

# Universal WSN Gateway



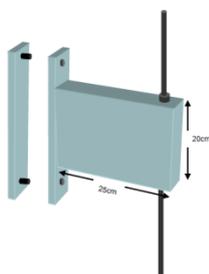
Gateway to integrate WSN solutions from different technologies

## KEY BENEFITS

- **PLUG&PLAY SELF-DISPLAY SENSOR DISCOVERY.**



- **ABLE TO UNDERSTAND MULTIPLE PROTOCOLS AND TECHNOLOGIES.**



- **REDUCE INSTALLATION AND OPERATIVE COST IN A SMARTCITY**



## Overview

Wireless Sensor Networks (WSN) are not directly related to one specific technology, in contrary, they are rather linked to a set of them. Most of the technologies involved have their own standards or they are proprietary technologies chosen by companies as own solutions. There is no consensus about the radio interface, the link layer, the routing protocol and the data representation. Therefore, each WSN from each provider uses proprietary gateways that connect to Internet. This heterogeneity of equipment made the solution difficult to deploy and costly to maintain.

## At a Glance

A **Universal WSN Gateway** is able to integrate solutions from different manufacturers unifying the variety of gateways and to offer one single interface to the information handler or the maintainer. The format used for this remote access uses open protocols that are supported by the developer community worldwide.

## Features and Capabilities

Gateway which supports the connectivity of multiple sensor networks that use different technologies such as IEEE802.11 (WiFi), Bluetooth, Serial ports (USB, RS232 and RS485), proprietary solutions, ZigBee 2007, 6LowPAN, IEEE 802.15.4 and RIME.

This gateway differentiates these types of information:

- captured data translated to a common format,
- sensor network management information that should be kept proprietary for each provider.
- gateway management info that should be easy to integrate in the existing network management platforms.

With the present hardware, the gateway has multiple interfaces to support connectivity through Ethernet, cellular network (2G and 3G), RJ45 connector, and wireless connection acting as a Wi-Fi client or even in a mesh mode. The Wi-Fi interfaces supported are IEEE802.11b/a/g with WEP, WPA and WPA2 security.

Also, it supports JSON and XML coding and a HTTP REST and COAP for gateway polling and notifications.

## Applications

The most interesting applications for this type of gateway are to deploy wireless sensor networks within Smart Cities. Local Authorities or maintenance companies want to reduce the number of devices in a city, thus reducing the installation and operative costs.

## Requirements

The system does not require ventilation and it is able to work in a temperature range from -40°C to +85°C. However, power connection is required.

## About i2CAT

i2CAT is a Technological Center with a wide experience in multiple national and international R+D+i projects, leading the introduction and integration of ICT and Future Internet technologies in the main economic sectors (Health, Education, Culture, Industry, Media, ICT) with the aim to improve the business competitiveness and the citizens' welfare.