

Micro Edge IO-4 Specifications

(Hardware V2.2)



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1 Introduction

The purpose of this document is to provide a technical overview of the Micro Edge Wireless Sensor.

1.1 Document Availability

Please email support to request a copy
support@nube-io.com

1.2 Document Change Log

<u>Version Number</u>	<u>Issue Date</u>	<u>Description</u>
V1.0	September 2018	First release
V2.0	December 2019	Updating theme
V3.0	May 2020	Updating UI's

1.3 Abbreviation term and definitions

Name/Code	Explanation	External Reference
Edge Gateway / Device	Edge Gateway	Link
GCP	Google Cloud Platform	Link
Edge	Edge computing is a distributed computing paradigm	Link
IO (Input/Output)	Communication process between a computer or device	Link
VPN	A virtual private network (VPN) extends a private network across a public network	Link
Nube	Translates cloud in spanish	
BACnet	BACnet is a building automation protocol	Link
MQTT	A lightweight messaging protocol for small sensors	Link
Modbus	Modbus is a building automation protocol	Link
Zigbee	ZigBee is a smart office/home protocol	Link
NB-IoT	Low Power Wide Area Network (LPWAN) radio technology	Link
LoRa	LoRa is a long range, low power wireless chipset and protocol	Link
LoRaWan	LoRaWan is the network layer on LoRa	Link
Haystack	Standardize semantic data models for IoT data	Link

Overview

- 1 x Pulse input
- 3 x Universal inputs - 0-10V DC, 10/20K Resistor
- Battery 3 x AA or 24V AC/DC power supply
- LoRa Wireless technology
- IP65 Waterproof Enclosure

Application use

The Edge Micro has been specifically designed for low cost monitoring and collecting of data from machine and asset usage.

- 1x pulse input for and accumulation of the pulse count for a water or electrical meter
- 3 x universal inputs for use for CT and or sensor monitoring
- Power monitoring with 3 x universal inputs for external CTs
- Battery powered LoRa technology

Micro Edge 4 Specifications (Hardware V2.2)

General

Max Pulse Count	2,147,483,647
Battery Life	~3-5 years (3 at 1 minute push intervals, 5 at 24 hour push intervals)*
Transmit Frequency	915 MHz
Number of Inputs	4
Input types	Thermistor, PIR, 0-10V, Pulse Meter, Reed Switch... etc
Batteries	3x AA
Storage Writes	- 1,000,000,000,000
Data Retention	10 years (+ 85 °C), 95 years (+ 55 °C), over 200 years (+ 35 °C)
:Push Intervals (User Configurable)	1 Minute, 5 Minutes, 15 Minutes, 30 Minutes, 1 Hour, 3 Hours, 10 Hours, 12 Hours, 24 Hours
Enclosure	IP65 Waterproof Enclosure
VCC	2.3v ~ 5v
Operating Temperature	-40 ~ 85°C

Power

Power Options and Requirements:	
Via Terminal	Power Supply: 24VAC +/- 3% or 24VDC +10%/-10% Consumption 100 mA or Batteries: 3xAA

Batteries:	
Batteries	3 x AA

Connectivity

Connectivity:	
LoRa	Transmit Frequency: 915 MHz

Available IO	
Universal Inputs	3
Digital Inputs (Pulse)	1

Dimensions

Length	115mm
Width	65mm
Height	40mm
Material Type	ABS Plastic (Acrylonitrile Butadiene Styrene)
UL Rating	UL94-V0
IP Rating	IP65
Operating temperature:	-20 to 80 degrees
Mounting	Screw mount

Input/Output Details

Name	Tolerance	Usage
Digital Inputs	3.3V	Detecting the closing or opening of circuits. Push-pull input or dry contact
Universal Input	0-10V DC, 10/20K Resistor	Measuring 0-10V Sensors, Ratiometric Voltage Input, 10/20K type Thermistor

Computing and Programming

Physical Specs	Speed Max: 20 MIPS at 20 MHz Memory: 32KB Flash Storage: 1024B EEPROM
Programming	C++

About Nube iO

Designed by HVAC controls experts, Nube iO provides a reliable and economical platform to control and monitor your HVAC system. With emphasis on utilizing open platforms and device security Nube iO allows you to break free from restrictive BMS platforms without the huge cost of having to replace existing controllers.

Born in the age of IoT, Nube iO provides you with the ability to access your data from the web. No longer do you need hundreds of sensors or a huge budget in order to get your data online. Whether you have one sensor or thousands, the scalability of the platform makes it economical regardless of the size of your system.

To learn more about our products and solutions, visit: nube-io.com

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