Беспроводные датчики WILSEN

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Wireless ultrasonic sensor

WILSEN.sonic.level

WS-UC7000-F406-B41-01-02

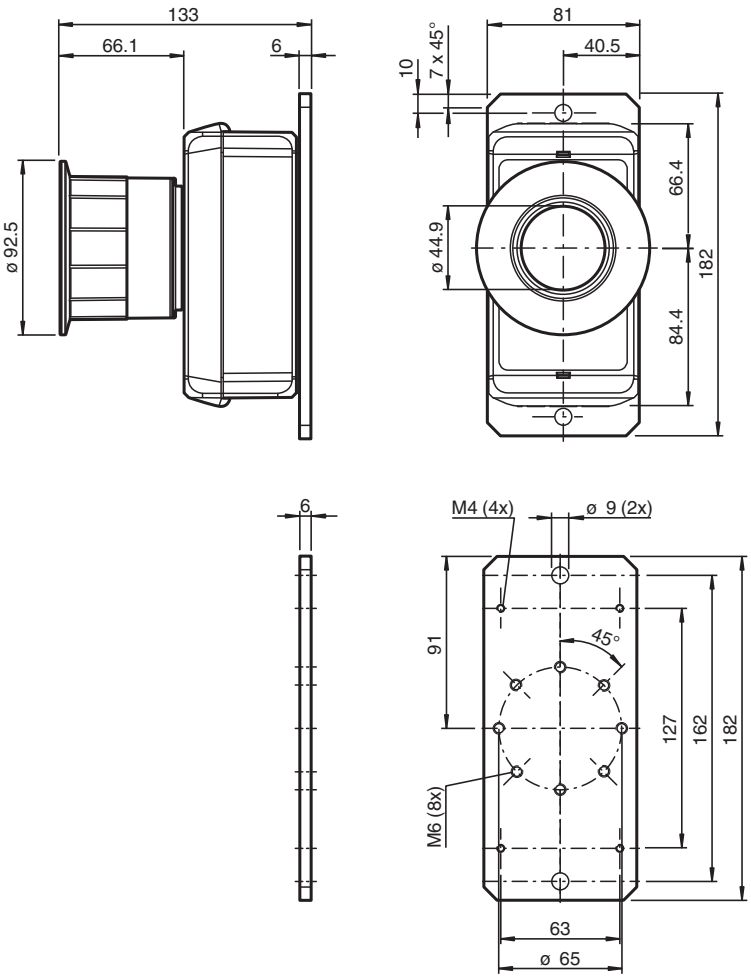
- Battery operated
- Data transfer via LoRaWAN
- LoRaWAN downlink channel for querying and adjusting parameter values
- Bluetooth interface for commissioning, parameterization and diagnostics

Wireless ultrasonic sensor with LoRaWAN interface, especially for fill level measurement in tanks and silos, sensing range 500 ... 7000 mm, resolution 1 mm

Function

The wireless ultrasonic sensor can be remotely used for fill level measurement, level monitoring and distance measurement.
The measured variables and other measurement and status data of the sensor are recorded in configurable time intervals and transmitted to a counterpart in the LoRa network. There, the data is available for pure display or further processing.
The sensor's downlink channel can be used to remotely access the sensor from the LoRa network to query or adjust sensor parameter values.
Sensor parameterization is additionally also possible via the integrated Bluetooth interface using a mobile device (smartphone or tablet) and the WILSEN app associated with the sensor.

Dimensions



Technical Data

Main sensor		
Detection type		ultrasonic
Sensing range		500 ... 7000 mm
Dead band		0 ... 500 mm
Resolution		1 mm
Measurement interval		10 min ... 24 h
Integrated sensor technology		
GPS sensor		for geo-positioning
Acquisition interval		30 min ... 24 h
Temperature sensor		
Resolution		0.5 °C
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

Release date: 2024-11-12 Date of issue: 2024-11-12 Filename: 70149230_eng.pdf

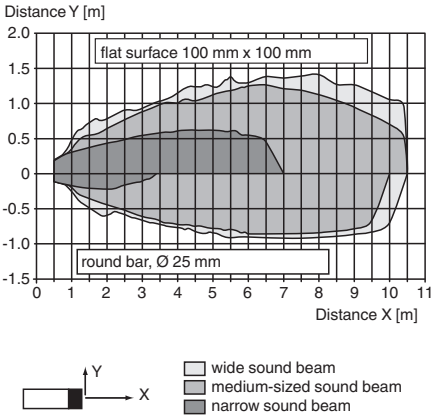
Technical Data

Specification	LoRaWAN interface specification V1.0.3
Device type	LoRaWAN class A device
Downlink channel	yes
Transmitter frequency	868 MHz
Transmitter radiated power	+ 14 dBm
Frequency range	863 ... 870 MHz (Europe)
Transmission interval	10 min ... 24 h
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 60947-5-2:2020 IEC 60947-5-2:2019
Shock resistance	EN 60947-5-2:2020 IEC 60947-5-2:2019
Vibration resistance	EN 60947-5-2:2020 IEC 60947-5-2:2019
Climatic conditions	EN 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	
Degree of protection	IP66 / IP67
Material	
Housing	PC (UL94-V0)
Transducer	epoxy resin/hollow glass sphere mixture; polyurethane foam housing: PBT
Mass	920 g
Dimensions	
Height	133 mm
Width	92 mm
Length	182 mm
Factory settings	
Beam width	wide
Transmission interval	24 h
Measurement interval	24 h

