

Cloud connected sensor XIOT range

Catalogue



Simply easy!™

 **Telemecanique**
Sensors

Cloud connected sensor XIOT range

For remote device monitoring

| | |
|--|--------|
| ■ Cloud connected switch | |
| □ General presentation | page 2 |
| □ References | page 3 |
| □ Functions | page 4 |
| □ Presentation of the transmitter | page 5 |
| □ Characteristics of the transmitter | page 6 |
| □ Dimensions of the transmitter | page 7 |
| □ Connections of the transmitter | page 7 |
| ■ Product reference index | page 8 |

Cloud connected switch XIOT range



XIOT Cloud connected sensor
Click to view video (1 min 36 s)

The Internet of Things (IoT) is the extension of the Internet to connected devices. Telemecanique Sensors offers a wireless solution to collect data from remote equipment and use this data, via the Internet, on a PC or mobile device.

The XIOT Cloud connected switch from Telemecanique Sensors is based on LPWAN (low power wide area network) technology, operated by Sigfox.

The Sigfox network covers 32 countries and is already very extensive in Europe. It is also being rapidly deployed in the US and Asia-Pacific. It uses antennas with a range of around 50 km.

The map on the Sigfox website shows exactly which areas are covered by the network (see <https://sigfox.com/en/coverage>).

When the contacts on a switch installed on your site change state **1**, the transmitter **2** sends a message to the IoT network (LPWAN) **3**, which is then routed to our secure servers **4**.

This message is then delivered to one or more recipients as an alert on PC, tablet, or smartphone **5**.



The first EcoStruxure-ready sensor*

For areas without electricity or difficult-to-access areas

The XIOT Cloud connected switch is used to signal a significant or abnormal change of state on your devices.

> **Agricultural applications**

- > Irrigation systems (pressure threshold monitoring)
- > Buildings and hoisting equipment (hatch and door positions)
- > HVAC

> **Water treatment applications** (pumping, tank monitoring)

- > Water treatment plants
- > Valves
- > Flood gates

> **Mining and quarrying applications** (Emergency stop monitoring)

- > Conveyors

* EcoStruxure™ is Schneider Electric's IoT platform.

Cloud connected switch

XIOT range

For remote device monitoring



Real-time alerts via the Cloud

The XIOT Cloud connected switch gives you precise, reliable data about your installations in real time.

You can configure this data to suit your requirements for:

- > Operation
- > Receiving alerts
- > Event history, etc.

The information can be received by one or more recipients on a PC, tablet, or smartphone in the form of e-mails and notifications.

Connections are also offered for integrating data in SCADA (supervisory control and data acquisition) systems.

Reduce operational downtime

- > Optimized production
- > Direct alert delivered to the relevant recipients
- > Easy diagnostics

Prevent and reduce maintenance

- > For greater machine availability
- > For greater process reliability



3 options to choose from

| Description | Transmitter only | Prepaid 5-year access to Cloud | Subscription services (1) |
|--|-------------------------------------|-------------------------------------|-------------------------------------|
| | XIOT11SE0MRCL | XIOT11SE5MRCL | XIOT11SERMRCL |
| > 1 standalone transmitter | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| > Activation magnet | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| > Instruction sheet | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| > 5-year subscription to Sigfox LPWAN (2) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| > Web interface to configure and display data | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| > Smartphone apps for alert notifications (iOS and Android) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| > Connection to Telemecanique Sensors secure servers via external SCADA system for data processing | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

References

| Description | Reference | Weight kg |
|--------------------------------|---------------|-----------|
| Transmitter only | XIOT11SE0MRCL | 0.216 |
| Prepaid 5-year access to Cloud | XIOT11SE5MRCL | — |
| Subscription services | XIOT11SERMRCL | — |

(1) Pricing and terms and conditions available on the online payment site: <https://godigital.schneider-electric.com/smp/home/home.page>

