Micro Edge Install & Wiring Guide

1 Introduction

1.1 Document Availability

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

1.2 Document Change Log

This document is due for review annually.

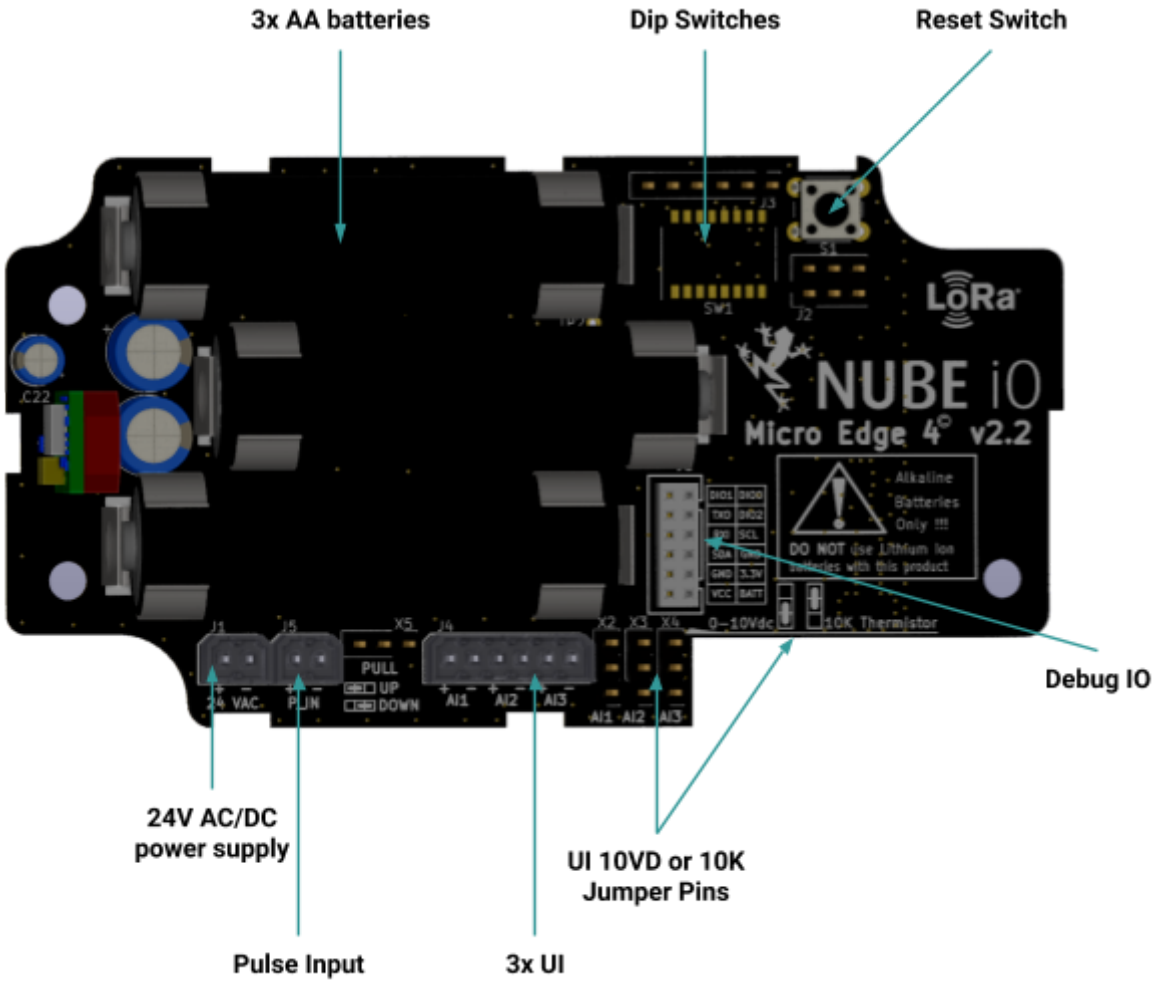
Version Number	Issue Date	Description
1.0	May 2020	Created for V2.2 hardware & Firmware
2.0		