Release date: 2024-11-12 Date of issue: 2024-11-12 Filename: 70149230_eng.pdf

Characteristic Curve

Characteristic response curve



Release date: 2024-11-12 Date of issue: 2024-11-12 Filename: 70149230_eng.pdf

Wireless ultrasonic sensor

WILSEN.sonic.distance

WS-UC7000-F406-B41-01-02-Y

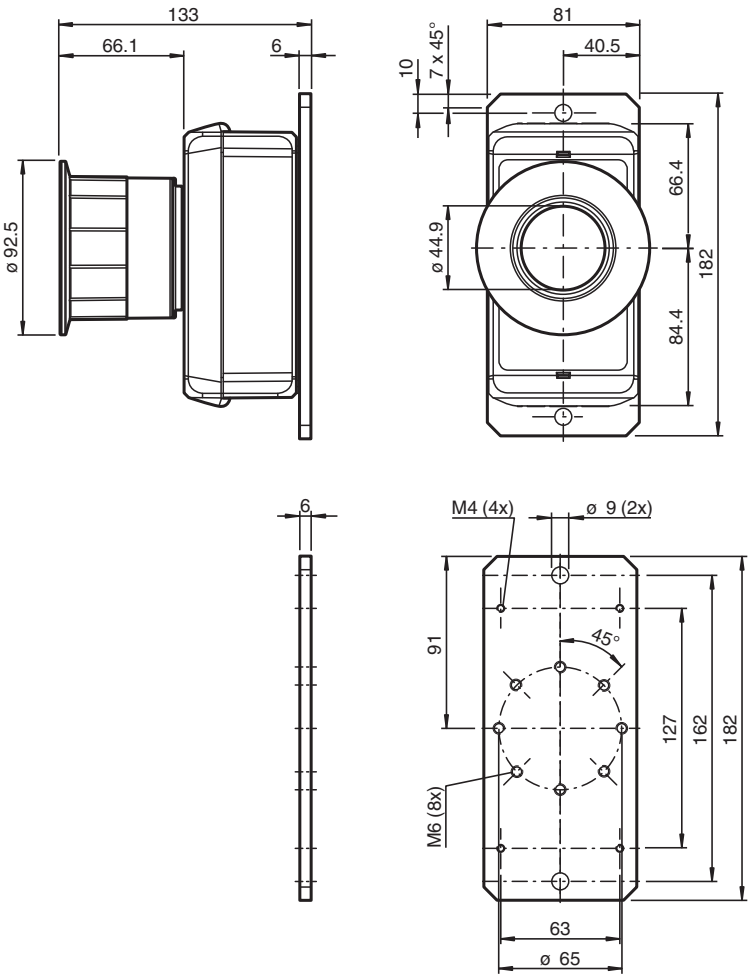
- Battery operated
- Data transfer via LoRaWAN
- LoRaWAN downlink channel for querying and adjusting parameter values
- Bluetooth interface for commissioning, parameterization and diagnostics

Wireless ultrasonic sensor with LoRaWAN interface, especially for level monitoring in rivers and distance measurement , sensing range 500 ... 7000 mm, resolution 1 mm

Function

The wireless ultrasonic sensor can be remotely used for fill level measurement, level monitoring and distance measurement.
The measured variables and other measurement and status data of the sensor are recorded in configurable time intervals and transmitted to a counterpart in the LoRa network. There, the data is available for pure display or further processing.
The sensor's downlink channel can be used to remotely access the sensor from the LoRa network to query or adjust sensor parameter values.
Sensor parameterization is additionally also possible via the integrated Bluetooth interface using a mobile device (smartphone or tablet) and the WILSEN app associated with the sensor.

Dimensions



Technical Data

Main sensor		
Detection type		ultrasonic
Sensing range		500 ... 7000 mm
Dead band		0 ... 500 mm
Resolution		1 mm
Measurement interval		10 min ... 24 h
Integrated sensor technology		
GPS sensor		for geo-positioning
Acquisition interval		30 min ... 24 h
Temperature sensor		
Resolution		0.5 °C
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

Release date: 2024-11-12 Date of issue: 2024-11-12 Filename: 70149231_eng.pdf

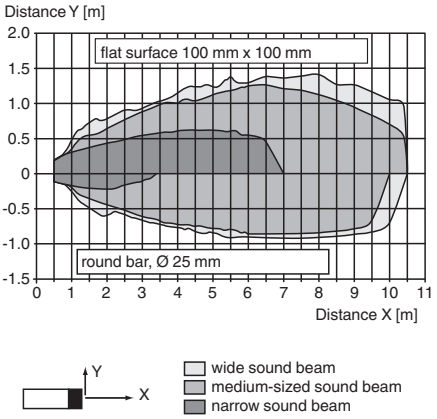
Technical Data

Specification	LoRaWAN interface specification V1.0.3
Device type	LoRaWAN class A device
Downlink channel	yes
Transmitter frequency	868 MHz
Transmitter radiated power	+ 14 dBm
Frequency range	863 ... 870 MHz (Europe)
Transmission interval	10 min ... 24 h
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 60947-5-2:2020 IEC 60947-5-2:2019
Shock resistance	EN 60947-5-2:2020 IEC 60947-5-2:2019
Vibration resistance	EN 60947-5-2:2020 IEC 60947-5-2:2019
Climatic conditions	EN 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	
Degree of protection	IP66 / IP67
Material	
Housing	PC (UL94-V0)
Transducer	epoxy resin/hollow glass sphere mixture; polyurethane foam housing: PBT
Mass	920 g
Dimensions	
Height	133 mm
Width	92 mm
Length	182 mm
Factory settings	
Beam width	wide
Transmission interval	24 h
Measurement interval	24 h

