

Sensor Register	Output Type	I/O Range		Holding Register Representation	
		Min	Max	Min (Dec)	Max (Dec)
1	Z-Axis RMS Velocity (in/sec) <sup>1, 5</sup>	0	6.5535	0	65535
2	Z-Axis RMS Velocity (mm/sec) <sup>2, 5</sup>	0	65.535	0	65535
3	Temperature (°F) <sup>3</sup>	-1638.4	1638.3	-32768	32767
4	Temperature (°C) <sup>3</sup>	-1638.4	1638.3	-32768	32767
5	X-Axis RMS Velocity (in/sec) <sup>1, 5</sup>	0	6.5535	0	65535
6	X-Axis RMS Velocity (mm/sec) <sup>2, 5</sup>	0	65.535	0	65535

<sup>1</sup> Value = Register value ÷ 10000

<sup>2</sup> Value = Register value ÷ 1000

<sup>3</sup> Value = Register value ÷ 20

<sup>4</sup> Value = Register value ÷ 10

<sup>5</sup> Measurement bandwidth = 10 Hz to 1 kHz

<sup>6</sup> Measurement bandwidth = 1 kHz to 4 kHz

Serial Address	Optional Output Types	I/O Range		Holding Register Representation	
		Min	Max	Min (dec)	Max (dec)
16	Z-Axis RMS Velocity (in/sec) <sup>1, 5</sup>	0	6.5535	0	65535
25	Z-Axis RMS Velocity (mm/sec) <sup>2, 5</sup>	0	65.535	0	65535
192	Temperature (°F) <sup>3</sup>	-327.68	327.67	-32768	32767
193	Temperature (°C) <sup>3</sup>	-327.68	327.67	-32768	32767
64	X-Axis RMS Velocity (in/sec) <sup>1, 5</sup>	0	6.5535	0	65535
73	X-Axis RMS Velocity (mm/sec) <sup>2, 5</sup>	0	65.535	0	65535
20	Z-Axis Peak Acceleration (G) <sup>2, 6</sup>	0	65.535	0	65535
68	X-Axis Peak Acceleration (G) <sup>2, 6</sup>	0	65.535	0	65535
19	Z-Axis Peak Velocity Component Frequency (Hz) <sup>4, 5</sup>	0	6553.5	0	65535
66	X-Axis Peak Velocity Component Frequency (Hz) <sup>4, 5</sup>	0	6553.5	0	65535
19	Z-Axis RMS Acceleration (G) <sup>2, 5</sup>	0	65.535	0	65535
67	X-Axis RMS Acceleration (G) <sup>2, 5</sup>	0	65.535	0	65535
24	Z-Axis Kurtosis <sup>2, 6</sup>	0	65.535	0	65535
72	X-Axis Kurtosis <sup>2, 6</sup>	0	65.535	0	65535
37	Z-Axis Crest Factor <sup>2, 6</sup>	0	65.535	0	65535
69	X-Axis Crest Factor <sup>2, 6</sup>	0	65.535	0	65535
17	Z-Axis Peak Velocity (in/sec) <sup>1, 5</sup>	0	6.5535	0	65535
23	Z-Axis Peak Velocity (mm/sec) <sup>2, 5</sup>	0	65.535	0	65535
65	X-Axis Peak Velocity (in/sec) <sup>1, 5</sup>	0	6.5535	0	65535
71	X-Axis Peak Velocity (mm/sec) <sup>2, 5</sup>	0	65.535	0	65535
22	Z-Axis High-Frequency RMS Acceleration (G) <sup>2, 6</sup>	0	65.535	0	65535
70	X-Axis High-Frequency RMS Acceleration (G) <sup>2, 6</sup>	0	65.535	0	65535
27	Full Bandwidth RMS Acceleration Z-Axis (G) <sup>2, 6</sup>	0	65.535	0	65535
75	Full Bandwidth RMS Acceleration X-Axis (G) <sup>2, 6</sup>	0	65.535	0	65535
28	Full Bandwidth Peak Acceleration Z-Axis (G) <sup>2, 7</sup>	0	65.535	0	65535
76	Full Bandwidth Peak Acceleration X-Axis (G) <sup>2, 7</sup>	0	65.535	0	65535