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
API	Application programming interface	Link

2 Internal Image



3 Product specifications

3.1 Dimensions

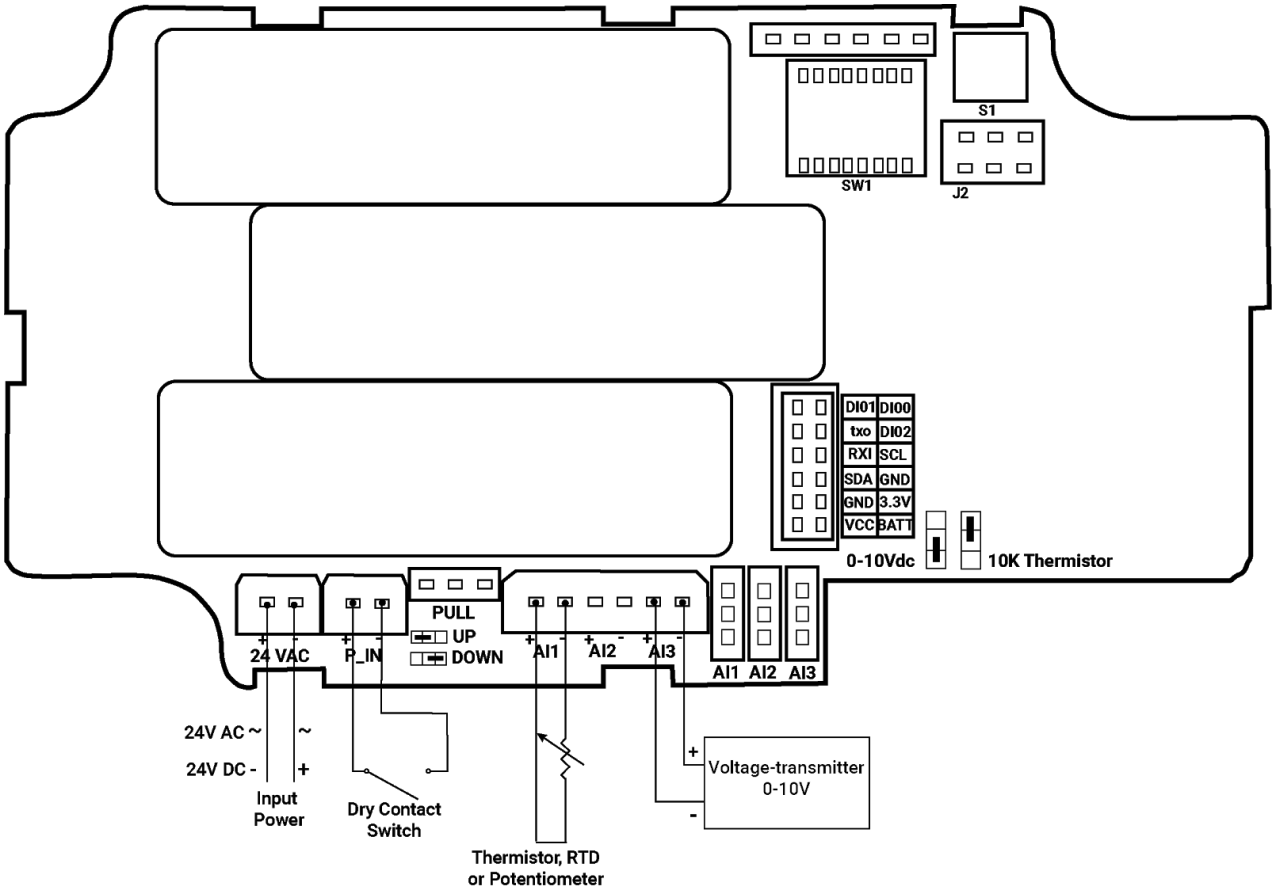
Length	115mm
Width	65mm
Height	40mm
Material Type	ABS Plastic (Acrylonitrile Butadiene Styrene)
Hole Size	4.5mm
Mounting	Screws or industrial double sided tape