Release date: 2024-11-12 Date of issue: 2024-11-12 Filename: 70149231_eng.pdf

Characteristic Curve

Characteristic response curve



Release date: 2024-11-12 Date of issue: 2024-11-12 Filename: 70149231_eng.pdf

Wireless ultrasonic sensor

WILSEN.sonic.level

WS-UCC2500-F406-B41-01-02

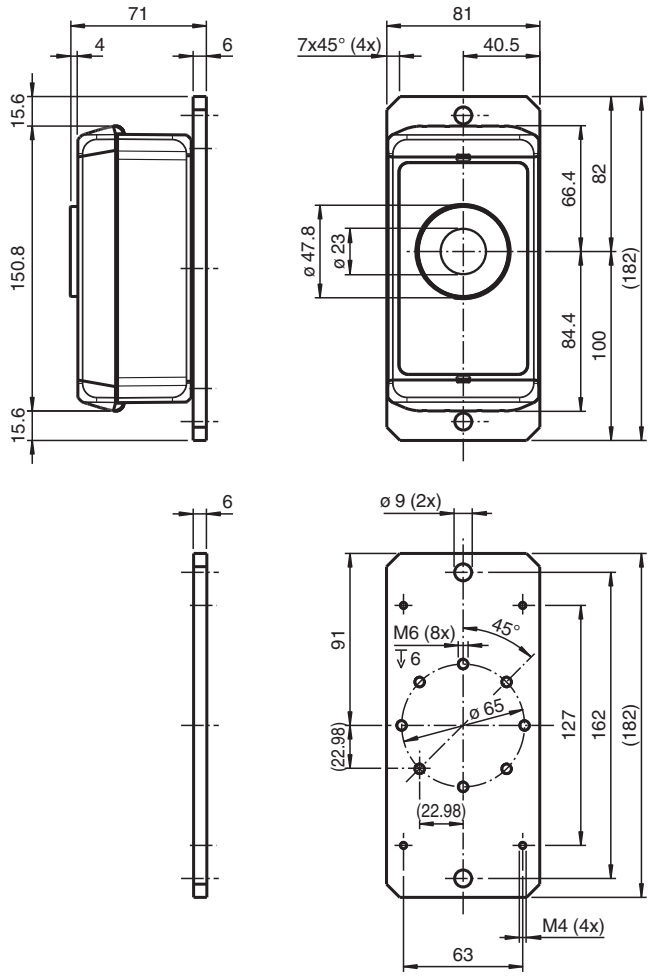
- Battery operated
- Data transfer via LoRaWAN
- LoRaWAN downlink channel for querying and adjusting parameter values
- Bluetooth interface for commissioning, parameterization and diagnostics

Wireless ultrasonic sensor with LoRaWAN interface, especially for fill level measurement in tanks and silos, sensing range 150 ... 2500 mm, resolution 1 mm

Function

The wireless ultrasonic sensor can be remotely used for fill level measurement, level monitoring and distance measurement.
The measured variables and other measurement and status data of the sensor are recorded in configurable time intervals and transmitted to a counterpart in the LoRa network. There, the data is available for pure display or further processing.
The sensor's downlink channel can be used to remotely access the sensor from the LoRa network to query or adjust sensor parameter values.
Sensor parameterization is additionally also possible via the integrated Bluetooth interface using a mobile device (smartphone or tablet) and the WILSEN app associated with the sensor.

Dimensions



Technical Data

Main sensor		
Detection type		ultrasonic
Sensing range		150 ... 2500 mm
Dead band		0 ... 150 mm
Resolution		1 mm
Measurement interval		10 min ... 24 h
Integrated sensor technology		
GPS sensor		for geo-positioning
Acquisition interval		30 min ... 24 h
Temperature sensor		
Resolution		0.5 °C
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

Release date: 2024-11-12 Date of issue: 2024-11-12 Filename: 70150488_eng.pdf

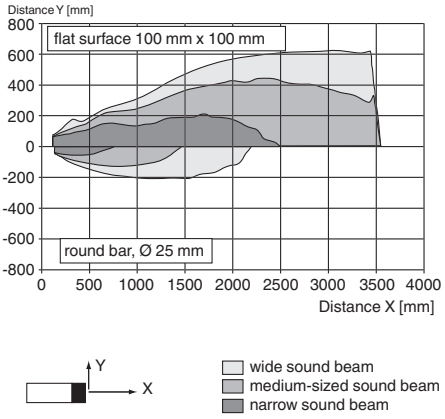
Technical Data

Specification	LoRaWAN interface specification V1.0.3
Device type	LoRaWAN class A device
Downlink channel	yes
Transmitter frequency	868 MHz
Transmitter radiated power	+ 14 dBm
Frequency range	863 ... 870 MHz (Europe)
Transmission interval	10 min ... 24 h
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 60947-5-2:2020 IEC 60947-5-2:2019
Shock resistance	EN 60947-5-2:2020 IEC 60947-5-2:2019
Vibration resistance	EN 60947-5-2:2020 IEC 60947-5-2:2019
Climatic conditions	EN 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	
Degree of protection	IP66 / IP67
Material	
Housing	PC (UL94-V0)
Transducer	PTFE coated housing: PBT
Mass	620 g
Dimensions	
Height	70 mm
Width	81 mm
Length	182 mm
Factory settings	
Beam width	wide
Transmission interval	24 h
Measurement interval	24 h

Release date: 2024-11-12 Date of issue: 2024-11-12 Filename: 70150488_eng.pdf

Characteristic Curve

Characteristic response curve



Release date: 2024-11-12 Date of issue: 2024-11-12 Filename: 70150488_eng.pdf

Wireless ultrasonic sensor

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WS-UCC2500-F406-B41-01-02-Y

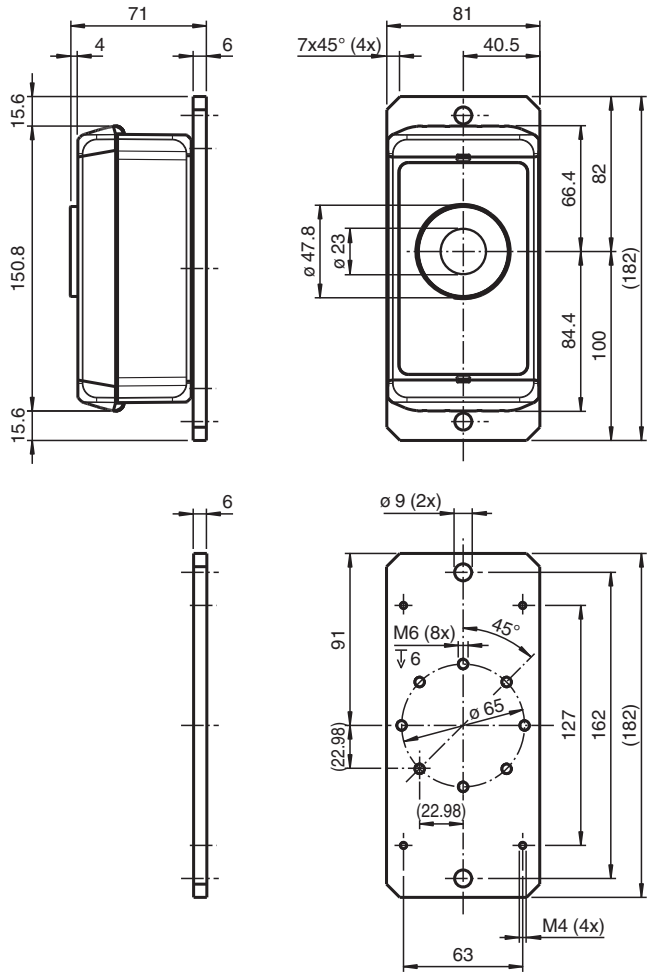
- Battery operated
- Data transfer via LoRaWAN
- LoRaWAN downlink channel for querying and adjusting parameter values
- Bluetooth interface for commissioning, parameterization and diagnostics

Wireless ultrasonic sensor with LoRaWAN interface, especially for level monitoring in rivers and distance measurement , sensing range 150 ... 2500 mm, resolution 1 mm

Function

The wireless ultrasonic sensor can be remotely used for fill level measurement, level monitoring and distance measurement.
The measured variables and other measurement and status data of the sensor are recorded in configurable time intervals and transmitted to a counterpart in the LoRa network. There, the data is available for pure display or further processing.
The sensor's downlink channel can be used to remotely access the sensor from the LoRa network to query or adjust sensor parameter values.
Sensor parameterization is additionally also possible via the integrated Bluetooth interface using a mobile device (smartphone or tablet) and the WILSEN app associated with the sensor.

