

# ACS-SWITCH-TOF®

## DISTANCE MEASUREMENT



## USE CASES



### LEVEL DETECTION

Management of containers fill level : dumpsters, bins, tanks... Notifications when the thresholds are exceeded.



### PROCESS IMPROVEMENT

Monitors a piece of equipment, a frame offset or a moving mechanical element. ACS-Switch-TOF fits into industrial and tertiary process improvement.



### BIKE STATIONS MONITORING

Presence detection of bicycles at bike stations. The autonomous, wireless optical reflection sensor detects the presence of a bicycle and notifies its arrival and departure.



## PRODUCT HIGHLIGHTS

### PLUG & PLAY : AUTONOMOUS AND WIRELESS

Communicating through an LPWAN network, the ACS-Switch-TOF is autonomous and wireless.

### AGILE SETTINGS

The product can be configured to adapt to its environment and provides reliable measurements. A simple initialization adapts the product to a specific environment.

**ADAPTED ALGORITHMS** for a large spectrum of use cases.

### TIME-STAMPING AND DATALOGGING of events (+3000)

### REPLACEABLE BATTERY

### OPTIONS AVAILABLE :

- Time-Of-Flight optical reflection sensor, Measurement from 4cm to 3.5m.
- Personalization on request :
  - Case color and labelling,
  - Specific features.



**The TOF sensor is very sensitive to brightness, installation under high brightness is strongly discouraged**  
**Maximum measurement distance 3.5m: ambient dark, clear target and a maximum opening angle**  
**For more information on the limitation of the TOF sensor see the technical documentation**



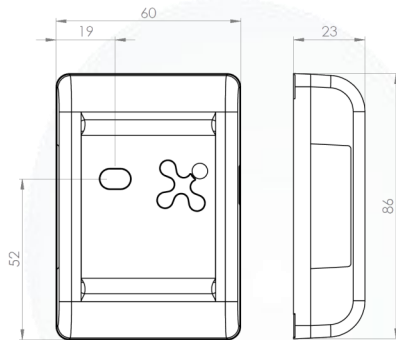
### CLOVER-NET TECHNOLOGY

Real-time two-way communication protocol to facilitate the installation and setting of sensors, collection of time-stamped data, automatic inventories, OTA updates...

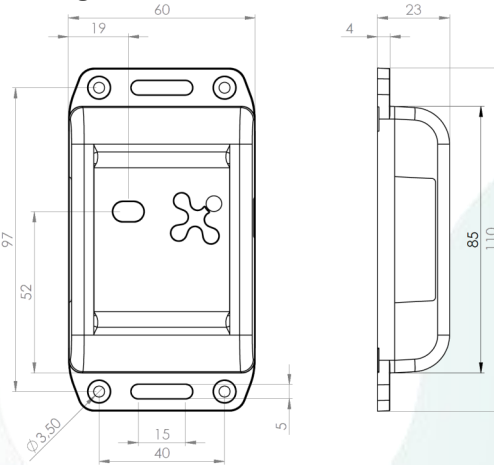
# SPECIFICATIONS

## Mechanical specifics

### Without flanges



### With flanges



## Fastening system

Screw  
 Magnet (optional)  
 Glue

## Certifications

CE, EN 300-220

## Physical characteristics

Battery	Lithium 3.6Ah replaceable
Material	ABS PC V0 UL94
Weight	98g
IP index	IP54 or IP66 (with seal)
IK index	IK07 or IK08 (with seal)
Operating temperature	-20°C to 70°C
Storage temperature	-40°C to 80°C
Humidity	< 95% without condensation

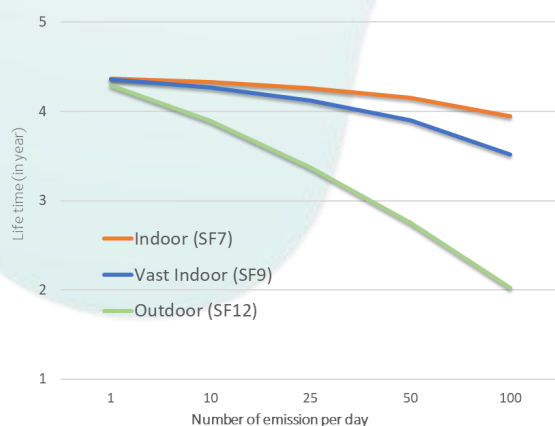


**CAUTION: THIS PRODUCT USES LITHIUM BATTERY.**  
 FOR YOUR SAFETY, PLEASE CHECK OUR WEBSITE.

## Communication

LoRaWAN	Class A
	EU868, 915US, AU915, AS923
	Private and public networks
	OTAA and ABP
	Power transmission : 14dBm (EU) to 20dBm max
	Operator compatible : Objenious, Orange ...
	Network core providers : Actility, Orbiwise, TTN, Lorient...
SigFox (option)	RC1, RC2, RC4
CloverNet	Broadcast, multicast, point-to-point

## Battery life



## Use case

Optical reflective sensor  
 Life frame every 24 hours  
 Measure every 15s  
 Alarm emission on exceeding threshold

## Data transmitted

Distance  
 Alarm in case of change of status or if it exceeds the threshold  
 Threshold crossing counter  
 History of time stamps  
 Activity data (battery, ...)  
 Temperature level  
 Settings configuration by downlink

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