3.2 IO

Available IO	
Universal Inputs	3
Digital Inputs (Pulse)	1

Name	Signal	Usage
Universal Inputs		Measuring 0-10V Sensors, Voltage, Temperature, Status Switch (True/False)
Digital Inputs (Pulse)	Dry Contact, Push-Pull, Open-Drain	Pulse Meter, PWM

4 Wiring Diagram



4.1 Pulse Input Pull Up/Down

When input is driven low on pulse or is simply a dry contact, set switch to **PULL-UP,**

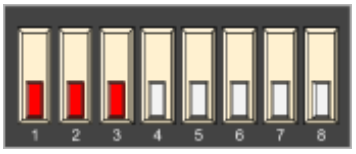
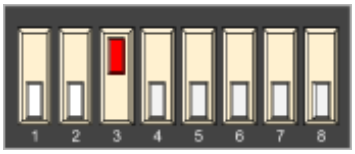
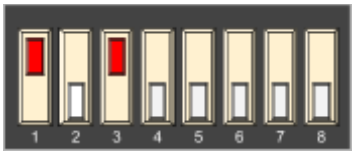
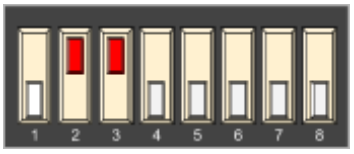
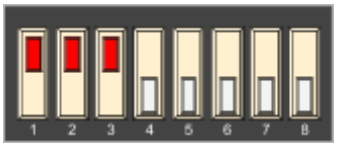
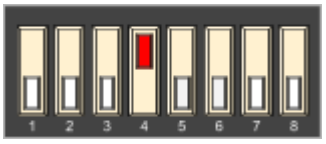
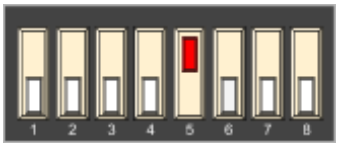
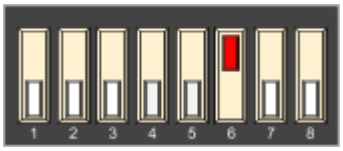
when input is driven HIGH on pulse, set to **PULL-DOWN**

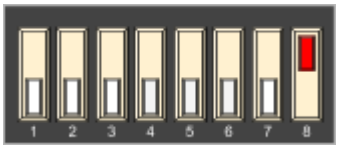
5 LoRa Dip Switch Settings

For general use, the dip switches define what frequency the device should transmit on and what "ID" should be used for the network. These settings would then need to be duplicated on the LoRa Connect Modem to enable communication between the two.

The rules for the settings are as follows:

1-3 is used for interval timing (push rate)

1-3 **0=15mins**		**1-3** **1=30sec**	
1-3 **2=1 min**		**1-3** **3=3 mins**	
1-3 **4=5 min**		**1-3** **5=10mins**	
1-3 **6=30 min**		**1-3** **7=1hr**	
4-Clear pulse counter		**5-Serial Print : will print the payload msg on the serial**	
6-Node Hard reset (new Node ID)		**7-8 Test mode Node ID AAAAAAAA 8 sec push rate**	

