

IoT Endpoint ZigBee



Main features

- 2x 1-Wire ports for connection with temperature, humidity, and contact sensors
- Connect up to 4x 1-Wire sensors in a chain
- Transmission of data via ZigBee protocol
- Onboard temperature and humidity sensor*

Applications

- Health Care
- Agribusiness
- Industries
- Corporate

* Available only on the NIT 21ZI and the NIR 21ZI models. Models with a different costs.

Overview

The ZigBee Endpoint from Khomp is an IoT transmitter endpoint for use in projects that integrate IoT using a wireless ZigBee (IEEE 802.15.4) communication network. It has two 1-Wire ports for connection of temperature, humidity and dry contact sensors, enabling the reading of these elements in an environment. The Endpoint is installed in locations where there is a telemetry gateway, such as the Khomp [ITG 200 ZigBee Indoor](#), for example. Using the ZigBee protocol, the Endpoint sends data that is read to the gateway it is connected to through a wireless network. The gateway, for its part, is responsible for transmitting the information received to a server, which may be in a local network or a cloud. The ZigBee Endpoint is ideal for applications of short and medium distances, such as corporate environments, for example.

Models

The ZigBee Endpoints line has four models to better suit your project.

Model	Description
NIT 20ZI	IoT Indoor transmitter node
NIT 21ZI	Transmitter node with integrated humidity, temperature and contact sensors
NIR 20ZI	IoT Indoor repeater node
NIR 21ZI	Indoor IoT Repeater with integrated humidity, temperature and contact sensors

Integrated humidity and temperature sensor

The models with temperature and humidity sensors integrated in the plate, allow reading this information in the environment in which they are installed. Thus it is possible to monitor both the environment in which the Endpoint is installed, and the environment of the connected sensors.



*The ZigBee endpoint correctly detects the temperature and humidity of the environment by the internal sensor, only if it is being powered by batteries.



Note

- The values referring to the on board sensor of ambient temperature and humidity "may present significant differences" (> 3%) in relation to the external environment of the case.
- For greater accuracy, it is recommended to use the extension module "[EM THW 100](#)".

Particularities in current and I/O sensor extensions

Support for the I/O Extension Module ([EM R102](#)) and Current Sensor Extension Module ([EM C104](#)) "is exclusive to NIR models and does not work with NIT devices".

Technical specifications

ZigBee

- ZigBee v3.0 protocol
- Frequency range: 2.4 GHz
- Power: up to +10 dBm
- Sensitivity: starting at -102,7 dBm
- Communication distance: Several dozen meters depending on the area it is installed

Period between shipments

- Default: 5 minute period
- Maximum: 1 day and 12 hours
- Minimum: 5 seconds

NIR model endpoints in batteries

- Not recommended for battery use
- Its duration is 7 days, not varying considerably with peripherals connected

Battery life, configured to transmit data every 5 minutes

- NIT21 = 3 years
- NIT21 + 1ds18b20 = 2.5 years (30 months)
- NIT21 + 2ds18b20 = 2 years
- NIT21 + 3ds18b20 = 1.5 years (18 months)
- NIT21 + 4ds18b20 = 1.5 years (18 months)
- NIT21 + ACW100 = 1 year
- NIT21 + THW100 = 1.3 years (15 months)

Battery life (in years), configured to transmit data every 1 minute

- NIT21 = 2 years
- NIT21 + 1 ds18b20 = 1.5 years (18 months)
- NIT21 + 2 ds18b20 = 1.4 years (16 months)
- NIT21 + 3 ds18b20 = 1.2 years (14 months)
- NIT21 + 4 ds18b20 = 1 year
- NIT21 + ACW100 = 0.33 years (4 months)
- NIT21 + THW100 = 0.41 years (5 months)

Physical/Environmental

- Internal installation
- Internal antenna integrated in the board
- Support for wall mounting
- 2x RJ11 1-Wire
- 1x USB Micro-B (for power)
- Power source:
 - Battery: 2x AA batteries (use lithium batteries when in an environment with temperatures below 32 °F)
Voltage level with batteries: 2.0V to 3.0V
 - Power when using external source: < 2 Watts
- USB: Input 5–12 VDC
- Buttons:
 - Internal: reset
 - External: Battery level
- Dimensions: 27"x24.8"x15"
- Approximate weight: 0.17 lb (without packaging)
- Operating temperature: 14 °F to 140 °F
- Operating humidity: 0–100% (relative humidity)

