

# DOUBLE LEVEL SENSOR

Monitor the evolution of a fluid level.



ACT

Control equipment in response to a change of state.  
Activate or restart equipment remotely at any time.



ALERT

Alert on events:

- warn when the level rises or down,
- anticipating an overflow,
- prevent the end of the tank.



MONITOR

- Count the time spent in a state.

Additional features:



- Four configurable digital inputs/outputs:
  - Control an output based on the change in state of an input
  - Remote and in near-real time control of an output - LoRaWAN Class C
  - Track the time spent in a given state
- Data transmission modes: periodic and/or event-triggered
- Local and remote product configuration



Monitor the level of a basin (retention, evacuation) or a tank.



Monitor the water level in a drainage nozzle to avoid overflows.

# TECHNICAL SPECIFICATIONS



## DOUBLE LEVEL SENSOR

### Current versions and associated part number

LoRaWAN	EU863-870	ARF8170ARA-B02
	US902-928	ARF8170BRA-B02
	AU915-928	ARF8170IRA-B02
	AS923	ARF8170JRA-B02

### General specifications

Weight	128g (battery included)
Dimensions	132 x 62 x 34 mm
Enclosure	IP68, EMERGE™ PC 8731HH grey resin (housing), EMERGE™ PC8430-15 transparent resin (base)
Mounting	DIN rail, tube, wall, collar
Battery Type	Battery power: replaceable battery (4000 mAh) External power supply (not supplied): input range 4.5 - 6.5V - Max current 200mA USB power supply: supply voltage 5V nominal - Max current 200mA
Recommended operating conditions with battery supply	-25°C / +70°C ; 0 à 85% RH (non-condensing)

### Device configuration

Local device configuration	IoT Configurator (Windows/Android)
Remote device configuration	Downlink via the network or via the KARE platform
Configuration and firmware update over-the-air	KARE+ compatible (only for LoRaWAN EU868 and Sigfox RC1)
Security	PIN/PUK code protection

### INPUTS

Number	up to 4 by configuration
Voltage	0 - 24 V
Equivalent input resistance	500 kΩ
Input frequency	10 Hz

### OUTPUTS

Number	up to 4 by configuration
Voltage	0 - 24 V
Recommended dissipation max current	150 mA
Output frequency	10 Hz

### DOUBLE LEVEL SENSOR

Detection	Contact detection
Cable Length	≈ 1 meter
Dimension	215 mm total length
Casing	Stainless steel 304
Liquid	Compatible with all types of non corrosive fluids
Typical operating pressure	1 Mpa (Max 5MPa)
Operating temperature	up to +120°C



# TECHNICAL SPECIFICATIONS



## LoRaWAN DOUBLE-LEVEL SENSOR

Zone	EU863-870 Mhz	US902-928 Mhz	AS923-1 Mhz	AU915-928 Mhz
Part number	ARF8170ARA-B02	ARF8170BRA-B02	ARF8170JRA-B02	ARF8170IRA-B02
<b>Autonomy</b>				
Expected Battery Life	1 transmission/4 hours, 4 inputs in default «open» state and 100 events per day SF7: > 15 years SF12: > 15 years			
<b>Radio/Wireless features</b>				
LoRaWAN spec.	1.0.4			
Wireless Security	AES-128 data encryption			
Class	Class A and Class C (if external power supply connected)			
Supported LoRaWAN features	OTAA, ABP, ADR, adaptive channel setup			
Data time-stamping	EPOCH 2013 format (can be activated)	-	-	-
Joining phase	Can be customised (number of attempts, time between attempts), remote join re-launch			
Network quality test	Performed automatically when the product starts up (via LEDs)			-
RF transmit power	+ 14 dBm	+ 20 dBm	+ 14 dBm	+ 20 dBm
<b>Regulations and certifications</b>				
Standard	Directive 2014/53/UE (RED)	US: FCC- Title 47 CFR Part 15 Canada: RSS-247 Issue 2	AS/NZS 4268	AS/NZS 4268