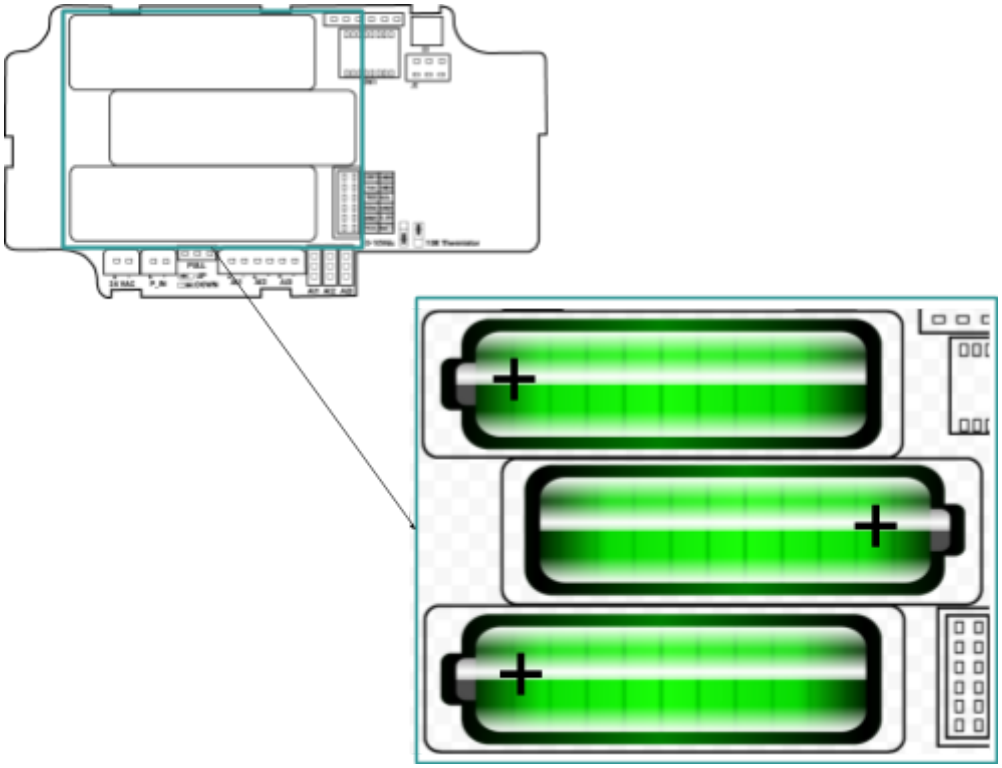
7-8 Test mode Node ID BBAABBBB 8 sec push rate		**7-8 Test mode Node ID CCAACCCC 8 sec push rate**	

6 Power Configurations

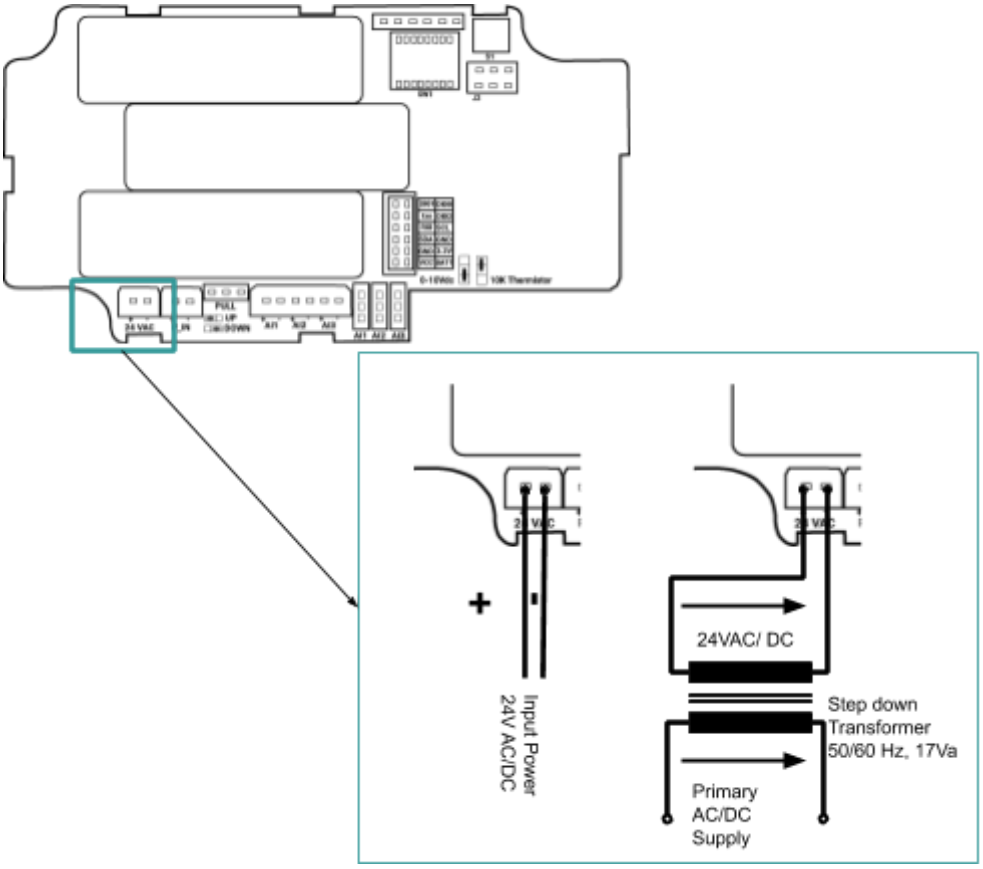
This device can be powered either via batteries or power supply connection.

