

Datasheet fischer SensorNode

fischer Construction Monitoring



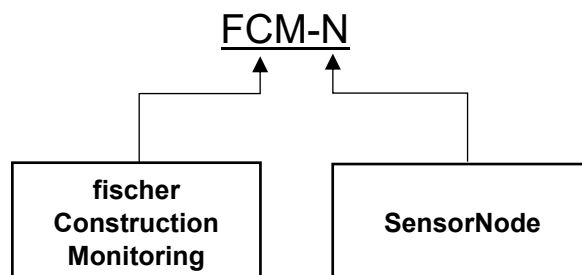
1. Overview:

The SensorNode is a battery-operated radio transmission unit that reads out measured values from the fischer Construction Monitoring sensor-integrated fasteners via NFC and transmits them via LoRaWAN to the fischer Cloud or customer-specific systems. The module extends the measurement chain of the fastening systems with reliable wireless remote monitoring, without compromising the mechanical load-bearing capacity of the connection. Thanks to its IP68-protected housing and ultra-low energy consumption, the device is suitable for outdoor applications and long periods of use (typically 5 – 10 years battery life).

2. Key Features

- **Contactless NFC interface:** Readout of measurements from fischer Construction Monitoring products without cable connection
- **LoRaWAN communication:** Data transmission via LoRaWAN in the EU868 band (other bands on request). Typical range up to 3 km in open field, adaptive data rate (ADR) enabled.
- **Ultra-low power design:** Powered by a 3.6 V lithium battery. The low power design requires only a few microamps in sleep mode, resulting in a typical battery life of 5 to 10 years, depending on measurement interval and transmission power.
- **Robust construction:** IP68 rating; corrosion, shock and vibration resistant.
- **Easy mounting:** Bayonet locking mechanism for quick, tool-free attachment to fischer Construction Monitoring products.
- **Cloud Integration:** Direct connection to the fischer Construction Monitoring platform; Over the air firmware updates.

Nomenclature



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3. Technical Specifications

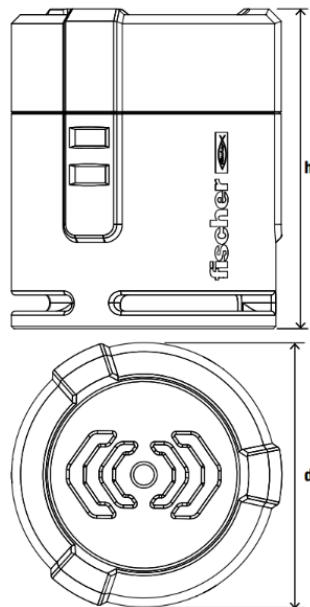
Category	Parameters	Value / Description
Mechanical properties	Housing material	UL-V0 certified plastic housing
	Dimensions	32 mm x 38 mm
	Weight	30 g (22g excl. battery)
	Fastening	Bayonet lock suitable for fischer Construction Monitoring products
Measurement data transmission	Measuring principle	LoRaWan Transmission of the sensor data via NFC
	Measurement interval	Once every 5 min – 24 h (user configurable)
	Communication distance	Up to 3 km in open field
Power supply	Battery	1/2 AA Li-SOCl ₂ , 1.2 Ah
	Nominal voltage	3,6 V
	Battery life	5 years (with a factory measurement and transmission interval of once every two hours at SF9)
Communication (NFC)	Standard	ISO 15693 / NFC Forum Type 5 (reader)
	Frequency	13,56 MHz
Communication (LoRa)	LoRaWAN Version	v1.0.4
	LoRaWan feaures	OTAA, Class A, ADR, FUOTA
	Frequency band (optional)	868 MHz (AS923, AU915, US915)
	Reception sensitivity	up to –115 dBm
	Data Rate	10.9 kbps (LoRa)
	Encryption	AES128 (LoRa Standard)

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Environment	Operating Temperature	-20 °C ... +60 °C
	Storage Temperature	0 °C ... +30 °C
	Storage humidity	< 60%
	Degree of protection	IP68 (1m water depth, 12h)
	Relative humidity	0 % ... 95 %
	Other	Do not use in areas with risk of spray or leakage of oil and fuels

Dimensions of SensorNode



Index	Description	Measurements
d	Outer diameter	32 mm
h	Total height	38 mm

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4. Declaration of Conformity



5. Contact

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