Dimensions



Technical Data

Main sensor		
Detection type		ultrasonic
Sensing range		150 ... 2500 mm
Dead band		0 ... 150 mm
Resolution		1 mm
Measurement interval		10 min ... 24 h
Integrated sensor technology		
GPS sensor		for geo-positioning
Acquisition interval		30 min ... 24 h
Temperature sensor		
Resolution		0.5 °C
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

Release date: 2024-11-12 Date of issue: 2024-11-12 Filename: 70150489_eng.pdf

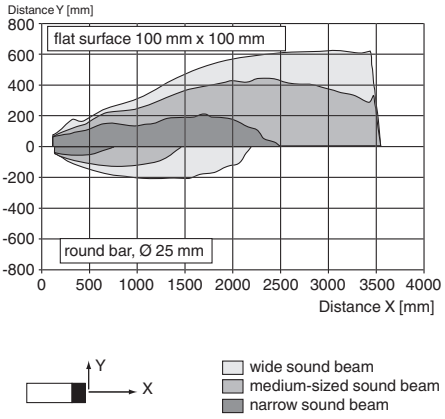
Technical Data

Specification	LoRaWAN interface specification V1.0.3
Device type	LoRaWAN class A device
Downlink channel	yes
Transmitter frequency	868 MHz
Transmitter radiated power	+ 14 dBm
Frequency range	863 ... 870 MHz (Europe)
Transmission interval	10 min ... 24 h
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 60947-5-2:2020 IEC 60947-5-2:2019
Shock resistance	EN 60947-5-2:2020 IEC 60947-5-2:2019
Vibration resistance	EN 60947-5-2:2020 IEC 60947-5-2:2019
Climatic conditions	EN 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	
Degree of protection	IP66 / IP67
Material	
Housing	PC (UL94-V0)
Transducer	PTFE coated housing: PBT
Mass	620 g
Dimensions	
Height	70 mm
Width	81 mm
Length	182 mm
Factory settings	
Beam width	wide
Transmission interval	24 h
Measurement interval	24 h

Release date: 2024-11-12 Date of issue: 2024-11-12 Filename: 70150489_eng.pdf

Characteristic Curve

Characteristic response curve



Release date: 2024-11-12 Date of issue: 2024-11-12 Filename: 70150489_eng.pdf

Wireless ultrasonic sensor

WILSEN.sonic.level

WS-UCC4000-F406-B41-01-02

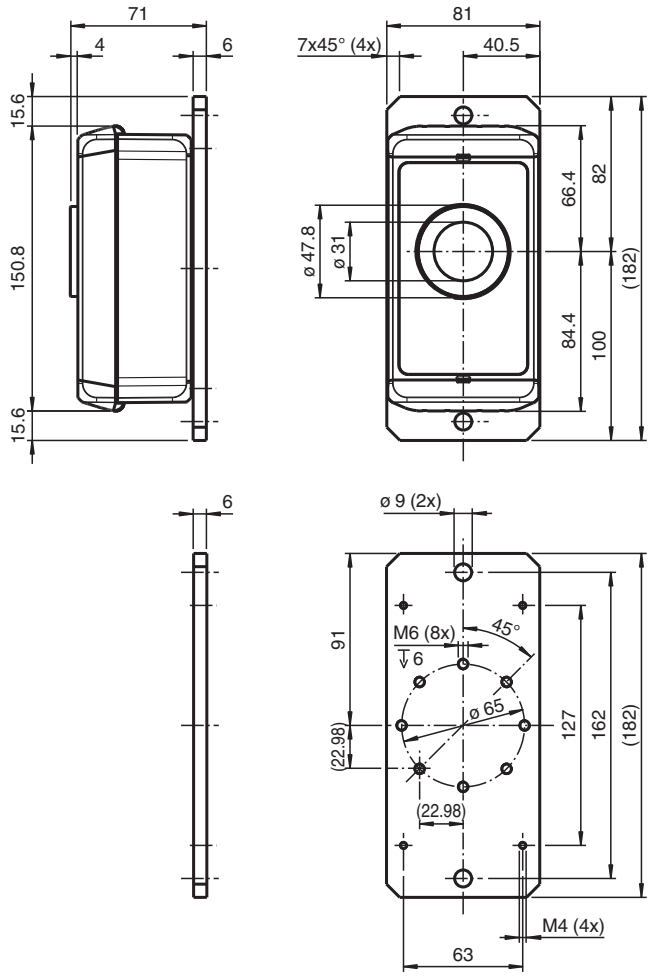
- Battery operated
- Data transfer via LoRaWAN
- LoRaWAN downlink channel for querying and adjusting parameter values
- Bluetooth interface for commissioning, parameterization and diagnostics

Wireless ultrasonic sensor with LoRaWAN interface, especially for fill level measurement in tanks and silos, sensing range 250 ... 4000 mm, resolution 1 mm

Function

The wireless ultrasonic sensor can be remotely used for fill level measurement, level monitoring and distance measurement.
The measured variables and other measurement and status data of the sensor are recorded in configurable time intervals and transmitted to a counterpart in the LoRa network. There, the data is available for pure display or further processing.
The sensor's downlink channel can be used to remotely access the sensor from the LoRa network to query or adjust sensor parameter values.
Sensor parameterization is additionally also possible via the integrated Bluetooth interface using a mobile device (smartphone or tablet) and the WILSEN app associated with the sensor.

