

Andel FloodAlert Bollard

Smart, real-time, local flood warning and water level monitoring system



Award-winning FloodAlert Bollard provides 24/7, local water level monitoring, sending email and SMS alert notifications to users when pre-set alarm levels are breached.

Andel FloodAlert Bollard is a cost-effective, low-carbon impact, early-warning system for above and below-ground water level monitoring and the risk of flooding.

Resilient and environmentally friendly

Bollards are constructed from 100% recycled post-consumer plastic waste which would otherwise go to landfill.

Andel FloodAlert Bollard turns the longevity of plastic into an environmentally-friendly, cost-effective and robust solution which is vandal-proof and resistant to weather, UV, chemicals, temperature and moisture.

Radar LoRaWAN® water level sensor

Each bollard is equipped with a robust, waterproof radar LoRaWAN® water level sensor unit. The sensor unit is housed between a recess in the bollard stem and cap, providing continuous and accurate level data, referenced from the radar reflector housed in the base of the bollard stem.

Radar sensor data is wirelessly captured, stored and displayed on the cloud-based Andel FloodAlert Portal, accessible from any internet-enabled device, providing 24/7 real-time and historic water level data.

Bollards are strategically located to provide maximum warning to users so that when a pre-set threshold is breached, SMS and email flood notifications are sent for timely action to be taken to protect people and properties.

The FloodAlert Portal can connect to an unlimited number of sensor units and viewers with five users as standard.

LoRaWAN® network access

Andel FloodAlert Bollard radar sensor units can connect to an existing third-party LoRaWAN® network, a customer's own LoRaWAN® network, or a dedicated LoRaWAN® gateway that can be provided and managed by Andel.

Benefits at a glance:

- Cost-effective, local flood warning system
- Tracks rising water levels using battery-powered, wireless LoRaWAN® radar sensors
- Easy to install and set up
- Radar reflector for accurate water level measurement
- Low maintenance, only requires yearly maintenance or after a substantial flood
- Sends text and email alerts to users to allow for timely action to protect people and properties
- Realtime monitoring on a cloud-based portal
- Communicates with an unlimited number of FloodAlert Bollard sensor units
- 3 pre-set alert levels per sensor unit
- Communication via a low-power LoRaWAN® network
- Multiple FloodAlert Bollards can provide an overview of local high-risk hotspots and capture data for future modelling
- Bollard constructed from 100% recycled post-consumer plastic with a 25mm wall thickness
- Sustainable, robust and reliable



For more information:
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✉ help@andel.co.uk
www.andel.com



Making water sustainable for a cleaner and safer environment.

Two installation options

As rising water enters the bollard through rows of holes, the system sends alert notifications if the water level breaches each of the three pre-set alarm levels.

Wall mounted for waterways

Bollards are securely fastened to existing permanent structures with three 5-inch pipe clips, the bollard hanging slightly above the river bed to prevent blockages.

Rising water freely enters the bollard through a series of holes and on top of the radar reflector where the sensor monitors and records the water level. Any silt or debris naturally falls out of the open base.

Buried for monitoring rising ground and surface water flooding

Bollards are buried to a depth of 500mm in porous drainage gravel and secured with concrete in such a way that water can still freely enter and drain. The bollard stands approximately one metre above ground level.

Alarm levels, email and SMS warnings

Following a flood risk and ground condition survey, alarm levels are pre-set and calibrated for each installation. Each time an alarm level threshold is breached, users will receive email and SMS warnings of rising water levels.



Web portal

The web portal is available via any web browser, providing realtime water level data, historical water level data and battery life.



Variable sampling

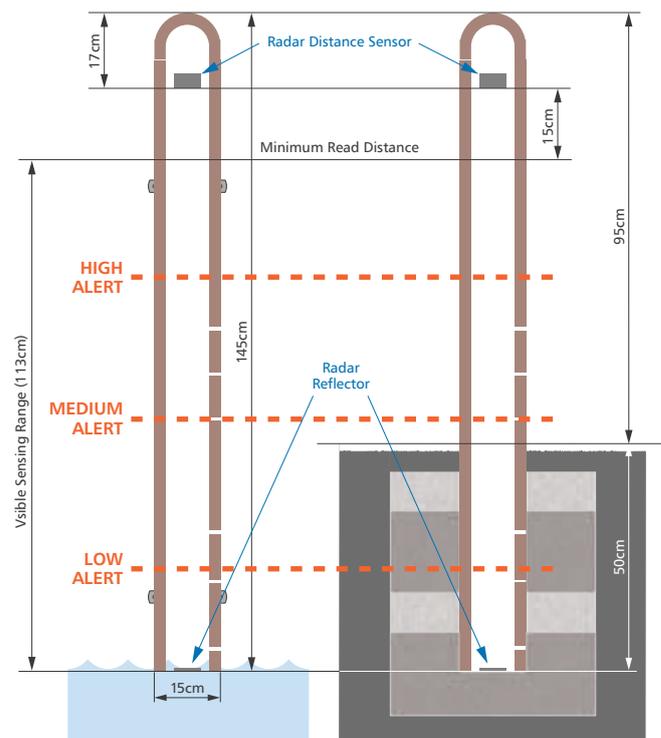
From rest-mode, when the water level in the bollard breaches the first pre-set threshold, the sensor sends an alert and goes into high-vigilance mode, sending more frequent readings. This continues until the water level drops to 10cm below the low alert threshold.

Additional features

As an optional extra, the FloodAlert Bollard sensor can be enabled to measure internal temperature, internal relative humidity and atmospheric pressure through a breathable IP67 membrane.

Wall mounted

Buried



Alert levels are calibrated and pre-set for each individual installation, alert levels indicated above are examples only.



TECHNICAL INFORMATION

LoRaWAN® Sensor

- Operating temperature: -20°C to +50°C (-4°F to +122°F)
- Humidity range: 15% - 95% RH
- Altitude range: <2Km (<6,000')
- Radio standard: Supports LoRaWAN® EU 868 MHz
- Transmission Rate: 5min
- Sampling Rate: 5min
- Signal power: Up to +2dBi with external antenna
- Output power: Up to +3dBi with external antenna
- Gauge type: Radar
- Radar range: > 15cm to 128cm
- Radar signal diversion: 40°
- Radar resolution: ±5mm
- Accuracy: ±5mm
- Battery type: 1 x 3.6V Li-SOCI2 Size AA
- Expected battery life: Typically one year from activation
- Water Ingress Rating: IP67
- Radar Frequency: 57-64 GHz

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