WCM1

WIRELESS CONDITION MONITORING SENSOR

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WCM1 is affordable and efficient sensor for asset condition monitoring. It measures acceleration and temperature and transmits the raw data to Inspector server where it is analyzed in the most applicable way and any time. It's truly wireless and digital operation outstands the conventional analog approach. Sophisticated low power design provides battery lifetime of at least one year. With WCM1 sensor you can trust that your assets remain monitored.

EASY TO INSTALL

WCM1 can be mounted by using stud, epoxy, or magnet. Optionally, cable for external power and triggering can be used. Installation of sensitive signal cables and cable shields can be forgotten.

SCALABLE AND VERSATILE

Whether you need to measure only occasionally, or want to have watertight on-line monitoring for large asset base, WCM1 covers these all. With a single sensor and a laptop, you can make periodic measurements, for instance. By using external power option and permanent mounting, you achieve better coverage and will have more time to react on detected failures. No other hardware can scale for this and provide this kind of versatility.

ACCURATE

In analog, wired solutions the measurement accuracy is negatively affected by electromagnetic noise. Cable lengths of several tens of meters are not rare. Even when expensive shielding is applied, this kind of lines become sensitive for noise, emitted by frequency converters, for example.

In WCM1 the analog signal line is only couple of millimeters long. Digitalization is done in the sensor. Signal is not distorted, which allows you to detect even the smallest changes in asset vibrations and to notice failures earlier.

SHORT PAYBACK TIME

With all the benefits provided, the overall expense of the WCM1 is still less compared to conventional condition monitoring systems. There is no need for cables or shielding. Digitalization boxes are replaced by off-the-shelf, inexpensive Wi-Fi access points. Costs are reduced even more during asset life cycle as there is no need for cables removal and reinstallation, often required by maintenance operations.

With WCM1 you can quickly and cost effectively reduce the uncertainty related to operation of your critical assets.

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Wi Fi ™

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MAIN FEATURES

Acceleration	
Frequency band	0.5Hz .. 11kHz
Range	-75g .. +75g
A/D conversion	24bit
Sampling rate	26kHz
Temperature	
Range	-40°C .. 105°C
Accuracy	±0.4°C
Resolution	0.0078°C (16bit)
Wireless communication	
Radio standard	IEEE 802.11b/g (Wi-Fi)
Range	> 80 m (line of sight)
Transmit power	adjustable, 1dBm .. 12dBm
Frequency	2.5GHz ISM unlicensed band
Certificates	FCC / CE/ IC
Network types	Infrastructure (Connects via Wi-Fi access point)
	Access Point (Acts as an access point connected by e.g. a laptop)
Power	
Alternatives	Battery pack or external power
Battery pack	7.2V lithium, size of 2 AA, equipped with 100mm wire and connector
Battery lifetime	15 months*
External power	9 .. 12V DC, absolute max 15V DC
Environment	
Operating temperature	-40°C .. +85°C
With battery	-30°C .. +70°C, at least
IP class	IP67
Certificates	CE
Physical	
Size	81x49x37mm
Default antenna height	30mm
Mounting	M8 x 1.25 (female)
Enclosure material	Aluminum (body), Stainless steel (cover)
Overall weight	280g (including battery pack)
Battery pack weight	40g
Connector	M8, male, 4-pin. (for external power and triggering)

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