Dimensions



Technical Data

Main sensor		
Detection type		ultrasonic
Sensing range		250 ... 4000 mm
Dead band		0 ... 250 mm
Resolution		1 mm
Measurement interval		10 min ... 24 h
Integrated sensor technology		
GPS sensor		for geo-positioning
Acquisition interval		30 min ... 24 h
Temperature sensor		
Resolution		0.5 °C
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

Release date: 2024-11-12 Date of issue: 2024-11-12 Filename: 70150490_eng.pdf

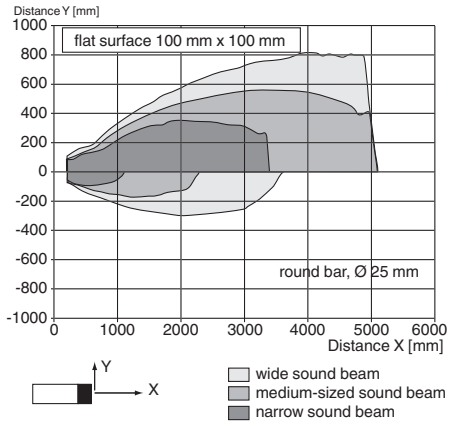
Technical Data

Specification	LoRaWAN interface specification V1.0.3
Device type	LoRaWAN class A device
Downlink channel	yes
Transmitter frequency	868 MHz
Transmitter radiated power	+ 14 dBm
Frequency range	863 ... 870 MHz (Europe)
Transmission interval	10 min ... 24 h
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 60947-5-2:2020 IEC 60947-5-2:2019
Shock resistance	EN 60947-5-2:2020 IEC 60947-5-2:2019
Vibration resistance	EN 60947-5-2:2020 IEC 60947-5-2:2019
Climatic conditions	EN 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	
Degree of protection	IP66 / IP67
Material	
Housing	PC (UL94-V0)
Transducer	PTFE coated housing: PBT
Mass	620 g
Dimensions	
Height	70 mm
Width	81 mm
Length	182 mm
Factory settings	
Beam width	wide
Transmission interval	24 h
Measurement interval	24 h

Release date: 2024-11-12 Date of issue: 2024-11-12 Filename: 70150490_eng.pdf

Characteristic Curve

Characteristic response curve



Release date: 2024-11-12 Date of issue: 2024-11-12 Filename: 70150490_eng.pdf

Wireless ultrasonic sensor

WILSEN.sonic.distance

WS-UCC4000-F406-B41-01-02-Y

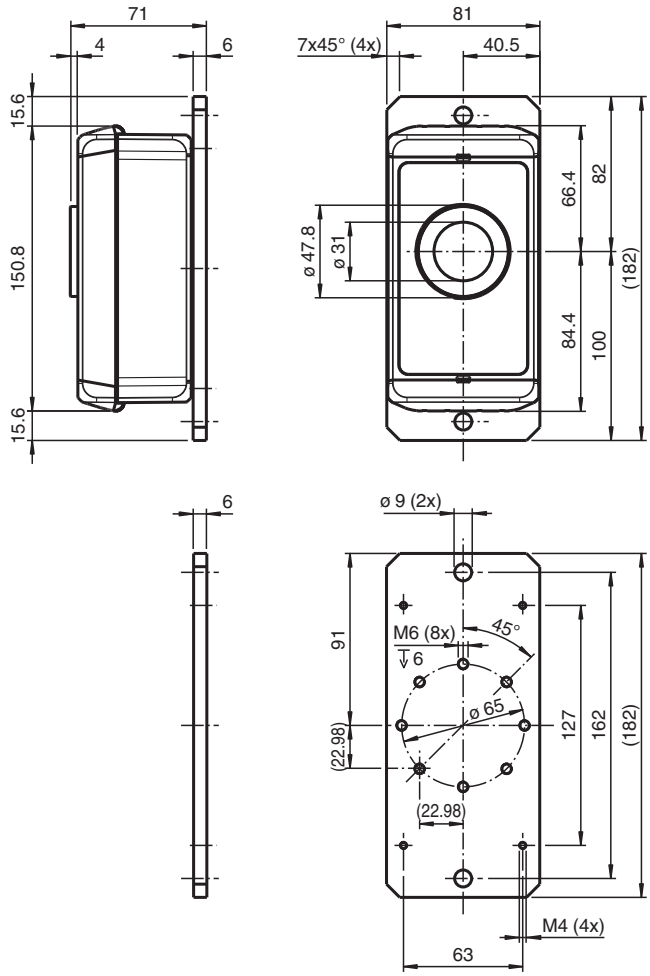
- Battery operated
- Data transfer via LoRaWAN
- LoRaWAN downlink channel for querying and adjusting parameter values
- Bluetooth interface for commissioning, parameterization and diagnostics

Wireless ultrasonic sensor with LoRaWAN interface, especially for level monitoring in rivers and distance measurement , sensing range 250 ... 4000 mm, resolution 1 mm

Function

The wireless ultrasonic sensor can be remotely used for fill level measurement, level monitoring and distance measurement.
The measured variables and other measurement and status data of the sensor are recorded in configurable time intervals and transmitted to a counterpart in the LoRa network. There, the data is available for pure display or further processing.
The sensor's downlink channel can be used to remotely access the sensor from the LoRa network to query or adjust sensor parameter values.
Sensor parameterization is additionally also possible via the integrated Bluetooth interface using a mobile device (smartphone or tablet) and the WILSEN app associated with the sensor.

