



# Waterlevel Series

Subsurface rainwater level & volume monitoring for infiltration crates, green-roof retention layers. Depth readings via RS485 Modbus RTU, transmitted directly over NB-IoT – no local gateway required.

RS485 · Modbus RTU

NB-IoT uplink

IP68

100 / 150 / 170 mm



## OVERVIEW / 01

The WaveForm Labs **Waterlevel Series** is a family of precision sensors for measuring collected rainwater in infiltration crates, green-roof retention layers and permeable pavement systems beneath fields, parks and urban infrastructure. Each sensor delivers accurate, depth readings via an industry-standard RS485 Modbus RTU interface and transmits data wirelessly over NB-IoT to a cloud-hosted SaaS dashboard.

Three variants cover storage depths from **100 mm to 170 mm**, giving contractors, municipalities and facility managers a single, scalable solution for stormwater management, regulatory reporting and predictive maintenance.

## SPECIFICATIONS / 03

Parameter	WFL-WL100	WFL-WL150	WFL-WL170
<b>MEASUREMENT</b>			
Measuring range	0 - 100 mm	0 - 150 mm	0 - 170 mm
Accuracy	±1% F.S.		
Measurement frequency	60 minutes (configurable on request)		
Sensor principle	Capacitive Level Sensor		
<b>ELECTRICAL</b>			
Supply voltage	4.5 V DC		
Current draw (active)	< 25 mA @ 4.5 V		
Current draw (sleep)	< 10 µA		
Reverse polarity protection	Yes		
Battery type	3 AA batteries		
Battery life	Approx. 5 years.		
<b>MECHANICAL</b>			
Sensor housing material	Stainless steel		
Base-unit material	Polycarbonaat (V0)		
IP rating	IP68		
Operating temperature	-20 °C to +70 °C		
Cable length (standard)	1 m (custom on request)		
Connector	4-pin SD-13 male		

## KEY FEATURES / 02

- NB-IoT cloud uplink
- IP68-rated
- Ultra-low sleep current (< 10 µA)
- Works on 3 AA batteries
- RS485 bus – 1200m cable run
- AES-128 encrypted payloads end-to-end
- Quick-connect 4-pin SD-13 male cable assembly

## AT A GLANCE / 03

Range	100 / 150 / 170 mm
Resolution	0.01 mm
Accuracy	± 1 % FS
Sleep current	< 10 µA
Interface	RS485 Modbus RTU
Uplink	LTE Cat-NB1, NarrowBand IoT
IP rating	IP68
Operating temp.	-20 / +70 °C



WFL · WL100

**100 mm**

Shallow infiltration & green-roof retention layers.

WFL · WL150

**150 mm**

Standard cistern & permeable pavement applications.

WFL · WL170

**170 mm**

Deep infiltration crates & high-capacity buffers.

◆ COMMUNICATION / 05

RS485 · MODBUS RTU

- ◆ Half-duplex, 2-wire bus
- ◆ Max cable run 1200 m

NB-IOT UPLINK

- ◆ Configurable report interval on request
- ◆ AES-128 payload encryption
- ◆ Informational Dashboard
- ◆ Direct SaaS API (optional)

◆ ORDERING / 06

MODEL	PART NUMBER
WFL-WL100	WFL-WL100-RS-NB
WFL-WL150	WFL-WL150-RS-NB
WFL-WL170	WFL-WL170-RS-NB

◆ COMPLIANCE / 07

Custom cable lengths and SIM configurations available on request. Contact your local distributor or visit [waveformlabs.io](http://waveformlabs.io).