(2) LPWAN: Low power wide area network

Cloud connected switch

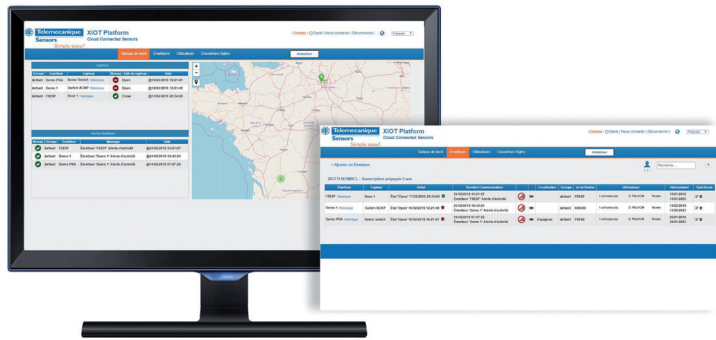
XIOT range

For remote device monitoring

Operating tools

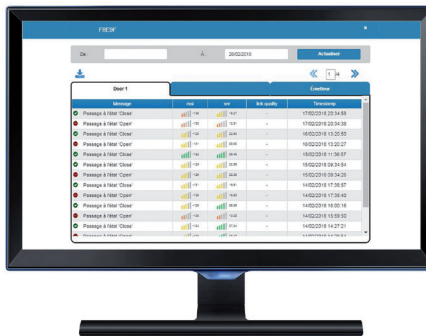
Configuration/Access to user data from a web browser (<https://xiot.tesensors.com>)

- > Creation of a password-protected user account
- > Enrollment and configuration of transmitters linked to the account:
- > Configuration of alerts:
 - Opening and/or closing of contacts connected to the transmitter
 - Discharge of internal battery
 - Abnormal frequency of transmission
 - Type (e-mail, notification on smartphone)
 - Recipient(s)
- > Geographical location of transmitter (manual entry)



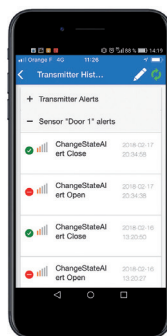
Operation

- > State of each contact connected to each transmitter
- > History of events transmitted by each transmitter
- > Quality of signal received from each transmitter
- > Online purchase of services at <https://godigital.schneider-electric.com/smp/home/home.page> (for XIOT11SE0MRCL reference only)



Dedicated smartphone app

- > Available for iOS and Android, this app can be used to receive alert notifications from transmitters (requires Internet access).
- > The app can also be used to display the state of all transmitters linked to the user account and to enroll a transmitter to an account by scanning its QR code.



Standalone transmitter connected via LPWAN radio link ⁽¹⁾

XIOT range

For remote device monitoring

IP66 transmitter for indoor or outdoor applications (-25 °C to +70 °C)



- 1: PBT case
- 2: 2 holes for screw mounting
- 3: 2 m PVC cable for connection to the switch

Rugged standalone transmitter

Up to 10 years of standalone operation

- > Powered by built-in Lithium battery with a lifespan of over 5 years (up to 10 years for 2 frames/day)
- > IP 66 protection provided by a sealed case with one cable outlet (PVC, 4-wire, for connecting 2 volt-free contacts)
- > Transmitter can be enrolled from a smartphone app or via a web page
- > Supplied with external magnet for activation purposes
- > Screw mounting

A complete offer of associated switches ⁽²⁾

XM pressure switches

- > Electromechanical pressure and vacuum switches for control circuits
- > Fluids detected: air, fresh water, sea water, hydraulic oils, corrosive fluids, and viscous fluids

XC limit switches

- > Metal or plastic limit switches, miniature or standard format, industrial EN 50041 format, compact CENELEC EN 50047 format, etc.
- > Dedicated limit switches for hoisting, material handling, and conveyor belt shift monitoring applications



NB: The XIOT Cloud connected switches are operated on radio networks which can be perturbed by external sources. In addition, a permanent access to data and services through internet is dependent to third party operators and cannot be ensured at 100%. Therefore, the system must not be used for critical alerts.

