SMART BUILDING

SMART INDUSTRY

CLOS'O

LoRaWAN

CLOS'O is a LoRaWAN sensor that determines if a gate, door, barrier, portal is properly closed. Installed on the frame (or on the fixed part), it detects the position of a magnet fixed on the gate moving part.
The sensor reports on a public or private LoRaWAN® radio network the open or closed state of the gate. An alert is transmitted if the sensor is pulled out.

APPLICATIONS

- Check the static part closure: gate, portal, garage door, etc ...
- Continuous monitoring of fences , along free surfaces on grounds, around highways, railways, industrial sites.

BENEFITS & FEATURES

- LoRaWAN®, Class A
- Autonomous sensor
- Detection of gate opening and closing
- Large detection distance: up to 35 mm
- Sensor pullout alert
- Very simple installation
- More than 5 years of autonomy
- Set intended for outdoor use

QUALITY & RELIABIITY

CE, RoHS, LoRa Alliance®

CONCEPTION ET FABRICATION MADE IN FRANCE

CLOS'O sensor embeds a high sensitivity magnetic sensor. Fixed on a frame, it detects the gate openness or closure. A magnet housing is fixed on the moving part in front of the sensor. This sensor transmits the wing's change of state after the position is confirmed.

CLOS'O is designed to trigger an alert in case of tearing. Also, an alert is transmitted in case of disassembly of support and after confirmation.

The sensor regularly transmits a feedback with the battery voltage and the timestamp of openings and closures (after filtering).

CLOS'O is connected to LoRaWAN® public or private communication network. Then, the remote server is able to monitor the gate condition to prevent any risk of intrusion.

Totally waterproof and protected to withstand outdoor constraints (rain, snow, sun, etc. ..), the sensor can be used in industrial environments in dusty areas or tertiary premises without special precautions.

Installation is fast. CLOS'O comes with an attachment plate that facilitates installation on most of the profiles that make up the portal.

The sensor can be fixed to a wall or any other plane support.

The boxes' color ensures a discreet integration in most elements of fences. Commissioning is simple:

- A magnetic switch and a buzzer allow the installer to enable / disable the sensor on the network.

- An NFC tag and a QR code tag identify the sensor on the network (product number, serial number, manufacturing number).

THE LARGEST IOT PRODUCTS RANGE FOR YOUR PROJECT

nke WATTECO is a European leader in the design and manufacture of intelligent IoT devices to fit to all remote reading and data collection solutions.

nke WATTECO is a LoRa Alliance® member.

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CLOS'O

TECHNICAL CHARACTERISTICS

RF TRANSCEIVER	
Frequency (MHz)	863-870
Transmit Power	+14 dBm – 25 mW
Receiver Sensitivity	-140 dBm
FIRMWARE	
Protocol	LoRaWAN®, Class A
Activation method	Activation by Personalization (ABP) et Over-The-Air Activation (OTAA)
Data encryption	AES128 – data compression in the batches
Application layer	ZCL open source (during 2018) to be decoded by the remote server
Configuration *Default values that can be changed via the downlink*	*Open / close* state change: after filtering from 1 second to 60 minutes (5 seconds default) for registering. Alarm opening detection: after confirming from 1 second to 60 minutes (10 minutes by default) Alarm closing detection: after confirmation 1 second to 60 minutes (5 minutes by default) Transmission period of the life frame (24 hours by default)
DETECTION - ALERT	
Leaf position	Hall effect magnetic sensor associated with neodymium magnet Detection in a range of 5 mm to 35 mm spacing between fixed and opening part Misalignment possible: up to 30mm
Pullout	Button inaccessible after mounting the sensor on a stand
States feedback	Open / close detection static part after confirmation Tamper alert Feedback: battery voltage and time stamping of the last open / closed state changes (after filtering)
SETTING	
Control units	On a width of 27 to 110 mm using metal clamps provided On the wall or on any flat support with screws and dowels (not included)
POWER	
Lithium battery	3.6V / 3600mAh - Controlled voltage at around 0.1 Volt
Autonomy in a range from +10°C to+25°C	Estimated autonomy > 5 years with transmission / day
INTERFACE	
NFC tag	Product number, serial number, manufacturing number
Buzzer	Configuration and association on the network
Magnetic Switch	Commissioning / Network Pairing – Disassociation/ Shutdown for storing
MECHANICAL FEATURES	
Dimensions / weight	Sensor 100 x 100 x thk.40 mm / 250g – Magnet 52 x 65 x ép. 27 mm / 100g
IP Class	IP65
Other	Light gray color – Nonflammable Asa UL94-HB – UV resistant
ENVIRONMENT	
Operating temperature (°C)	Temperature (°C) -20 / +60
Storage : Temperature (°C)	Temperature (°C) -10 / +30 – Humidity< 75% RH
DIRECTIVES & STANDARD	
Directives CEM 2014/30/UE, NF EN 55014-1, NF EN 55014-2, EN 300-220-2 V3.1.1 Electrical safety NF 60950-1 RED 2014/53/UE	

ORDERING INFORMATION

REFERENCE	DESCRIPTION
50-70-108	LoRaWAN® CLOS'O