

LORAWAN ULTRASONIC LEVEL SENSOR FOR TRASH BIN



SKU: WSLRW-ULA

LoRaWAN ULTRASONIC LEVEL SENSOR FOR TRASH BIN WSLRW-ULA



WSLRW-ULA-H1.PNG

WSLRW-ULA is a LoRaWAN ultrasonic level sensor to measure the solid surface level in the trash bin for waste management systems. This level sensor uses ultrasonic technology to measure the solid surface of waste, the principle is to measure the time of flight of the ultrasound pulse in the air environment. The ultrasound pulse will be ejected from the ultrasonic transducer, go thru the air and reach the solid surface of the waste, then reflected on the ultrasonic transducer, the measuring circuit will measure the flight time of the pulse and then calculate the distance from the transducer to the surface. The ultra-low power design and smart firmware allow the sensor to last up to 5 years with just 2 x AA batteries (depending on configuration). The sensor will transmit data over kilo-meters to the LoRaWAN gateway, any brand on the market.

Typical Applications: Waste measurement and monitoring, waste treatment system, ...



LORAWAN COMMUNICATION

LoRaWAN Class A 1.0.3 communication standard to allow sensor connect to any LoRaWAN Gateway on the market



5 YEAR BATTERY

Ultra-low power sensing technology from Daviteq with Ultra-low power wireless technology allows the sensor can last up to 5 years with 2 x AA batteries 1.5VDC



HIGH ACCURACY & STABLE

Advanced ultrasonic sensor with digital signal processing to deliver high accuracy and stable measurement of level or distance for solid surface of waste



OUTDOOR & EASY CLEANING

IP68 design for both Indoor and Outdoor applications and easy cleaning

LEVEL SENSOR INSTALLED IN THE TRASH BIN



WSLRW-ULA-H2.PNG

DAVITEQ TECHNOLOGIES INC

No.11 Street 2G, Nam Hung Vuong Res., An Lac Ward, Binh Tan Dist., Ho Chi Minh City, Vietnam

+84.28.6268.2523 / 6268.2524

info@daviteq.com

www.daviteq.com

NOV-2022 | Doc No: WSLRW-ULA-DS-EN-10

1/4

SPECIFICATION

SENSORS SPECIFICATION	
Sensor	Ultrasonic sensor 40KHz
Measurement range	3 .. 450 cm
Accuracy	+/- (1 cm + 0.5% reading)
Resolutions	1mm OR 1/1000
Alarm setting	setting the alarm threshold for calculated value
Working temperature/humidity	-15 .. + 60 oC / 0 - 99% RH (non-condensing)
Storage temperature/humidity	-25 .. + 80 oC / 0 - 99% RH (non-condensing)
Transducer material	Ceramic
LoRaWAN SPECIFICATION:	
Data rate	250bps .. 5470bps
Antenna	Internal Antenna 2 dbi
Battery	02 x AA size 1.5, battery not included
RF Frequency and Power	860..930Mhz, +14 .. +20 dBm, configurable for zones: EU868, IN865, RU864, KR920, AS923, AU915, US915
Protocol	LoRaWAN, class A
Data sending modes	Interval time and when alarm occurred
RF Module complies to	ETSI EN 300 220, EN 303 204 (Europe) FCC CFR47 Part15 (US), ARIB STD-T108 (Japan)
Electronics working temperature	-40°C..+60°C (using L91 Energizer battery)
Dimensions	H154xW68xD43
Net-weight	250 grams
Housing	Polycarbonate, IP68

LEVEL SENSOR INSTALLED IN THE TRASH BIN



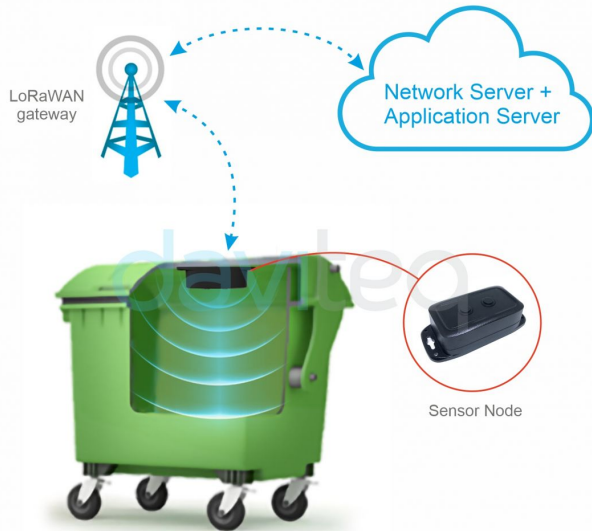
WSLRW-ULA-H3.PNG

MOUNTING ULA SENSOR ON LARGE TRASH BIN



WSLRW-ULA-H4.PNG

SYSTEM ARCHITECTURE

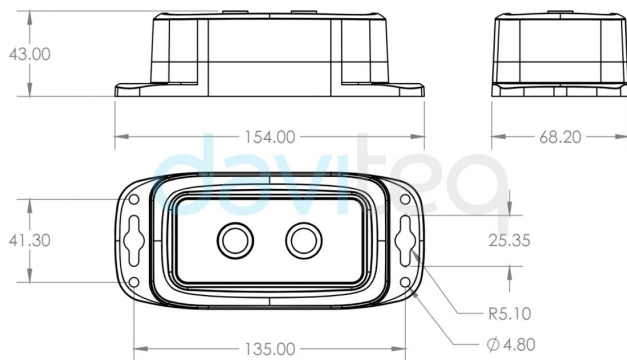


WSLRW-ULA-H5.PNG

LoRaWAN NETWORK



WSLRW-ULA-H6.PNG

DIMENSION DRAWING OF WSLRW-ULA
(Unit: mm)

WSLRW-ULA-H7.PNG

RECOMMENDED BATTERIES

E91 AA Alkaline battery



-18 .. + 60 oC working temperature

10-year shelf life

3000 mAh Capacity

Price: 1X

L91 AA Lithium battery



-40 .. + 60 oC working temperature

20-year shelf life

3500 mAh Capacity

Price: 3.5X

WSLRW-ULA-H8.PNG

ORDERING INFORMATION

ITEM CODE	DESCRIPTIONS
WSLRW-ULA-01	Wireless LoRaWAN Ultrasonic Level Sensor for Trash bin, Internal antenna, 3-450cm range, Type AA battery 1.5VDC, IP68, 860-930 Mhz for EU868, IN865, RU864, KR920, AS923, AU915, US915

DAVITEQ TECHNOLOGIES INC

No.11 Street 2G, Nam Hung Vuong Res., An Lac Ward, Binh Tan Dist., Ho Chi Minh City, Vietnam

+84.28.6268.2523 / 6268.2524

info@daviteq.com

www.daviteq.com

NOV-2022 | Doc No: WSLRW-ULA-DS-EN-10

4/4