Wireless sensor node

WILSEN.node

WSN-2ZL-F406-B41-01-02

- Battery operated
- Data transfer via LoRaWAN
- LoRaWAN downlink channel for querying and adjusting parameter values
- Bluetooth interface for commissioning, parameterization and diagnostics

Wireless sensor node with LoRaWAN interface, 2 independent channnels for connecting up to 2 low-power two-wire single sensors

CE · Bluetooth® · LoRaWAN™

Function

The wireless sensor node is used to remotely monitor the status of the connected front-end sensors. The status of the front-end sensors, as well as other measurement and status data from the wireless sensor node, are recorded at adjustable time intervals and transmitted to the remote station in the LoRaWAN network. The data is available there for display or further processing.
The wireless sensor node can be accessed remotely from the LoRaWAN network via the downlink channel of the wireless sensor node in order to query or adjust device parameter values. Parameterization can also be carried out via the additional Bluetooth interface in the sensor node using a mobile device (smartphone or tablet) and the corresponding WILSEN app.

Dimensions
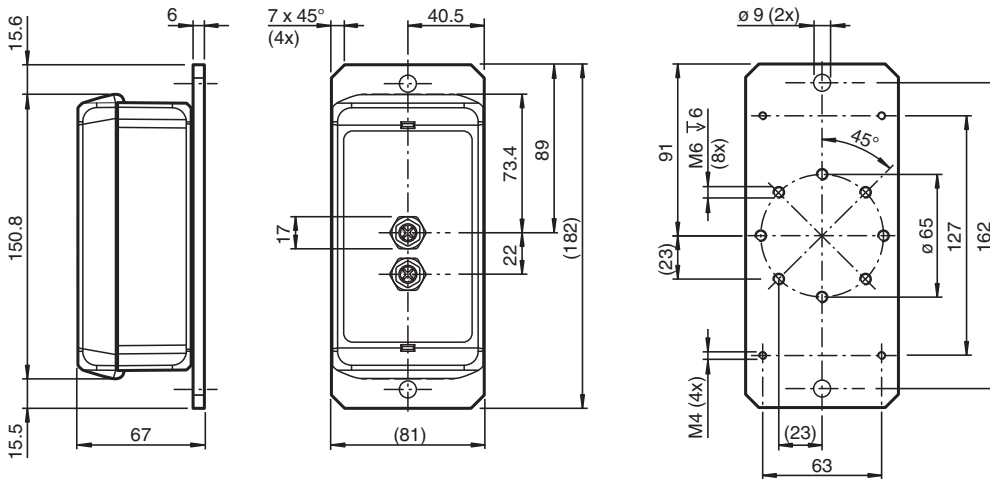
Technical Data

| Main sensor	
Suitable sensors	2-wire sensor , output type: Two-wire with minimum off-state current
Number of connectable sensors	up to 2
Query interval	- cylically according to the set LoRaWan transmission interval and or GPS acquistion interval - if required, additionally triggered by events at intervals of 1 min ... 24 h
Integrated sensor technology	
GPS sensor	for geo-positioning
Acquisition interval	30 min ... 24 h
Temperature sensor	
Resolution	0.5 °C

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Technical Data

Accuracy	± 2 °C
Electrical specifications	
Battery type	high capacity lithium battery 3.6 V , 13000 mAh
Operating duration	battery lifetime approx. 10 years under Central European environmental conditions, 3 measurements and 3 wireless transmission per day with sufficient network coverage.
Interface 1	
Interface type	Bluetooth 5.0 LE
Transmitter radiated power	+ 8 dBm
Frequency range	2402 ... 2480 MHz
Interface 2	
Interface type	LoRaWAN
Specification	LoRaWAN interface specification V1.0.3
Device type	LoRaWAN class A device
Transmitter frequency	868 MHz
Transmitter radiated power	+ 8 dBm
Frequency range	863 ... 870 MHz (Europe)
Transmission interval	10 min ... 24 h
Inputs	
Number of channels	2
Connection	max. cable length 10 m
Input type	Two-wire
Directive conformity	
Electromagnetic compatibility	
Directive 2014/30/EU	EN 301 489-1 V2.2.3:2019 EN 301 489-3 V2.1.1:2019 EN 301 489-17 V3.2.4:2020 EN 301 489-19 V2.1.1:2019
Radio and telecommunication terminal equipment	
Directive 2014/53/EU	EN 300 220-2 V3.1.1:2017 EN 300 328 V2.2.2:2019 EN 303 413 V1.1.1:2017
RoHS	
Directive 2011/65/EU (RoHS)	EN 63000:2018
Conformity	
Mech. capacity	EN IEC 60947-5-2:2020 IEC 60947-5-2:2019
Shock resistance	EN IEC 60947-5-2:2020 IEC 60947-5-2:2019
Vibration resistance	EN IEC 60947-5-2:2020 IEC 60947-5-2:2019
Climatic conditions	EN IEC 60947-5-2:2020 IEC 60947-5-2:2019
Ambient conditions	
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Storage temperature	-40 ... 85 °C (-40 ... 185 °F)
Mechanical specifications	
Connection type	socket
Degree of protection	IP66 / IP67
Material	
Housing	PC (UL94-V0)
Socket	brass, nickel-plated
Socket	
Threading	M12 x 1
Number of pins	4
Mass	570 g

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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Technical Data

Dimensions	
Height	74 mm
Width	81 mm
Length	182 mm
Factory settings	
Default setting	LoRaWAN transmission interval = 24 h LoRaWAN Downlink channel = enabled LoRaWAN Downlink acknowledgement = enabled GPS = disabled

Connection
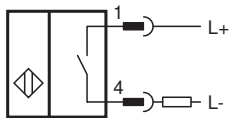
Connection Assignment
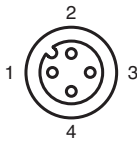
Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

Additional Information

Further Documentation
For commissioning, parameterization and usage of the sensor, there are also a brief commissioning instructions, a manual and further technical information for download from the product page at www.pepperl-fuchs.com.

Accessories

Accessories for this product can be found on the internet at www.pepperl-fuchs.com.
The sensors and cables listed are to be considered "exemplary". Further sensors of the same types in other design and cables in other lengths can also be used.

Release date: 2024-08-29 Date of issue: 2024-08-29 Filename: 70162458_eng.pdf

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