Dimensions



Technical Data

Main sensor		
Detection type		ultrasonic
Sensing range		250 ... 4000 mm
Dead band		0 ... 250 mm
Resolution		1 mm
Measurement interval		10 min ... 24 h
Integrated sensor technology		
GPS sensor		for geo-positioning
Acquisition interval		30 min ... 24 h
Temperature sensor		
Resolution		0.5 °C
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

Release date: 2024-11-12 Date of issue: 2024-11-12 Filename: 70150491_eng.pdf

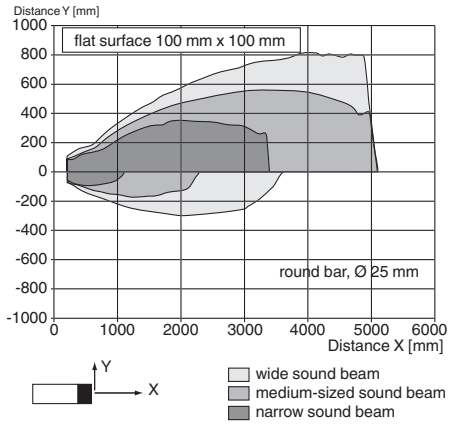
Technical Data

Specification	LoRaWAN interface specification V1.0.3
Device type	LoRaWAN class A device
Downlink channel	yes
Transmitter frequency	868 MHz
Transmitter radiated power	+ 14 dBm
Frequency range	863 ... 870 MHz (Europe)
Transmission interval	10 min ... 24 h
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 60947-5-2:2020 IEC 60947-5-2:2019
Shock resistance	EN 60947-5-2:2020 IEC 60947-5-2:2019
Vibration resistance	EN 60947-5-2:2020 IEC 60947-5-2:2019
Climatic conditions	EN 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	
Degree of protection	IP66 / IP67
Material	
Housing	PC (UL94-V0)
Transducer	PTFE coated housing: PBT
Mass	620 g
Dimensions	
Height	70 mm
Width	81 mm
Length	182 mm
Factory settings	
Beam width	wide
Transmission interval	24 h
Measurement interval	24 h

Release date: 2024-11-12 Date of issue: 2024-11-12 Filename: 70150491_eng.pdf

Characteristic Curve

Characteristic response curve



Release date: 2024-11-12 Date of issue: 2024-11-12 Filename: 70150491_eng.pdf

Wireless sensor node

WILSEN.valve

WS-VAL-2N-F406-B41-01-02

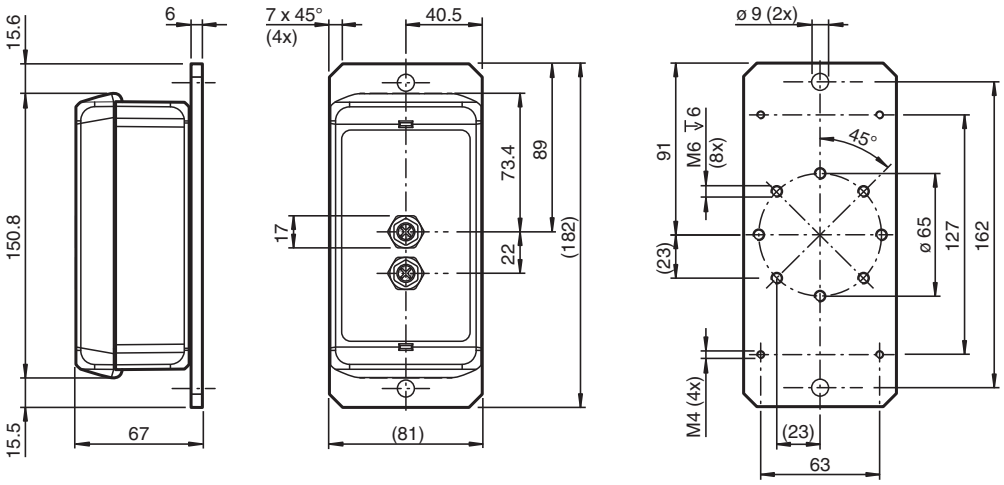
- Battery operated
- Data transfer via LoRaWAN
- LoRaWAN downlink channel for querying and adjusting parameter values
- Bluetooth interface for commissioning, parameterization and diagnostics

Wireless sensor node with LoRaWAN interface, especially for monitoring the valve positions of 90° hand lever valves, for connecting up to 2 NAMUR single sensors

Function

The wireless sensor node is used to remotely monitor the valve positions of 90°-hand lever valves. The valve position(s) and other measurement and status data from the connected sensors and 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		Inductive sensors output type: NAMUR
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
Accuracy		± 2 °C

Release date: 2024-11-12 Date of issue: 2024-11-12 Filename: 70162453_eng.pdf

Technical Data

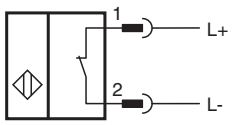
Electrical specifications	
Battery type	high capacity lithium battery 3.6 V , 13000 mAh
Operating duration	battery lifetime approx. 10 years under Central European environmental conditions, 3 measurements and 3 wireless transmission per day with sufficient network coverage.
Interface 1	
Interface type	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	+ 14 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	NAMUR
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
Dimensions	

Release date: 2024-11-12 Date of issue: 2024-11-12 Filename: 70162453_eng.pdf

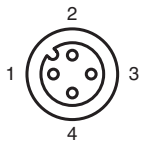
Technical Data

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)

Wireless sensor node

WILSEN.valve

WS-VAL-2N4-F406-B41-01-02

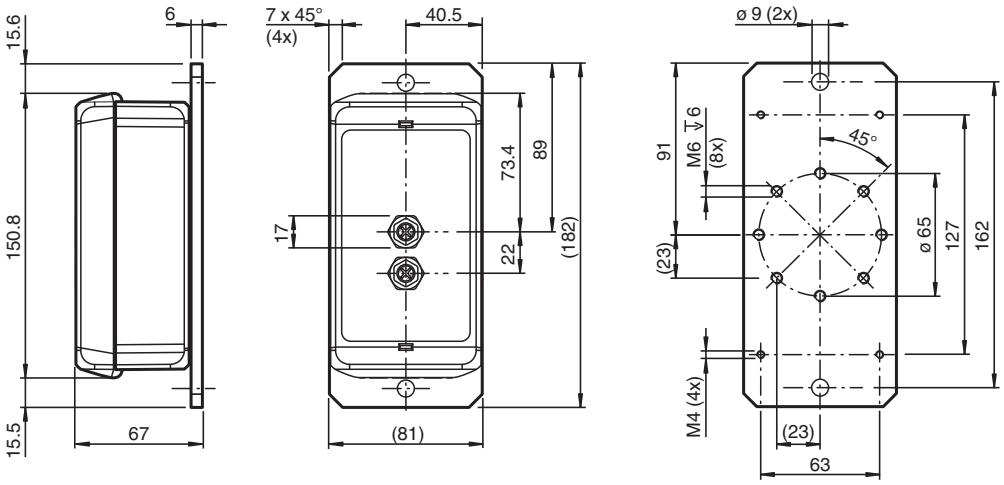
- Battery operated
- Data transfer via LoRaWAN
- LoRaWAN downlink channel for querying and adjusting parameter values
- Bluetooth interface for commissioning, parameterization and diagnostics