(1) LPWAN: Low power wide area network

(2) Please consult our website www.tesensors.com.

Standalone transmitter connected via LPWAN radio link ⁽¹⁾

XIOT range

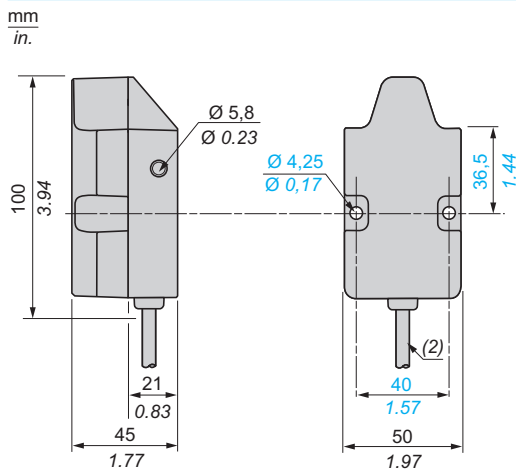
For remote device monitoring

| Electrical characteristics | | | |
|-----------------------------|------------------------------|-------------|--|
| | | Transmitter | |
| Power supply | Type | | Built-in Lithium battery |
| | Voltage | V | 3.6 |
| | Battery life | | 13.6 years for 2 frames/day 4.2 years for 10 frames/day 2.3 years for 20 frames/day |
| Inputs | Type | | 2 low-level inputs (3 V/6 µA), volt-free contacts |
| | Filtering | | 100 ms |
| | Detection level | | State 1 > 1.7 V State 0 > 0.7 V |
| Compatibility | With limit switches | | XCM, XCKM, XCKL, XCKS, XCKJ, XCKN, XCKP, XCKT, XCKD, and XCRT ⁽²⁾ |
| | With pressure switches | | XMLA, XMLB, XMLC, and XMLD ⁽²⁾ |
| Mechanical characteristics | | | |
| Connection | | | Via 2 m PVC cable Number of wires and cross sectional area: 4 x 0.34 mm ² /AWG 22 |
| Materials | | | PBT and PA case |
| Mounting | | | Screws (2 x 4 mm) Maximum tightening torque: 3 Nm/26.6 lb-in |
| Dimensions (W x H x D) | | mm | 50 x 100 x 45 |
| | | in. | 1.96 x 3.94 x 1.77 |
| Weight | | | 0.216 kg/0.478 lb |
| Radio characteristics | | | |
| Power | | | 14 dBm (25 mW) |
| Frequency | Europe | | 868 MHz |
| Range | | | Up to 10 km |
| Network coverage | | | See the map on the following website: https://sigfox.com/en/coverage The XIOT smartphone app also offers a network coverage checker to find out the signal strength: https://xiot.tesensors.com |
| Transmission | Sending | | On change of state of inputs + 1 status frame per day |
| | Frame transmission frequency | | 6/hour and 50/day maximum (1 frame for each change of state of one of the inputs) |
| | Frames | | Sigfox format: 12 bytes, 100 bps |
| | Reception | | No |
| | Activation | | By external magnet supplied with the transmitter |
| Environment characteristics | | | |
| Product certifications | | | CE, Sigfox ready |
| Radio standards | | | EN 62368-1, EN 300-220, EN 301-489 |
| Ambient temperature | For operation | °C | -25...+70 Do not exceed +65 °C and 85% relative humidity in permanent exposure conditions outdoors |
| Degree of protection | | | IP 66 |

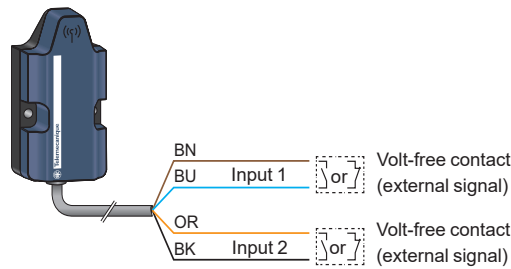
⁽¹⁾ LPWAN: Low power wide area network

⁽²⁾ Please consult our website: www.tesensors.com.

