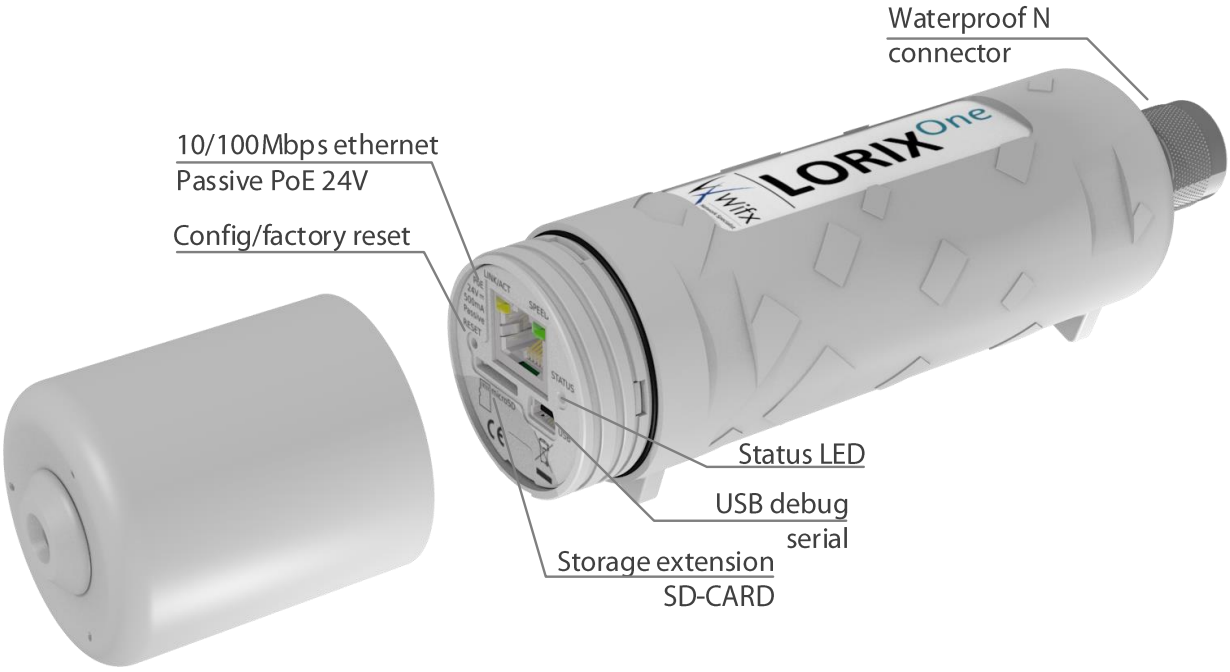
LORIX One

Low cost LoRa IP43/IP65 gateway

Operational description



Versions:

Revision	Note	Date
0.1	Initial version	16/06/2018

1 GENERAL DESCRIPTION

The LORIX One is a LoRa/FSK modulation based gateway powered through passive PoE and running with an embedded Linux OS. It allows a connection through the USB device (virtual serial COM port) and once the network is configured, it can also be connected through SSH.

2 RF PART

The RF parts are based on the LoRa (de)modulation chips SX1301 made by Semtech which gives the possibility to virtually demodulate up to 48 LoRa / 1 FSK packets in parallel. The SX1301 is connected to 2 SX1257 (1 in receiver mode and 1 in transceiver mode). A dipole antenna with a gain of 4.15dBi is connected which allows a theoretical total TX power of 27dBm and a maximum spectral density of 8dBm.

3 POWER PART

The LORIX One is designed to be powered from passive PoE through pairs 4-5 and 7-8 of the Ethernet cable with a voltage of 24VDC and limited to 500mA by the power supply (S-)HNP12-240L6 provided with it.

4 SOFTWARE

The internal OS is Linux, based on Yocto build system. The RF part management is done by using the libraries provided by Semtech (lora_gateway library) and their LoRa packet-forwarder application which manages packets.

5 COMPLEMENTS

Further information can be found directly in the user manual of the LORIX One.