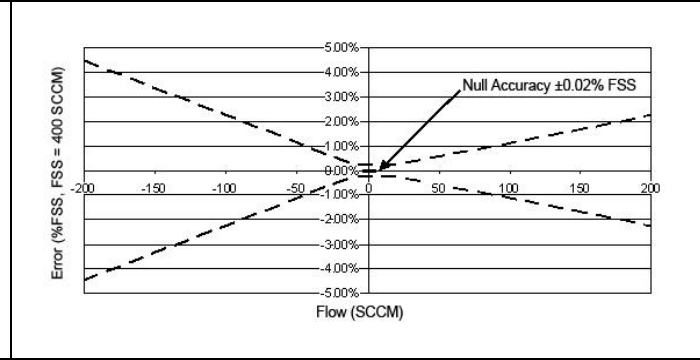
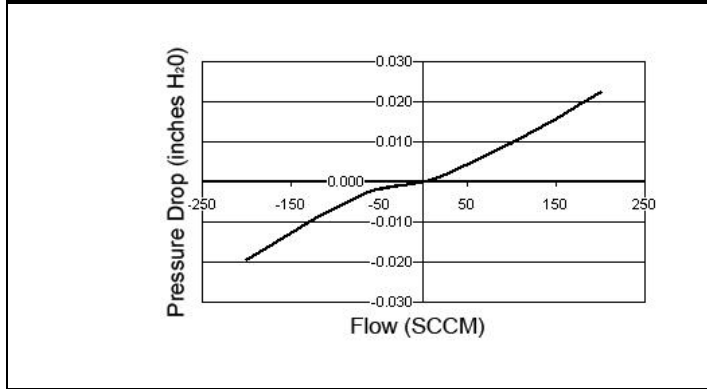
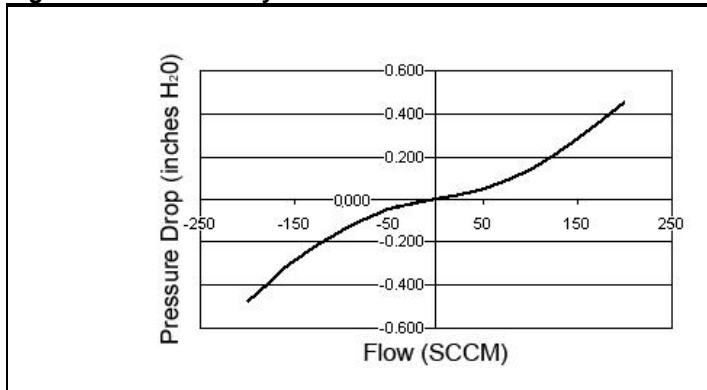


Figure 5. Long Port Style Flow vs Pressure



Flow (SCCM)	Pressure Drop (inches H ₂ O)
-200	-0.019
-150	-0.013
-100	-0.007
-50	-0.001
0	0.000
50	0.005
100	0.010
150	0.016
200	0.022

Figure 6. Short Port Style Flow vs Pressure



Flow (SCCM)	Pressure Drop (inches H ₂ O)
-200	-0.470
-150	-0.284
-100	-0.143
-50	-0.045
0	0.000
50	0.048
100	0.139
150	0.287
200	0.452