



Vibration Sensing

Onboard Sensor	MEMS Accelerometer
Dynamic Range	10-bit resolution @ 2g 11-bit resolution @ 4g 13-bit resolution @ 16g
Frequency Response	10 Hz to 1000 Hz (+/- 10%)
Sensitivity	0.004 g/LSB
Noise Floor	1.1 LSB RMS

Vibration Analysis (Overall)

Types	Acceleration / Velocity
Engineering Units	Acceleration: g or mm/s ² Velocity: in/s or mm/s
Detection Types	RMS, True Peak, Calculated Peak
Alarming	Four user-configurable vibration levels: 1. Machine OFF 2. OK 3. Warning 4. Alarm

Vibration Analysis (Frequency)

Types	Acceleration / Velocity
Engineering Units	Acceleration: g or mm/s ² Velocity: in/s or mm/s
Resolution	800 lines
Bands	Six (6) frequency band energy measurements

Measurements

Sampling Speed	User-configurable: 100, 200, 400, 800, 1600, 3200 samples/second
High-Pass Filtering	109-tap Linear-Phase Type 2 FIR High-pass filter: Off, 5 or 10 Hz
High-Pass Filtering	60-tap Linear-Phase Type 2 FIR Low-pass filter: Off, 50, 100, 200, 500, 750 or 1000 Hz
Range	+/- 2, +/- 4, +/- 8 or +/- 16 g

Communications

Wireless Specifications	Wi-Fi / Wireless
Standard	IEEE 802.11 b/g
Certification	FCC / CE / IC/TELEC
Wireless Security	Open, WPA2-PSK, WPA2-Enterprise
Transmission Rate	1-11 Mbps for 802.11b 6-54 Mbps for 802.11g
Reception Sensitivity	-65 dBm
Output Level	+12 dB
Channels	1-11 with 5 MHz intervals
Application Protocol	Packet based proprietary protocol
Encryption	AES-256 with strong 384-bit ECC key generation
Integrity and Ubiquity	Protected with multilevel Signature Hash Algorithm

Power

Power Types	Onboard rechargeable battery or +5 V DC with aux-power ring
Battery	5700 mA/h Lithium Ion
Battery Protection	Temperature protection shutdown 158 °F (70 °C)

Physical

Dimensions	Zark Device: 4.750" H x 1.250" W (120.65 mm H x 47.00 mm W) Mounting Ring: 1.125" H x 1.250" W (28.58 mm H x 31.75 mm W)
Material	Zark Body: XENOV 5220U Zark Base: 1018 Steel Ring: 30455 Steel
Mounting	To ring: 20 lb magnet To machine: 1/4 -28 UNF
Connector	Zark-Ring Interface: Custom 12-pin LCP with gold-plated copper alloy pins
Misalignment Protection	Macro-micro key mechanism

Environmental

Operating temperature	-4 °F to +140 °F (-20 °C to +60 °C)	-4 °F to +140 °F (-20 °C to +60 °C)
Operating temperature when battery charging	32 °F to +113 °F (0 °C to +45 °C)	32 °F to +113 °F (0 °C to +45 °C)
Water resistance	IP66 mounted on ring	