Optional items*

- USB Power adapter:
- Output: 5 VDC

* *Optional items at additional cost.*

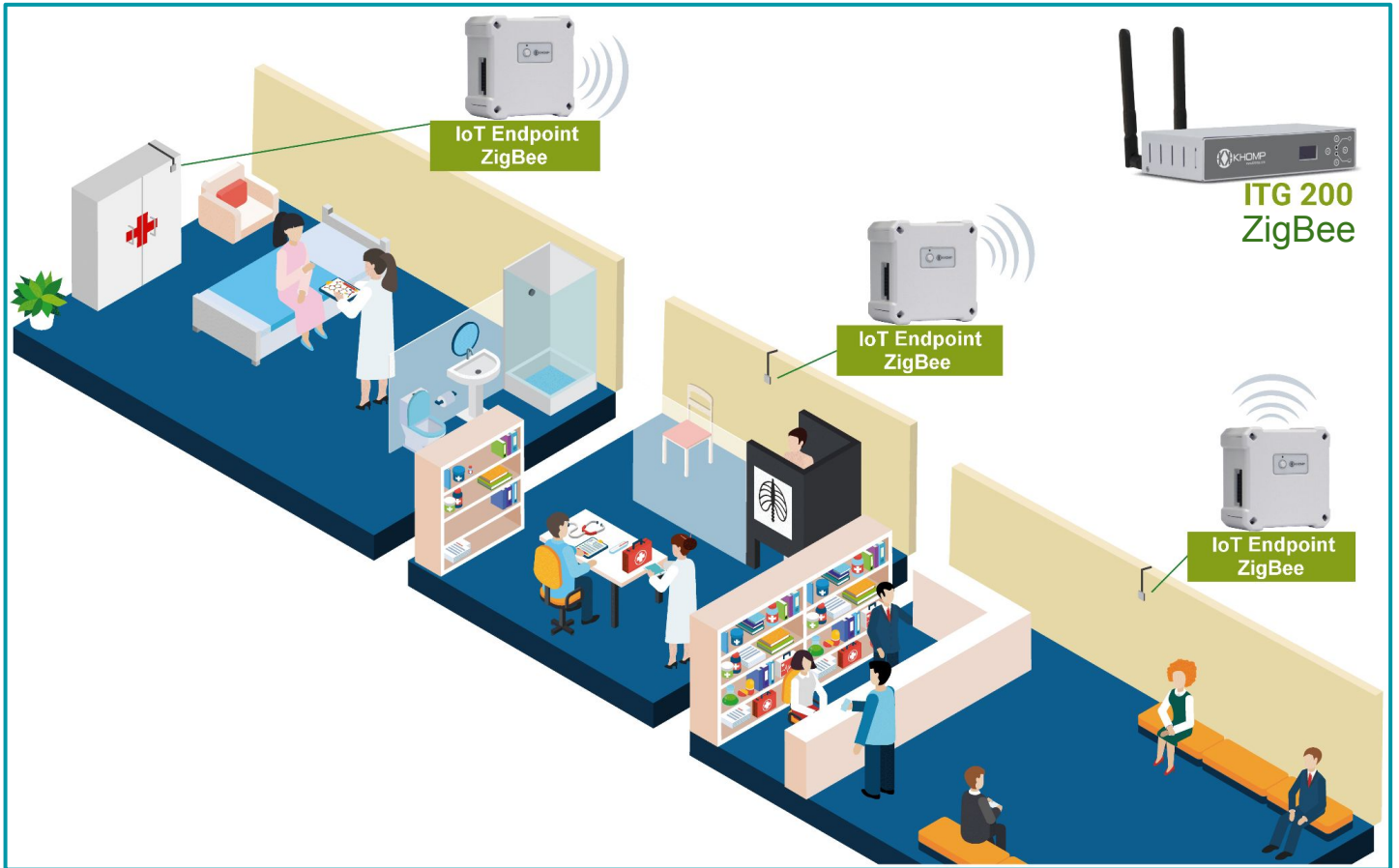
Warranties and certifications

- Total warranty (legal + Khomp warranty): 1 year
 - Legal warranty: 90 days
 - Khomp warranty: 9 months
- ISO 9001 certified

Product images



Application model



Legend: ZigBee endpoints in the hospital environment, monitoring three rooms and sending the collected data to the ITG 200 ZigBee Indoor gateway.

The Endpoint ZigBee is not capable of integrating with [TagoIO](#).

- This equipment is not entitled to protection against harmful interference and may not cause interference in duly authorized systems.
- This equipment is not suitable for use in domestic environments, as it may cause electromagnetic interference, forcing the user to take measures to minimize such interference.