Wireless sensor node with LoRaWAN interface, especially for monitoring the valve positions of 90° hand lever valves, for connecting up to 2 NAMUR dual sensors

Function

The wireless sensor node is used to remotely monitor the valve positions of 90°-hand lever valves. The valve position(s) and other measurement and status data from the connected sensors and 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		inductive dual sensors , output type: NAMUR
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
Accuracy		± 2 °C

Release date: 2024-11-12 Date of issue: 2024-11-12 Filename: 70162454_eng.pdf

Technical Data

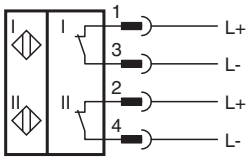
Electrical specifications	
Battery type	high capacity lithium battery 3.6 V , 13000 mAh
Operating duration	battery lifetime approx. 10 years under Central European environmental conditions, 3 measurements and 3 wireless transmission per day with sufficient network coverage.
Interface 1	
Interface type	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	+ 14 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	NAMUR
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
Dimensions	

Release date: 2024-11-12 Date of issue: 2024-11-12 Filename: 70162454_eng.pdf

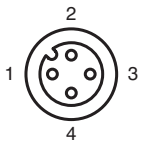
Technical Data

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)

Wireless sensor node

WILSEN.valve

WS-VAL-2ZL-F406-B41-01-02

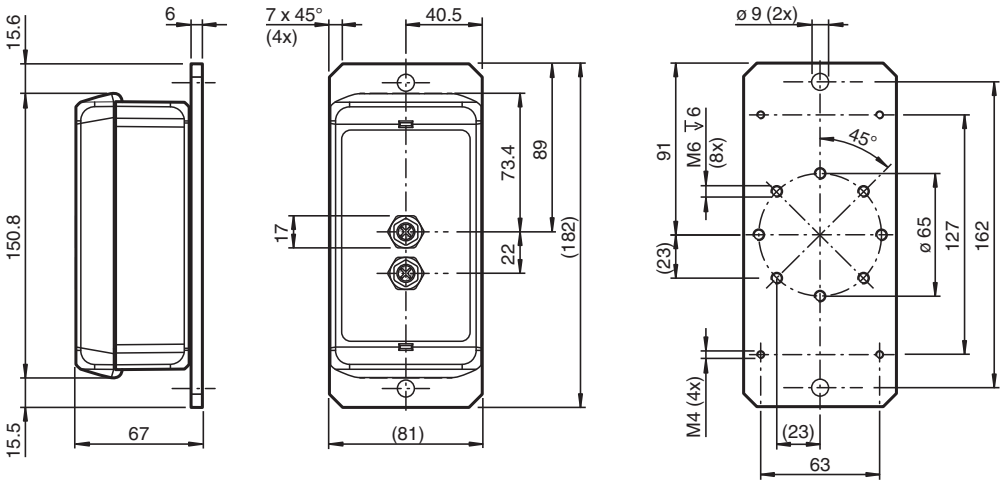
- Battery operated
- Data transfer via LoRaWAN
- LoRaWAN downlink channel for querying and adjusting parameter values
- Bluetooth interface for commissioning, parameterization and diagnostics

Wireless sensor node with LoRaWAN interface, especially for monitoring the valve positions of 90° hand lever valves, for connecting up up to 2 low-power two-wire single sensors

Function

The wireless sensor node is used to remotely monitor the valve positions of 90°-hand lever valves. The valve position(s) and other measurement and status data from the connected sensors and 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		Inductive sensors 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
Accuracy		± 2 °C

Release date: 2024-11-12 Date of issue: 2024-11-12 Filename: 70162455_eng.pdf

Technical Data

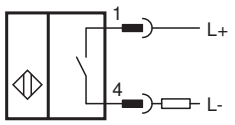
Electrical specifications		
Battery type		high capacity lithium battery 3.6 V , 13000 mAh
Operating duration		battery lifetime approx. 10 years under Central European environmental conditions, 3 measurements and 3 wireless transmission per day with sufficient network coverage.
Interface 1		
Interface 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		+ 14 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
Dimensions		

Release date: 2024-11-12 Date of issue: 2024-11-12 Filename: 70162455_eng.pdf

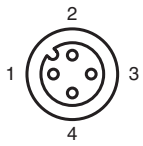
Technical Data

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)

Wireless sensor node

WILSEN.valve

WS-VAL-4ZL-F406-B41-01-02

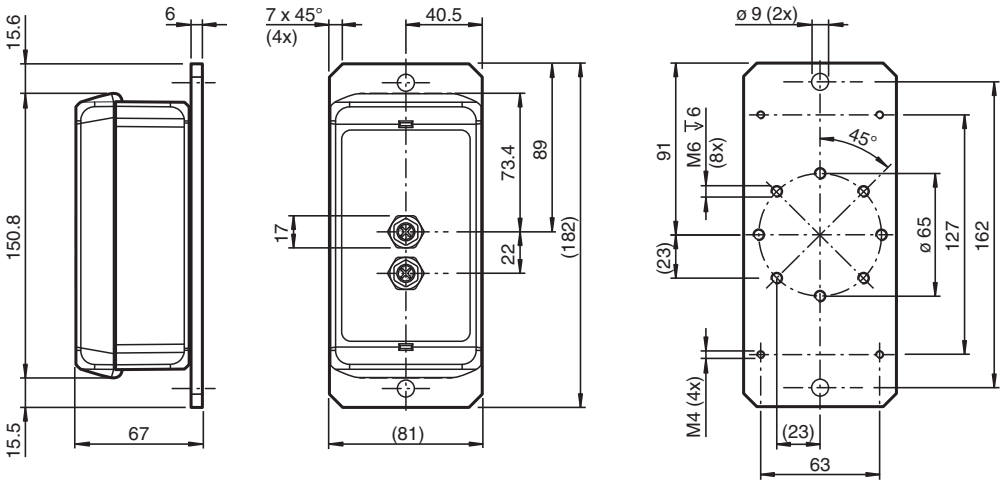
- Battery operated
- Data transfer via LoRaWAN
- LoRaWAN downlink channel for querying and adjusting parameter values
- Bluetooth interface for commissioning, parameterization and diagnostics

