Sparrow Technical Datasheet
Wireless Condition Monitoring Solutions

Post-Processing

On Time Waves	Filters: High Pass, Low Pass, Band Pass, Shock Finder Smart Filter.
	High Resolution Spectra (up to 12,800 lines), Concatenation.
	Automatic parameters: Statistical Levels (RMS, Peak, Peak-Peak, Mean), Kurtosis.
On Spectra	Automatic parameters: Peak Extraction, Energy Narrow Band Level, Energy Broadband Level, Bearings Frequencies, Gear Frequencies.
On Parameters	Logic Combination of Parameters.

Advanced Thresholds

Alarm Threshold Levels	4 Levels: Pre-Alarm, Alarm, Danger, Error.
Threshold Types	HIGH Level Thresholds.

Data Mining

History	Trends, Waterfall.
History Comparison	Superimposition of Parameters, Spectra, Time Waves. Filter on control history from parameter trend.
Quick Access to Results	Health Matrix display for automatic fault detection: All Machine parameters displayed in a single view.

Performance

Number of Axis	3-axis (adjustable sensor orientation)
Dynamic Range	±8/±16/±32g, Configurable
Nominal Frequency Range (@25,600 Hz SF)	0.5 Hz – 8.5 kHz [x,y] 0.5 Hz – 5.1 kHz [z]
Fmax	10kHz
Sensing Resolution (X, Y, Z)	240 μg
Spectral Noise (10 Hz)	630 μg√Hz
Resolution Lines	12,800 (25,600 in single axis mode)
Sampling Frequency	200Hz to 25.6 kHz
Smart Sensor	Overall Velocity, Temperature, Time Waveform.
Acquisition Modes	Smart Interval, Alarm-Based.

Physical

Size and Weight	Ø47mm, 33mm tall, 186 grams
Case Material	Stainless Steel, ABS
Mounting	¼-28 UNF thread* *Mounting (optional): ¼-28 UNF cementing pad, ¼-28 UNF to M6 stud
Sealing	IP69

Electrical

Standard Battery	Lithium Battery (CR2477)
Autonomy	2 years* Standby Mode if Gateway not detected. * Duration depends on user configuration. Battery life is directly affected by temperature, frequency of alarms, and other factors independent of user settings.

Operating Requirements

Operating Ambient Temperature	40° to 176° F (-40° to 80° C)* *Note that extreme temperatures reduce optimum battery life
Solvent Resistance	Common Solvents Resistant
Compliances	CE, RoHS, Reach, contains FCC ID: X8WBT840F

Technical

Power Supply	5 VDC-2A in USB or 9-24 V-13W with 2-pin connector
Size	88mm x 69mm x 30mm (Without Antennas), 214g
Material	ABS / Nylamid
Operating Temperature	-7 to 60 °C (20 to 140 °F)
Protection Grade	IP20
Storage	16GB (100,000 recordings)
Network Channel	100M/10M Ethernet RJ45 Connector Industrial Ethernet Class 5e Cables (S/FTP)
WiFi Protocol	USB Based 2.4GHz/5GHz WiFi
Antenna Gain	2.4 GHz Antenna 3dBi
Antenna Connector	Two RP-SMA Male Connections
Mounting	Standard DIN Rail (35 mm, 42 mm wide)
Enclosure (Optional)	IP65 Enclosure for outdoor installation with power supply

Features

Outputs	Modbus TCP / IP, OPC
Sensor Configuration	Gateway Web Interface
Software Compatibility	NESTi4.0 through MQTT protocol

Sparrow Connectivity

Wireless Protocol	Bluetooth Low Energy BLE 5.0
Operating Frequency	2.4 GHz ISM Band International License-Free
Transmission Power	±8 dBm
Signal Strength Range	-90 dBm to -30 dBm
Power Output Range	-4 dBm to +8 dBm (Configurable)
Wireless Range	100m Line of Sight* *Ideal environment. No competing signals or obstructions.
Nodes Supported	Up to 100 Nodes per Gateway

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