

# WLT 310 Wireless LoRa Transmitter



## Smart LoRa Transmitter

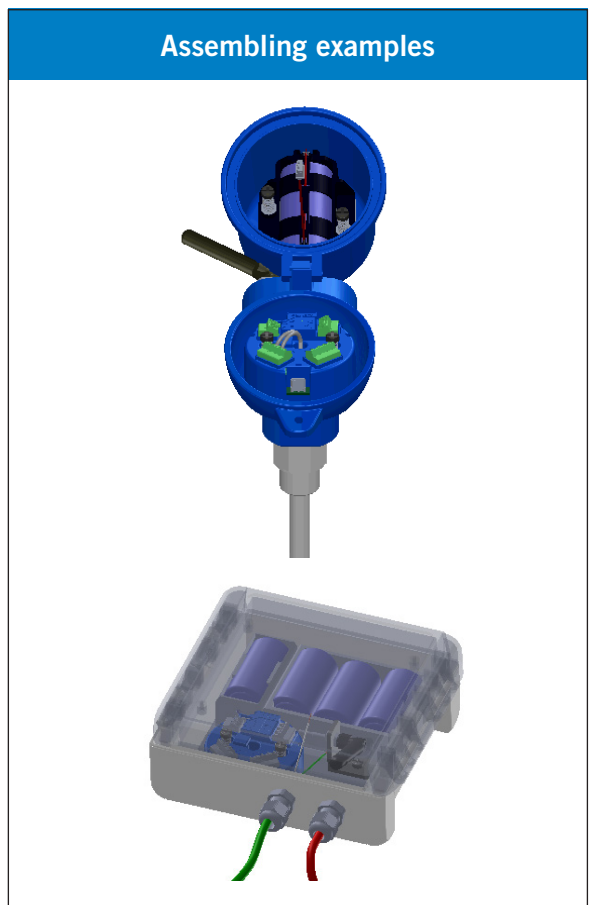
Configurable, energy efficient LoRa 868 MHz (EU) transmitter for industrial grade wireless measuring and IoT systems using LoRaWAN protocol.

- Three configurable sensor inputs
- Self adjusting transmit power
- Battery or external power supply
- Self diagnostics including battery monitoring
- Configurable measurement intervals and alarm limits

WLT 310 transmitter has two inputs for temperature and Lin.R measurements. Third analog input can be configured as voltage or current input, or as humidity sensor input.

Main power supply is a C size Lithium primary cell battery, 3.6 V nominal 8.5 Ah. The device operates also on external 12 or 24 V DC power supply.

Technical data:	
Weight	39 g
Height	25 mm
Diameter	57 mm
Wire size	1 x 1.0 mm <sup>2</sup> stranded wire
LoRaWAN certified	
EMC standards compliance:	EN 61326-1:2013 and EN 301489
RF compliance	EN 300 220-1 v2.4.1
Vibration	EN 60068-2-6



## Temperature sensor inputs

### PT100 input

One or two of the temperature sensor inputs can be configured as Pt100 inputs. The connection type can be configured to 2, 3 and 4 wires.

Pt100 temperature measurement range ..... -200...+800 °C  
Pt100 temperature measurement accuracy .....  $\leq \pm 0.3$  °C  
Temperature coefficient .....  $\leq \pm 0.01$  °C / °C  
Pt100 inputs can also detect short and open sensor.

### PT1000 input

One or two of the temperature sensor inputs can be configured as Pt1000 inputs. The connection type can be configured to 2, 3 and 4 wires.

Pt1000 temperature measurement range ..... -200...+800 °C  
Pt1000 temperature measurement accuracy .....  $\leq \pm 0.3$  °C  
Temperature coefficient .....  $\leq \pm 0.01$  °C / °C  
Pt1000 inputs can also detect short and open sensor.

### Thermocouple input:

One or two of the temperature sensor inputs can be configured as thermocouple sensor inputs.

Supported thermocouple types ..... J, K, N, R, S, T, B, L and U are supported

Measured temperature range depending on the thermocouple type ... -200 to +1820 °C

Measurement accuracy for types E, J, K, N, T, U and L is  $\leq \pm 1$  °C  
Temperature coefficient  $\leq \pm 0.05$  °C / °C  
Measurement accuracy for types B, R and S is  $\leq \pm 2$  °C  
Temperature coefficient  $\leq \pm 0.2$  °C / °C  
The cold junction temperature ..... -40...+80 °C, Accuracy  $\leq \pm 1$  °C  
TC inputs can also detect open sensor.

### Lin. R input

The analog input can be configured 0-3757 ohm  
The measurement accuracy is .....  $\leq \pm 0.1\%$  of span  
Temperature coefficient .....  $\leq \pm 0.01\%$  of span / °C

## Configurable analog input

### Current / Voltage input

The analog input can be configured as voltage or current input, or as humidity sensor input.

Current measurement range ..... 0...20 mA (0 - 23mA)  
Accuracy .....  $\leq \pm 0.5$  % of span  
Temperature coefficient .....  $\leq \pm 0.01\%$  of span / °C

Voltage measurement range ..... 0...10 V (0 - 11 V)  
Accuracy .....  $\leq \pm 0.5$  % of span  
Temperature coefficient .....  $\leq \pm 0.01\%$  of span / °C

### Humidity sensor input

The analog input connector can be configured as humidity sensor input. Supported humidity sensors any voltage outputs sensors with up to 10 V output voltage. There is a supply voltage output for 5V and 10V sensors.

The humidity measurement range ..... 0...100 % RH  
Input voltage range ..... 0 to 10 V

The accuracy of the input is similar to the analog voltage input.

### Supply for humidity sensor

Supply for humidity sensor ..... 5V and 10V  
Output voltage accuracy .....  $\pm 5$  %  
Maximum current ..... 1 mA  
The supply generation circuit is switched on only during the humidity measurement (under SW control).

## Power supply

### Power supply

#### Battery

- Main power supply is a C size Lithium primary cell battery, 3.6 V nominal 8.5 Ah
- The battery input is polarity protected
- Battery life time depends of configuration (typically min. 1-2 years)

#### External power supply

- The device operates on external nominal 12 or 24 V DC supply
- The operating voltage range is 9 to 40 V (12-24V more than  $\pm 30$  %)
- The power supply is isolated from the inputs. The isolation between the power supply / inputs is 1500 Vrms.  
Inputs are not isolated from each other

The input protections are

- Polarity protection
- EFT protection

## Environmental specifications

### Environmental Specifications

- The operating temperature range is -25 to +60 °C when battery powered
- The operating temperature range is -40 to +80 °C when powered by external DC supply
- The device is encapsulated into a plastic case providing IP20 protection
- Vibration resistance according to DNV Standard for Certification No 2.4 class B

### Humidity

- The RH for device ..... 90 % max
- The RH for WSB-Sensor ..... 90 % max
- Storage ..... 95 %
- Transportation ..... 95 %

### Endurance

The life time expectancy is more than 10 years in -40...+80 °C temperature range.