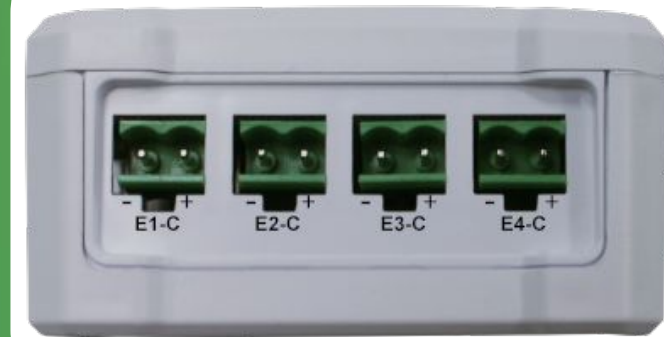


# Extension module for current sensors



## Main characteristics

- Standard 4–20 mA (2-pin) signal reading
- Resettable fuse protection
- Sensor extension to ITS 3G, ITS 402, Endpoint LoRa or Endpoint ZigBee

## Applications

- Industry
- Agribusiness
- Smart City
- Healthcare
- Corporate

## Overview

ITS 3G, ITS 402, Endpoint LoRa and Endpoint ZigBee (IEEE 802.15.4), have extension connectors capable of expanding the sensing capacity, increasing even more the intelligence in IoT (Internet of Things) in industries from various segments.

Khomp introduces to the market, the EM C104, an extension module for current sensors, which makes it possible to sensor any quantity in the standard 4–20 mA (with 2 pins).

Some possibilities are: tank temperature measurements, oil pump pressure, also being possible the measurement of carbon dioxide levels and environmental humidity measurements.

This information, once collected, is sent to be analyzed, bringing automated intelligence to the environment where the device was installed.

## Available model

Khomp offers the current sensor extender model seen below:

Model	Description
<b>EM C104</b>	• Up to four inputs for current sensors.

# Technical specifications

## Busbar

- One 16-pin connector
- Type: I<sup>2</sup>C 100 KHz
- Compatible with:
  - ITS 302 (3G), ITS 312 (3G with integrated sensors) and ITS 402 (2G and 4G)
  - NIT 20LI and NIT 21LI (LoRa). Compatible with ATC LoraWAN Public Network and Private Networks
  - NIR 20ZI and NIR 21ZI (ZigBee)

## Physical/Environmental

- Dimensions of the protective case: 102x77x41 mm
- Weight: 97 g
- Operating temperature: -20 °C to 85 °C
- Operating humidity: 0–90% (not condensed)

## Sensor input


- Connector: Pole
- Current range:
  - 4–20 mA (maximum 12.5 V)
- Input Impedance: 50 Ohms
- Protection: Resettable fuse

## Power

- Source: 11,5–12,5 VDC (**optional use**)
- Connector: Jack P4 (2,1 mm)
- Power: 1.4 W

## Sensor output

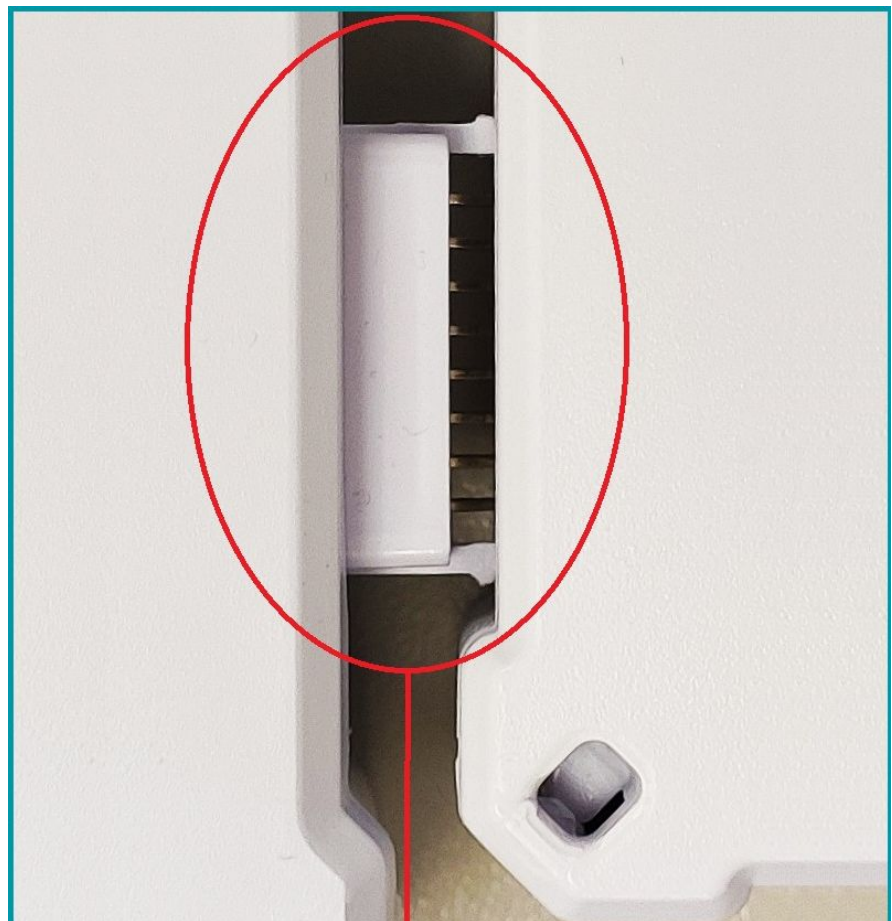
- Resolution: 2 decimal places
- Accuracy: 2.5% of full scale 4-20 mA / 25 °C
- Measurement unit:  $\mu$ A
- Period between measurements: 5 s\*

