

# INSTRUCTION MANUAL

## CIXI COMMUNICATION MODULE

Manufacturer, CIXI

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## 1. Introduction

This communication module is designed to equip the PERS (*Pedaling Energy Recovering System*). It ensures the link between the vehicle, the user's smartphone, and external data servers to enable associated connectivity services and to gather and transmit data and to be controlled remotely.

## 2. Safety

Before usage, please read the safety precautions carefully:

**WARNING:** Failure to comply with the safety rules releases Cixi company from any responsibility for damages caused to persons or equipment.

- Avoid exposing the device to moisture or extreme temperatures.
- Never open the casing.
- Children should not approach the equipment.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. The IoT is already integrated into the PERS, which eliminates the need for any intervention at this level.

## 3. FCC Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

This portable equipment with its antenna complies with FCC's radiation exposure limits set forth for an uncontrolled environment. To maintain compliance, follow the instructions below :

1. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. Avoid direct contact to the antenna, or keep contact to a minimum while using this equipment.
3. In usage, keep a distance of at least 3.3 cms from the equipment



#### 4. ISED Statement

This portable equipment with its antenna complies with RSS102's radiation exposure limits set forth for an uncontrolled environment. To maintain compliance, follow the instructions below :

1. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. Avoid direct contact to the antenna, or keep contact to a minimum while using this equipment.
3. In usage, keep a distance of at least 3.3 cms from the equipment

This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:

1. This device may not cause interference, and
2. This device must accept any interference, including interference that may cause undesired operation of the device.

#### 5. Installation

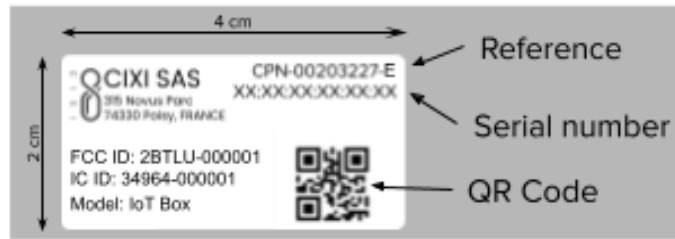
This device must be professionally installed. The installation is performed by CIXI directly on the PERS. Do not remove the IoT Box from the PERS. If you need to do so, CIXI strongly recommend you to contact us (see contact information in chap. 10). Any IoT box removed from its PERS without CIXI's written permission will void the warranty of the PERS.

A detailed replacement procedure can be found in chapter 12.

## 6. Technical specifications

|                       |                                                                                                                                                                                                                             |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reference             | CPN-00203227-E                                                                                                                                                                                                              |
| Power supply          | Max voltage 4.2V DC<br>Current: 1.4 A max                                                                                                                                                                                   |
| Battery               | The product contains a 18650 Li-ion battery<br>2900mAh – 3.6V                                                                                                                                                               |
| Power                 | 6 W max                                                                                                                                                                                                                     |
| Connectivity          | LTE-FDD : B2/B3/B4/B5/B7/B8/B28/B66<br>(GSM : EGSM900/DCS1800)<br>Power Class 3 : 23 dBm $\pm$ 2 dB<br>Bluetooth protocol version : 5.0 Bluetooth LE<br>Frequencies : 2402-2480 MHz<br>Max emitting power : class 1 +20 dBm |
| GNSS                  | Constellations :<br>GPS L1 ; GLONASS L1<br>Galileo E1<br>BDS B1I / BDS B1C<br>QZSS L1 C/A<br>SBAS L1                                                                                                                        |
| Dimensions            |                                                                                                                                         |
| Weight                | 125g                                                                                                                                                                                                                        |
| Operating temperature | -20°C / +60°C                                                                                                                                                                                                               |
| Certifications        | FCC ID: 2BTLU-000001<br>IC ID: 34964-000001                                                                                                                                                                                 |

## 7. Label contents



## 8. Communication Peripherals

The module communicates with the following peripherals:

- The vehicle's PCU (Power Control Unit) board via a CAN or UART interface.
- A smartphone via Bluetooth LE.
- External servers via the LTE cellular network.

## 9. Declaration of Conformity

*Add final FCC and ISED declarations of conformity and specific warnings.*

## 10. Technical support

CIXI offers several channels to assist you and answer your questions. You can also connect with our community on social media to share your experience and stay up to date.

Find answers to the most frequently asked questions about your connected vehicle, including usage, maintenance, and troubleshooting tips.

Scan the QR code or visit our FAQ page: <https://www.cixi.life/>

You can also check out our 'anti' tutorials to learn about the different features your PERS has to offer: [www.instagram.com/cixilife/](https://www.instagram.com/cixilife/)

Go on [www.cixi.life](https://www.cixi.life) or on your Active Pilot App or go on our CIXI Service Center : [www.service.cixi.life](https://www.service.cixi.life)

**Need more help? Reach out to us directly:** Email: [assistance@cixi.life](mailto:assistance@cixi.life)

## 11. Maintenance

Check for updates: refer regularly to the manufacturer's app or website for firmware updates or maintenance alerts.