Wireless sensor node with LoRaWAN interface, especially for monitoring the valve positions of 90° hand lever valves, for connecting up up to 2 low-power two-wire dual sensors

Function

The wireless sensor node is used to remotely monitor the valve positions of 90°-hand lever valves. The valve position(s) and other measurement and status data from the connected sensors and 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		inductive dual sensors output type: Two-wire and 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
Accuracy		± 2 °C

Release date: 2024-11-12 Date of issue: 2024-11-12 Filename: 70162456_eng.pdf

Technical Data

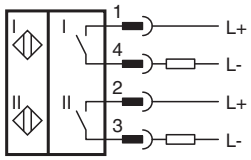
Electrical specifications		
Battery type		high capacity lithium battery 3.6 V , 13000 mAh
Operating duration		battery lifetime approx. 10 years under Central European environmental conditions, 3 measurements and 3 wireless transmission per day with sufficient network coverage.
Interface 1		
Interface 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		+ 14 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
Dimensions		

Release date: 2024-11-12 Date of issue: 2024-11-12 Filename: 70162456_eng.pdf

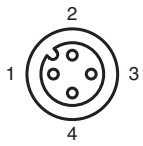
Technical Data

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)

Wireless sensor node

WILSEN.node

WSN-2N-F406-B41-01-02

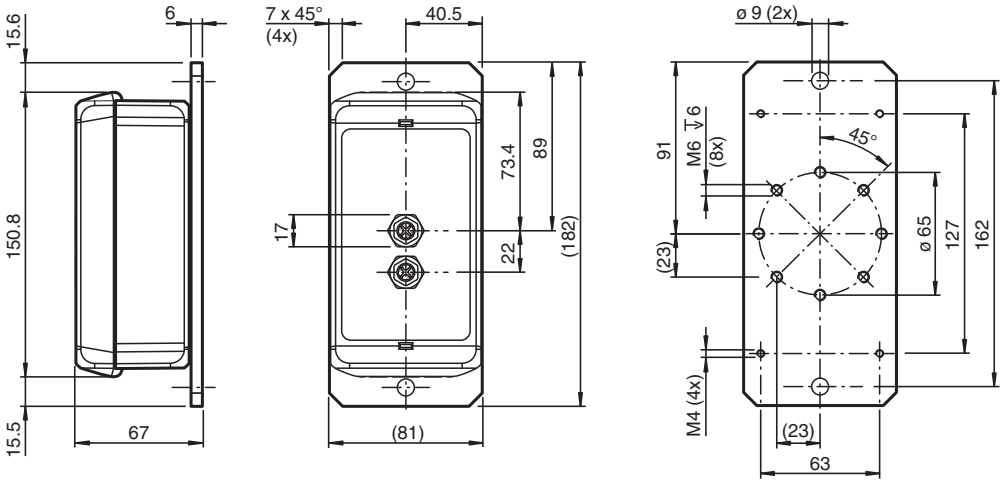
- Battery operated
- Data transfer via LoRaWAN
- LoRaWAN downlink channel for querying and adjusting parameter values
- Bluetooth interface for commissioning, parameterization and diagnostics

Wireless sensor node with LoRaWAN interface, 2 independent channnels for connecting up to 2 NAMUR single sensors

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: NAMUR
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

Release date: 2024-11-12 Date of issue: 2024-11-12 Filename: 70162457_eng.pdf

Technical Data

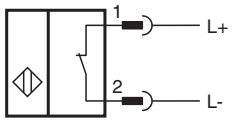
Accuracy	± 2 °C
Electrical specifications	
Battery type	high capacity lithium battery 3.6 V , 13000 mAh
Operating duration	battery lifetime approx. 10 years under Central European environmental conditions, 3 measurements and 3 wireless transmission per day with sufficient network coverage.
Interface 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	+ 14 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	NAMUR
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

Release date: 2024-11-12 Date of issue: 2024-11-12 Filename: 70162457_eng.pdf

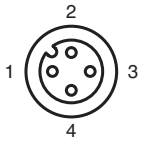
Technical Data

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)

Wireless sensor node

WILSEN.node

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

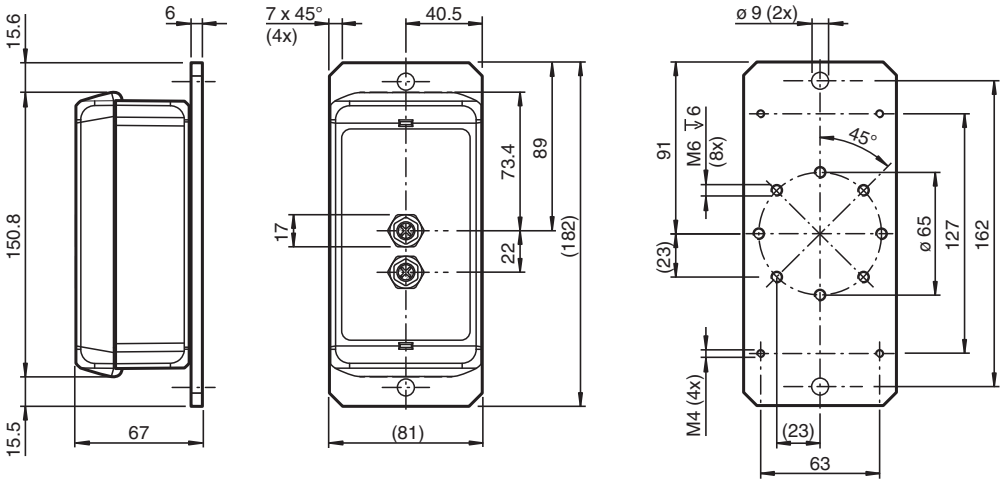
- Battery operated
- Data transfer via LoRaWAN
- LoRaWAN downlink channel for querying and adjusting parameter values
- Bluetooth interface for commissioning, parameterization and diagnostics

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

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

Release date: 2024-11-12 Date of issue: 2024-11-12 Filename: 70162458_eng.pdf

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
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Transmitter radiated power	+ 14 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
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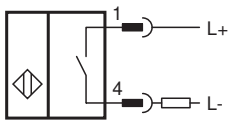
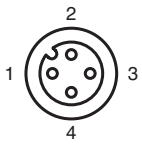


Connection Assignment



Wire colors in accordance with EN 60947-5-2

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

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