 <p data-bbox="384 898 507 931"><b>Attention</b></p>	<p data-bbox="539 842 1136 943">The EM C104 modular extension may present variations of up to <math>\pm 0.1</math> mA when no sensor is connected to the terminals.</p>
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\* The factory default sampling period in ITS 3G is 300 s.

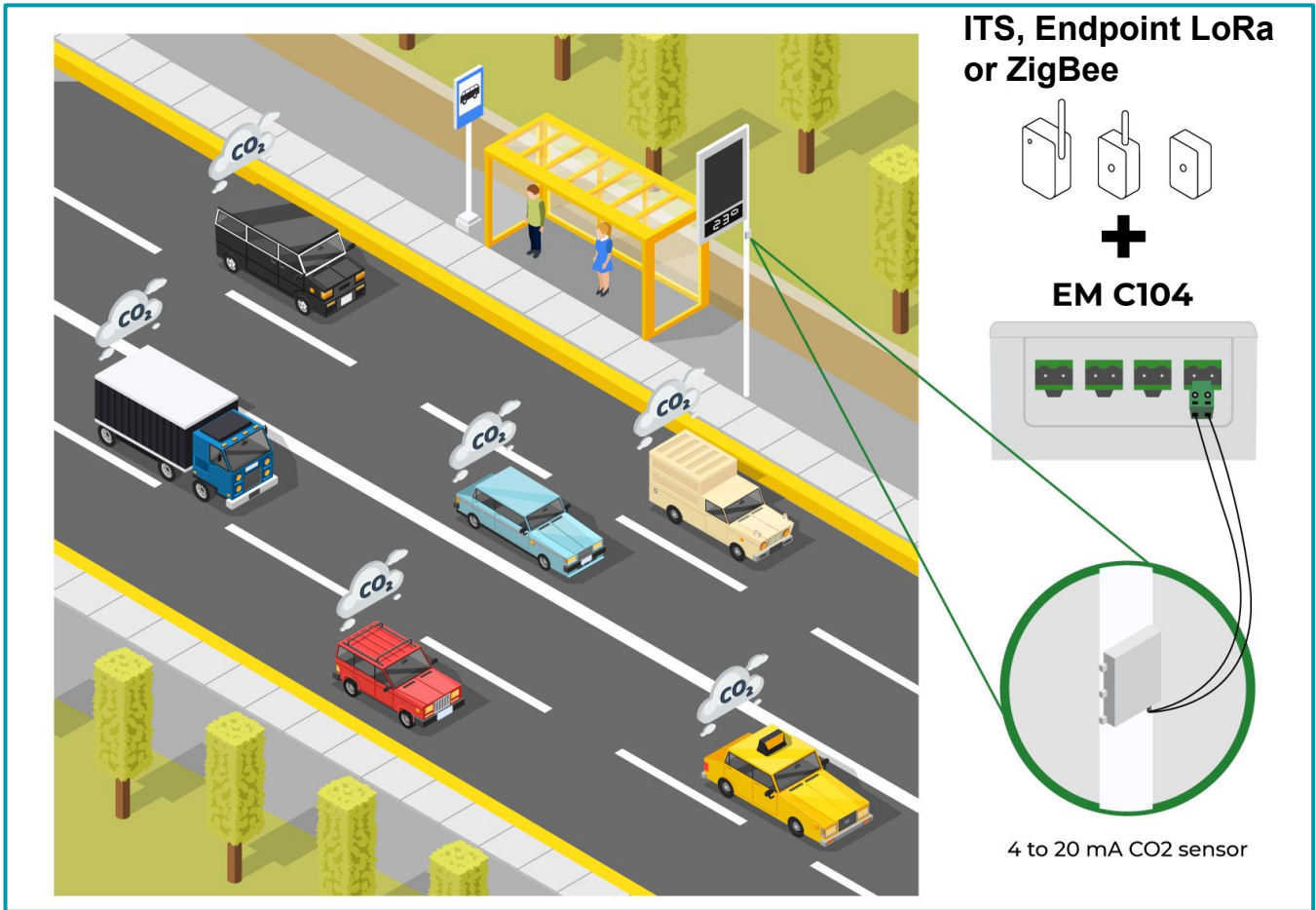
\* The sampling period in Endpoint LoRa and Endpoint ZigBee is configurable. Please refer to the product manuals for more details.

