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Intelliunion® Cloud

WLMon200

Wireless Temperature and Vibration Split Sensor

Datasheet

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CN Rev.v1.0

The intelligent wireless vibration/temperature condition monitoring & acquisition system (abbreviated as IWL) is a key wireless acquisition subsystem in the Intelliunion Cloud series solution. Its main function is to perform wireless acquisition, monitoring and analysis of vibration and temperature signals for key components such as unit bearings.

Based on the collected 3-axis vibration and temperature data, the IWL system provides data maps including fault diagnosis waveforms and evidence for fault causes, helping users predict early unit failures, evaluate fault severity, and obtain real-time operating status of the equipment.

Main Features

- **Easy installation and maintenance**-free: Adopts NB-IoT wireless transmission technology, requiring no repeaters or gateways. It can be easily installed wherever covered by cellular network.
- **Low power consumption and long endurance:** Uses low-power IoT communication with ultra-low standby power consumption and intelligent acquisition strategy triggered by timer or over-limit event. Large-capacity high-density battery enables ultra-long standby time up to 3 years (theoretical).
- **QR code deployment:** The sensor is equipped with a QR code label. After installation, one-click deployment via APP is available, enabling convenient, plug-and-play operation.

- **Local/cloud storage and publishing:** Monitoring data supports both local-only and cloud storage and publishing modes. Internal LAN deployment is supported. It is compatible with various terminals for real-time viewing.
- **Intelligent diagnosis:** The software supports multiple diagnostic maps and provides intelligent diagnostic alarms, helping users monitor equipment status in real time.
- **Full industry coverage: Features** waterproof, explosion-proof, dust-proof and wide-temperature design, dedicated to industrial-grade quality.

Technical Parameters

Model	**Intelliunion® Cloud WLMon200**	
		WLMon200 integrated wireless vibration & temperature sensor
		WB104 wireless communication & power supply module
		WL200-X dedicated connection cable (X = length in meters)
Basic Parameters	Installation method	Stud bolt (M8/M6/custom), or magnetic base, adhesive bonding or welding
	Installation condition	Covered by cellular network (China Mobile, China Telecom, China Unicom)
	Communication distance	Unlimited within network coverage
	Communication protocol	NB-IoT
	Dimensions	Φ48 mm (diameter) × 36 mm (height)
	Housing material	Corrosion-resistant aluminum alloy
	IP grade	IP67
	Applicable zone	Zone 0, Zone 1 (intrinsically safe)

	Explosion-proof certification	Exia llC T4 Ga
	National Institute of Metrology Test	<3%
Measurement Parameters	Output data	3-axis vibration + temperature
	Frequency response range	10 - 3200 Hz
	Minimum data refresh interval	20s
	Max waveform points	4096
	Max spectral lines	2048
	Upload data type	RMS velocity, RMS/peak acceleration, temperature, other characteristic values, waveform output
	Acceleration resolution	0.5 mg
	Acceleration range	±16g
	Acceleration accuracy	5%
	Speed resolution	0.01mm/s
	Speed range	70mm/s
	Speed accuracy	5%
	Temperature resolution	0.4℃
	Temperature range	-40 - 125°C
	Temperature accuracy	±2℃
Battery Parameters	Battery type	Lithium thionyl chloride battery (38000 mAh)
	Battery removal	Replaceable (special aviation connector)
	Endurance	3 years (20℃, 1 group of characteristic values per hour, 1 group of waveforms per 24 hours)

Environmental Parameters	Temperature range	-40 - 85°C
	Humidity range	10~95%, no condensation
	Impact test	20g for 10 ms, 3 directions
	Vibration test	1.5mm (5-28Hz)，5g (28-150Hz), three directions
	Atmospheric pressure	70kPa (≤3000m)
	Drop test	100 mm bottom drop without package