<sup>1</sup> Value = Register value ÷ 10000

<sup>2</sup> Value = Register value ÷ 1000

<sup>3</sup> Value = Register value ÷ 100

<sup>4</sup> Value = Register value ÷ 10

<sup>5</sup> Measurement bandwidth = 10 Hz to 1 kHz

<sup>6</sup> Measurement bandwidth = 1 kHz to 4 kHz

<sup>7</sup> Measurement Bandwidth = 10 Hz to 4 kHz

## Specifications

### Supply Voltage

3.6 V dc to 5.5 V dc

### Current

Active comms: 3 mA

### Communication

Interface: 1-wire serial  
 Baud rates: 9.6k, 19.2k (default), or 38.4k  
 Data format: 8 data bits, no parity (default), 1 stop bit (even or odd parity available)

### Mounting Options

The sensor can be mounted using a variety of methods, including M4 x 0.7 hex screw, epoxy, thermal tape, or magnetic mount.

### Shock

MIL-STD-202G, Method 213B, Condition I (100G 6x along X, Y and Z axes, 18 shocks), with device operating

### Certifications



### Vibration Sensor

Measuring Range: 0 to 46 mm/sec or 0 to 1.8 in/sec RMS  
 Frequency Range: 10 Hz to 4 kHz  
 Accuracy: ±10% at 25 °C  
 Sampling Frequency: 20 kHz (default)  
 Record Length: 8192 points (default)  
 Sample Duration: 0.4 s (default)

### Temperature Sensor

Measuring Range: -40 °C to +105 °C (-40 °F to +221 °F)  
 Resolution: 1 °C  
 Accuracy: ± 3 °C  
 Operating the sensor at higher voltages can induce internal heating that can reduce the accuracy.

### Environmental Rating

IEC IP67

### Operating Temperature

-40 °C to +105 °C (-40 °F to +221 °F) <sup>1</sup>

## Battery Life for a P6 Node Connected to a Vibration and Temperature (VT1) Sensor

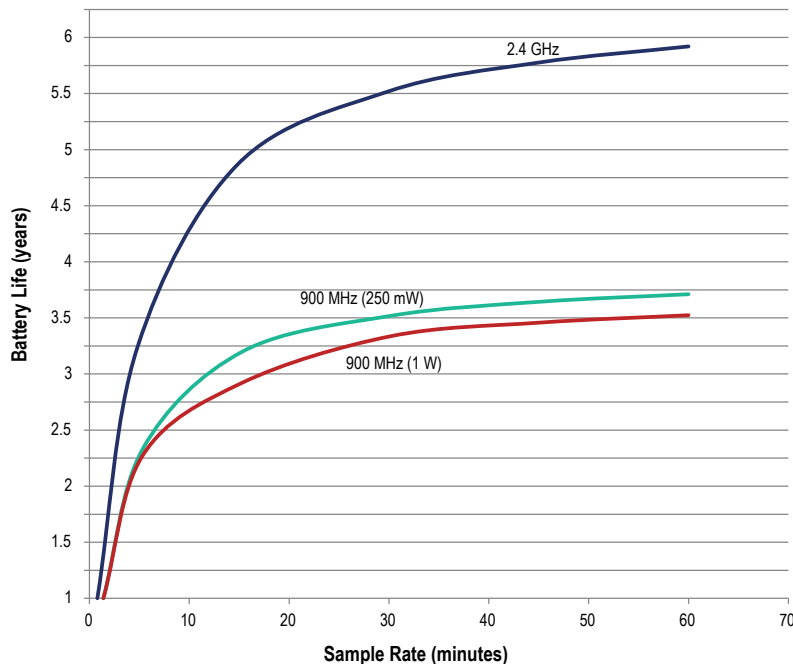
The following battery life estimates use the default configuration of the Performance P6 Node, which is a 5 minute sample and report rate.

- 900 MHz 1 Watt: 2.5 years
- 900 MHz 250 mW: 3.4 years
- 2.4 GHz: 4.3 years

## Battery Life for a Q45VA or Q45VT/Q45U Node with 1-Wire Serial Sensor

This is the battery life curve for the following models:

- Q45VT or Q45U 1-Wire Serial Interface Node connected to a 1-wire serial sensor (such as a VT1 Vibration/Temperature sensor)
- Q45VTP Node



<sup>1</sup> Operating the devices at the maximum operating conditions for extended periods can shorten the life of the device.