## Other product images

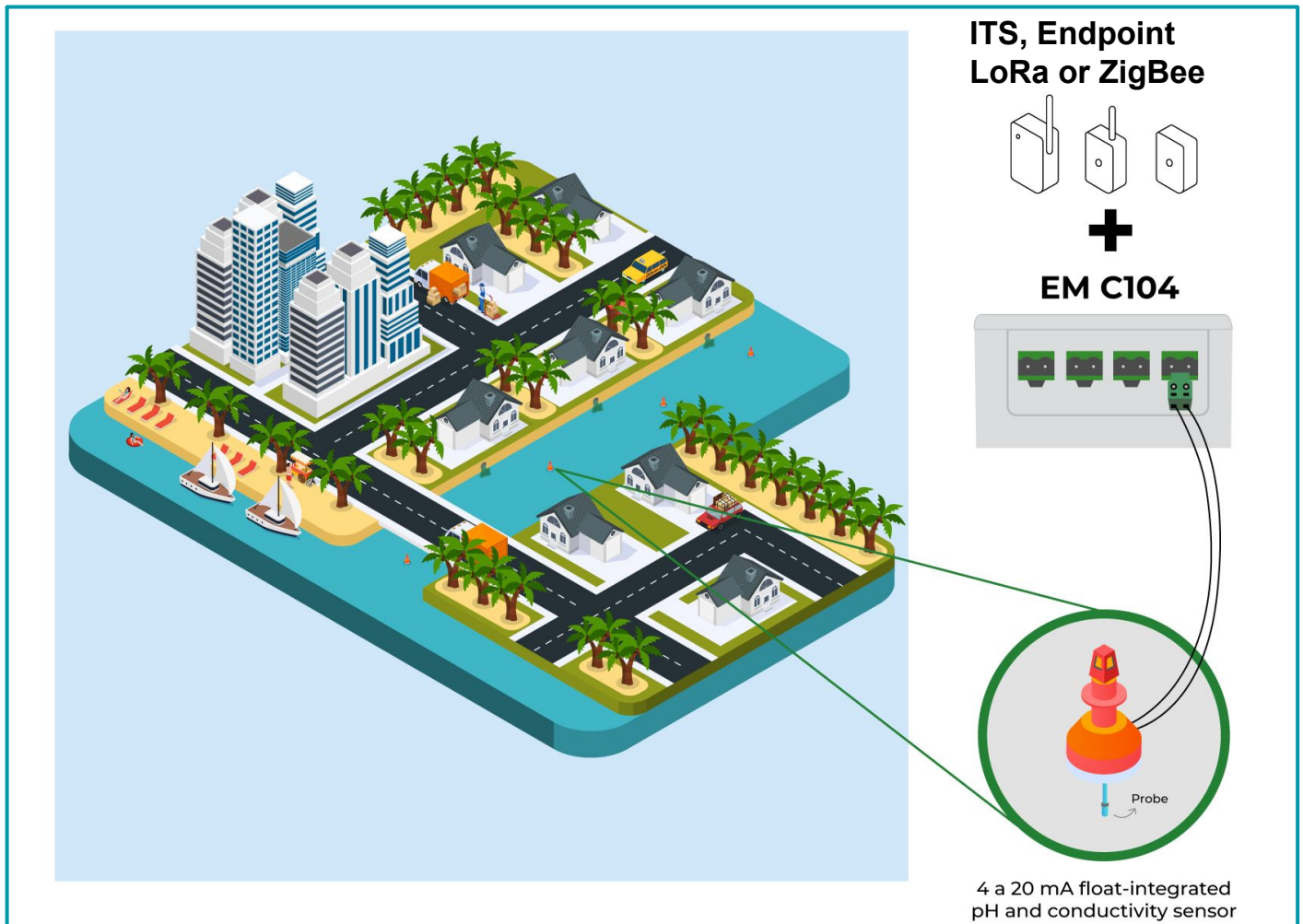


**Connecting the Extension Module to the End Device**

# Application models

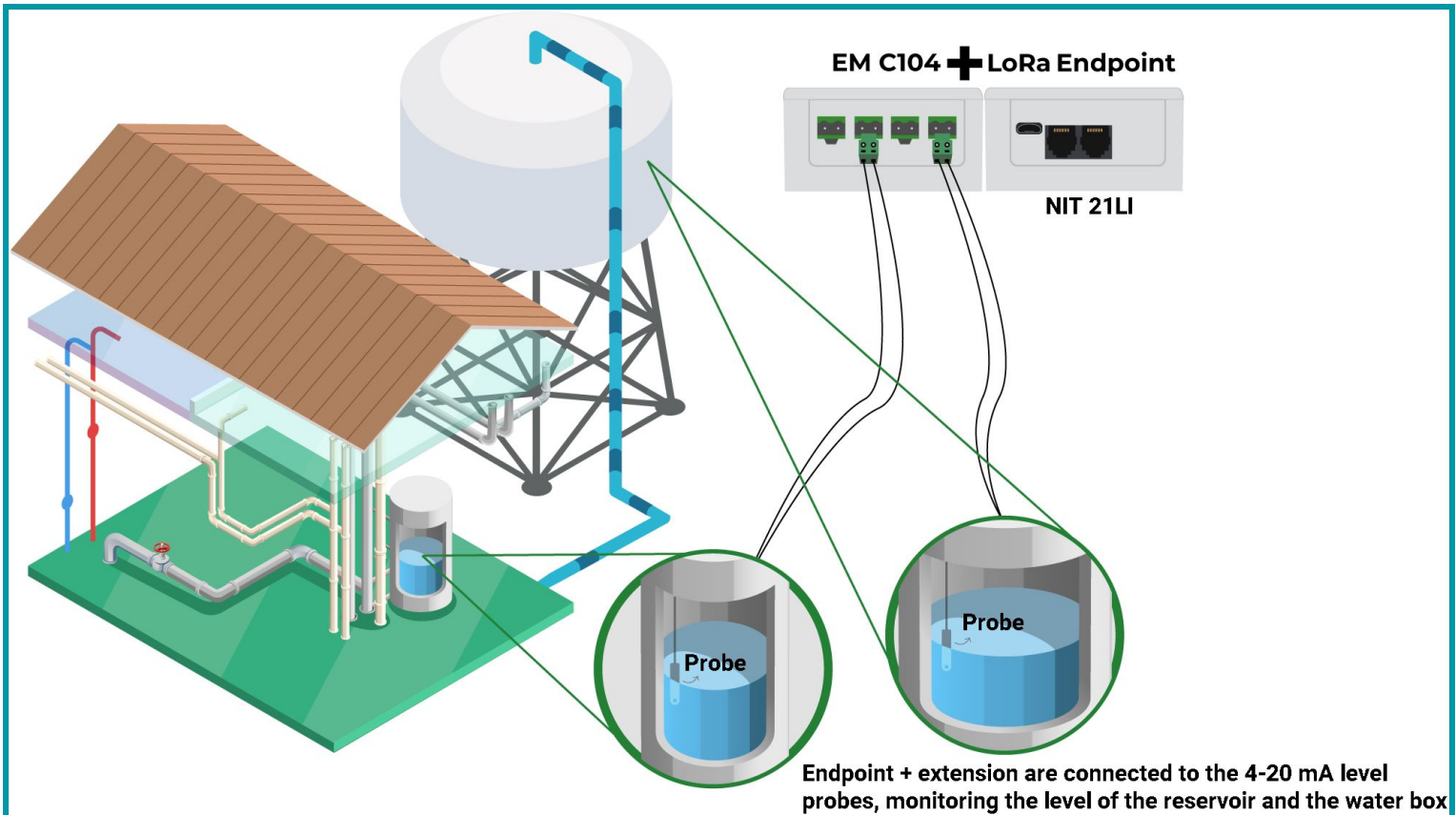


**Legend:** Attached to an urban structure, the sensor detects the amount of CO<sub>2</sub> present in the air and sends the data through the extension cable.



**Legend:** With the extender integrated into the sensor inside the float, it is possible to measure the pH of the water in that region.

## Application model



**Legend:** Association with level probes to check the volume of liquid in the reservoir and water tank.