



Sparrow Technical Datasheet

Wireless Condition Monitoring Solutions

DIAGNOSIS CAPABILITIES

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.
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On Spectra	Automatic parameters: Peak Extraction, Energy Narrow Band Level, Energy Broadband Level, Bearings Frequencies, Gear Frequencies.
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On Parameters	Logic Combination of Parameters.
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Advanced Thresholds

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

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



Per formance

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.
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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
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Ele c tr ic al

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

GATEWAY SPECIFICATIONS

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



442 738 3918



contacto@ingframex.com



www.ingframex.com