Dimensions



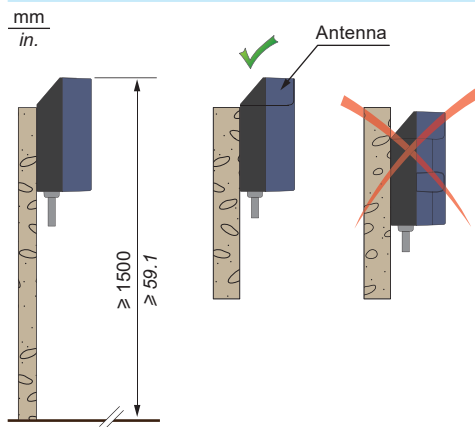
Connections



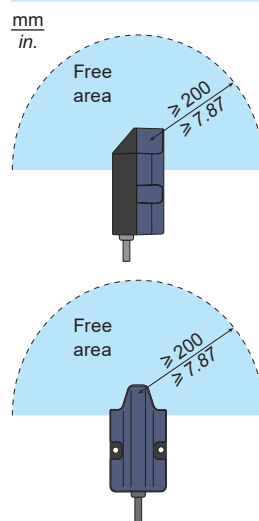
BN: Brown
BU: Blue
OR: Orange
BK: Black

Mounting precautions

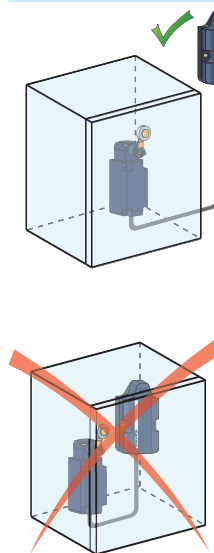
Flat surface mounting



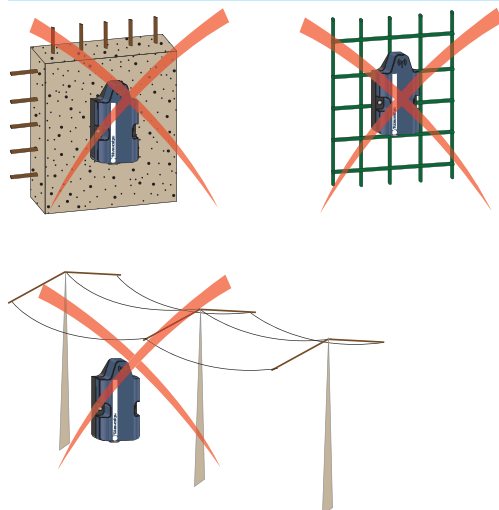
Free area



Mounting in a metal cabinet



Signal attenuation according to the material



| Material | Signal attenuation ⁽³⁾ % | Material attenuation db |
|-------------------|--|----------------------------|
| Glass window | 10...20 | 2 |
| Plaster wall | 20...30 | 3 |
| Brick wall | 50 | 6 |
| Concrete wall | 70...80 | 15 |
| Metal structure | 70...100 | 30 |
| High voltage grid | 50...90 | 20 |

⁽¹⁾ LPWAN: Low Power Wide Area Network

⁽²⁾ 2 m/6.6 ft cable

⁽³⁾ Values for indication purposes only. Actual values depend on the thickness and nature of the material

NB: If you wish to extend the cable to an overall length of more than 3 meters, you need to take the necessary installation precautions if there is any electrical equipment nearby. Keep the cable away from any equipment generating electromagnetic interference, such as transformers, power supply lines, electrical welding equipment, etc.

| | |
|---------------|---|
| X | |
| XIOT11SE0MRCL | 3 |
| XIOT11SE5MRCL | 3 |
| XIOT11SERMRCL | 3 |