At around 1100 hours of using the IoT Box, a midlife maintenance check is recommended.

Schedule maintenance with authorized dealer, reset maintenance indicator after service (usually through display menu or dealer tool)

## 12. IoT Box replacement procedure



[www.cixi.life](https://www.cixi.life)

a. Before replacing an IoT BOX

Before replacing the IoT BOX, you need a written approval from CIXI. Any IoT box removed from its PERS without CIXI's written permission will void the warranty of the PERS.

b. Tools and equipments

|           |                                                                                                                                                    |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Equipment | Torque-controlled screwdriver (torque range that includes 0.5 and 0.7 Nm)                                                                          |
| Tools     | Torx T10 screwdriver end with a diameter < 4 mm on a minimal length of 30 mm so to access inside screw holes of the iot box and the external cover |

c. Detailed operation procedure

- Remove the crank from the PERS on the external cover side (plastic part masking the cable routing)
- Remove the external cover : unscrew the 3 M3x10 screws (circled in red on the picture below) with a torx T10 screwdriver end.



- Unscrew the 2 M3x16 screws of the iot box with a torx T10 screwdriver end. These screws are inside the two holes of the iot box (number 1 & 2 on the picture below).



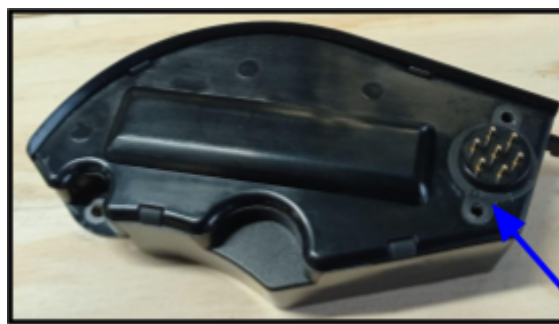
*Be careful, if the PERS is on the bike (vertical), maintain the iot box with a hand so that it does not fall when the 2 screws are removed !*



- Simply remove the IoT box from the PERS
- Take the new IoT BOX, remove the protecting cap (see picture below) and **ensure that the gasket around the connector is present.**



IoT box protecting cap circled in red



IoT box connector gasket pointed by the blue arrow

IoT box with connector gasket - OK



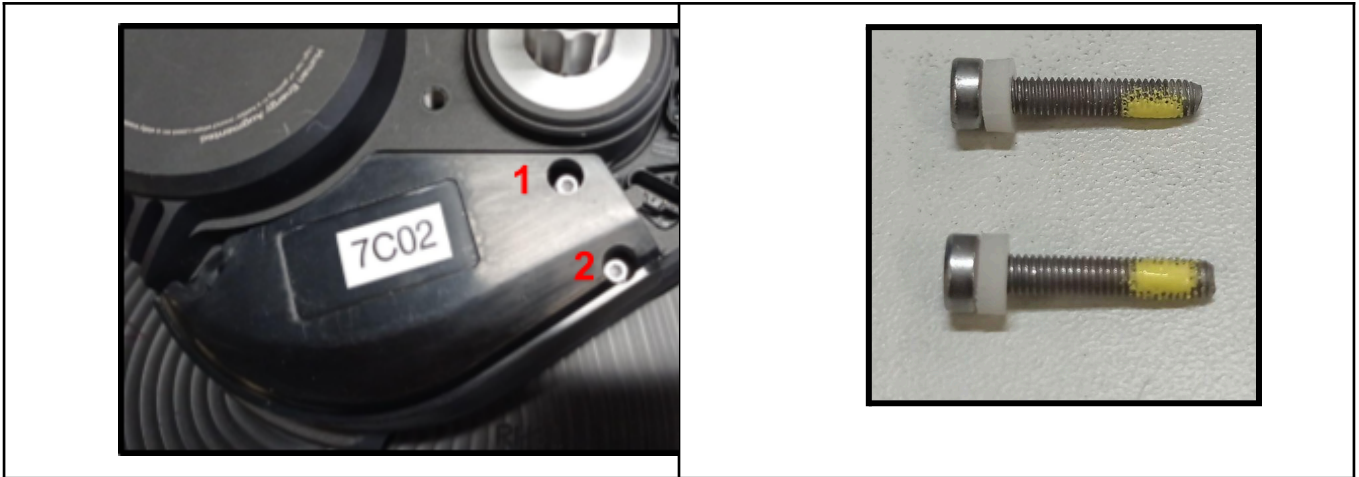
IoT box without connector gasket - NOK



- Place the IoT box on the PERS and screw the 2 M3x16 screws with a torx T10 end at **0.5 Nm with a torque-controlled screwdriver.**



*Check the presence of the two cylindrical seals under the M3x16 screws (picture below on the right) !*



- Put back the external cover on the PERS with the 3 M3x10 screws. **Screw them at 0.7 Nm** with a torx T10 screwdriver end.