

IBBX Gateway

Technical Manual

Version 02

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1. General Information about the IBBX Gateway

This document deals with the functioning and operation of the IBBx Gateway.

The Gateway is intended to collect data from IoT sensors in the operating range of 169 MHz. The collected data is sent directly to a cloud.

1.1 Safety

This equipment poses no risk of installation once security that operates with very low DC power as below.

$V_{in} = 5 \text{ V DC}$

$I = 70 \text{ mA}$

1.2 FCC Compliance Information

To be in accordance with FCC rules this device complies with FCC Part 15 B

Note: 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.
- Changes or modifications that are not expressly approved by the party responsible for compliance could make the device no longer comply with the FCC Rules.
- 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.

2. Overview

The Gateway is a wireless solution for the reception of sensor data for monitoring of IoT solutions. The product was developed with an updated technology that allows its installation in an effective manner.

The product uses a protocol developed by IBBx.

2.1 Features

The main advantages are:

- The product uses a protocol developed by IBBx that guarantees low consumption and operates with a long range of up to 1km.
- It is an excellent cost-benefit product

3. Specifications

3.1 General

DC internal	5.0 V
Size	95 mm x 75 mm x 20 mm
Weight	100 g
Frequency RF: 169 MHz	
Typical RX sensitivity (1% BER),8000 kbps	- 118dBm
RX selectivity	50 dB
Spurious and image rejection	60 dB
RF intermodulation rejection	- 60dB at 8000bps
Conducted spurious emission	- 30dBm

3.2 Inputs

Conector de RF: Antenna

USB Interface: 2 ports (USB Type C and Micro-USB)

4. Installation

The equipment must be connected to a personal computer/notebook via the USB ports. After connection, the equipment is automatically activated, and the stored information is transferred to the personal computer/notebook.

To receive data, analyze and register, the "Accessport" software must be installed on the personal computer/notebook..

5. Mechanical

The Gateway's hardware is housed inside a plastic box divided into two parts (cover and base), with side openings for fixing and accessing the antenna and USB ports.

6. Limited One Year Warranty

If within one year from date of purchase, this product fails due to a defect in material or workmanship, IBBx Inovação ,Ltda will repair or replace it, at IBBx's sole discretion. This warranty is extended to the original consumer purchaser only and is not transferable.

This warranty does not apply to: (a) product damage caused by accident, dropping or abuse in handling, acts of God or any negligent use; (b) units which have been subject to unauthorized repair, opened, taken apart or otherwise modified; (c) units not used in accordance with instructions; (d) damages exceeding the cost of the product; (e) batteries; (f) the finish on any portion of the product, such as surface and/or weathering, as this is considered normal wear and tear; (g) transit damage, initial installation costs, removal costs, or reinstallation costs; (h) damage due to lightning, floods, fire, or earthquakes.

IBBx INOVAÇÃO LTDA. will not be liable for incidental or consequential damages. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty is in lieu of all other express or implied warranties. All implied warranties, including the warranty of merchantability and the warranty of fitness for a particular purpose, are hereby modified to exist only as contained in this limited warranty, and shall be of the same duration as the warranty period stated above. Some states do not allow limitations on the duration of an implied warranty, so the above limitation may not apply to you.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

For warranty service, contact us at the number below:

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