Edge Connect

Wireless IoT NRF Gateway

Compact and quick-to-deploy intelligent wireless IoT gateway

Product Overview

The **MachineSens IoT® Edge Connect** NRF gateway is as an advanced intelligent device facilitating wireless communication with IoT sensors and controllers, paving the way for connected buildings that allow centralized monitoring and control of building assets. This state-of-the-art gateway is equipped with the , ensuring seamless communication with up to 125 devices.

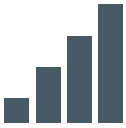
Leveraging NRF's advanced wireless capabilities, coupled with integrated WiFi functionality, this gateway enables effortless data transmission to a web server. Embrace robust connectivity, extended range, and unparalleled reliability, making it the perfect solution for efficiently managing and monitoring a diverse array of IoT devices.

Revitalize your network infrastructure with this high-performance gateway, ushering in a new era of connectivity and data management.

Product Features

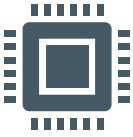
NRF Communication for secure and fast data transmission

Worldwide 2.4 GHz ISM band operation



Range: Up to 150m between gateway and device

Bi-directional communication for remote operation and control



On-board Computing capability

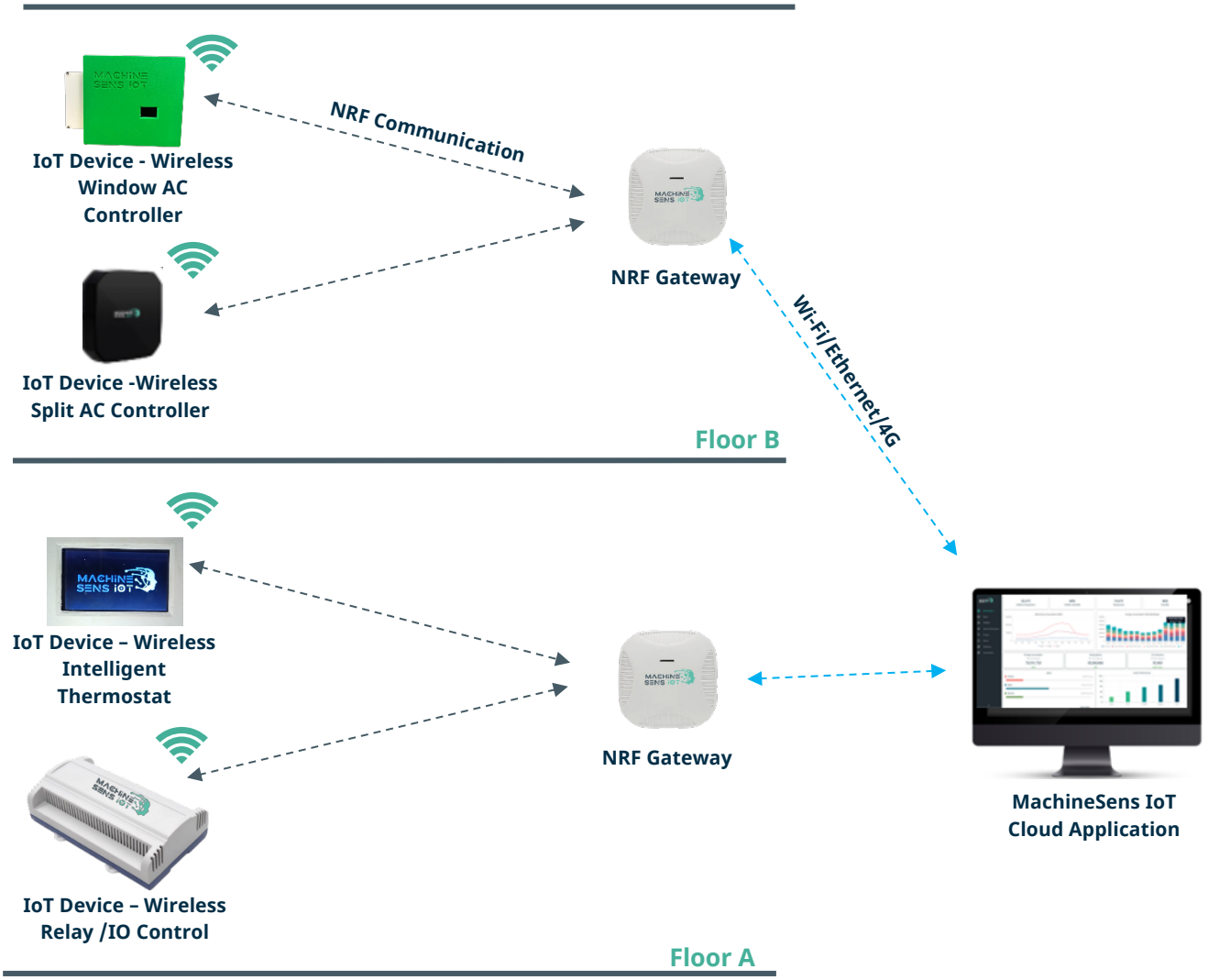
Ultra Low Power Consumption

Enhanced Connectivity up to 125 devices.

Secure operation with top-down encryption

System Architecture

Our intelligent gateway gathers near real-time data from all wireless connected devices within its range. It converts the raw data into a user-friendly JSON format and publishes it using the **MQTT** protocol. This data can be transmitted to either a local or cloud MQTT broker through Ethernet, LTE (4G), or WIFI.



Specifications

Technical	
Operating Voltage	5V DC
Input Power	USB Type C
Operating temperature	-10 °C to +55 °C
Storage temperature	-20 °C to +70 °C

Relative Humidity	10% to 90% (non-condensing)
Environment	Indoor
Enclosure Material	Plastic
Weight	0.3 Kg
Mounting	Wall Mounting
Dimensions	190mm x 190mm x 36mm
Configuration	Via PC software
Wireless Communication (NRF)	
Protocol	Enhanced ShockBurst (ESB)
Frequency	2.4 Ghz (ISM Band)
Transmit Range	Up to 100m
Operating Voltage	3.3V
Current Consumption	**Transmit Mode:** Typically, around 115 mA **Receive Mode:** Typically, around 45 mA **Power-Down Mode:** Low power consumption when not in use
Output Power (PA)	Adjustable (OdBm, -6dBm, -12dBm, -18dBm)
Receiver Sensitivity (LNA)	Around -85 dBm in 2 Mbps mode. Sensitivity may vary based on the data rate and modulation settings
Communication Range	100-150m. PA and LNA features help extend communication range compared to non-PA+LNA versions
Data Rates	Selectable data rates (e.g., 250 kbps, 1 Mbps, 2 Mbps)
Antenna	Extenal
Interface	SPI (Serial Peripheral Interface) for communication with a microcontroller
Packet Handling	Automatic Packet handling with auto-retransmission
Modulation	GFSK (Gaussian Frequency Shift Keying) modulation
Data Format	JSON

Product Dimensions