Via Terminal	Power Supply: 24VAC +/- 3% or 24VDC +10%/-10% Consumption 100 mA
Batteries	3 x AA (1.5V cell nominal voltage) Single use non-rechargeable batteries only

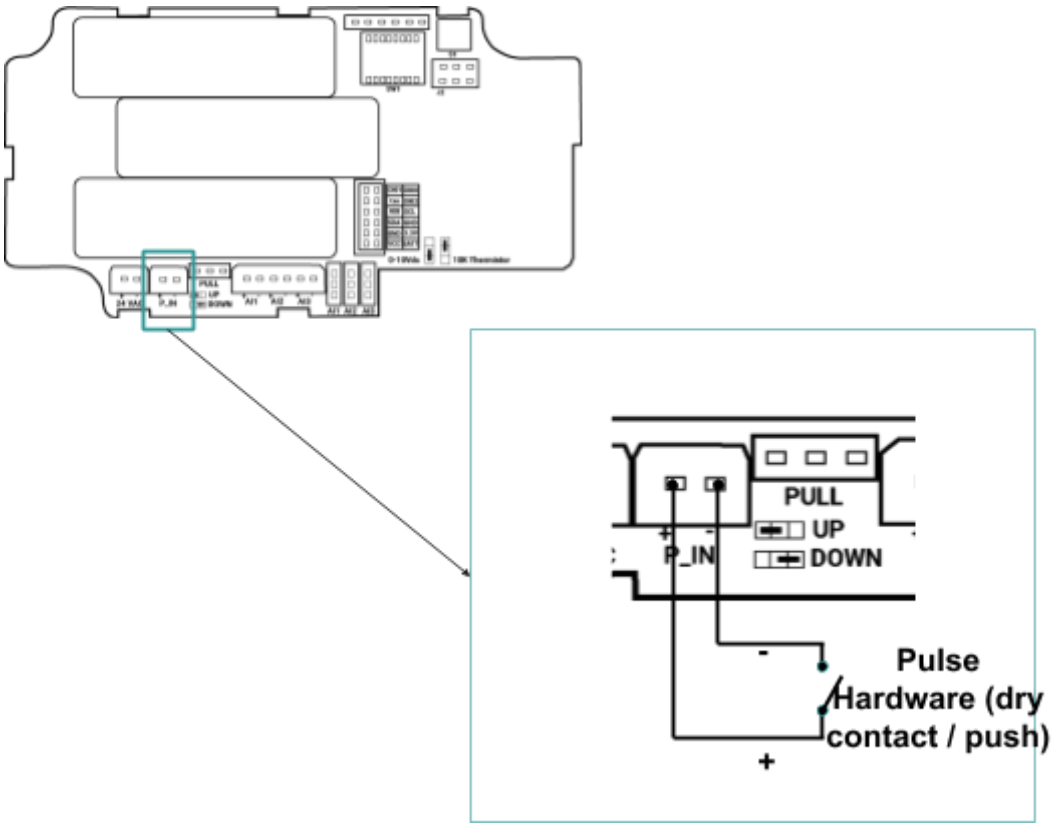
6.1 Batteries



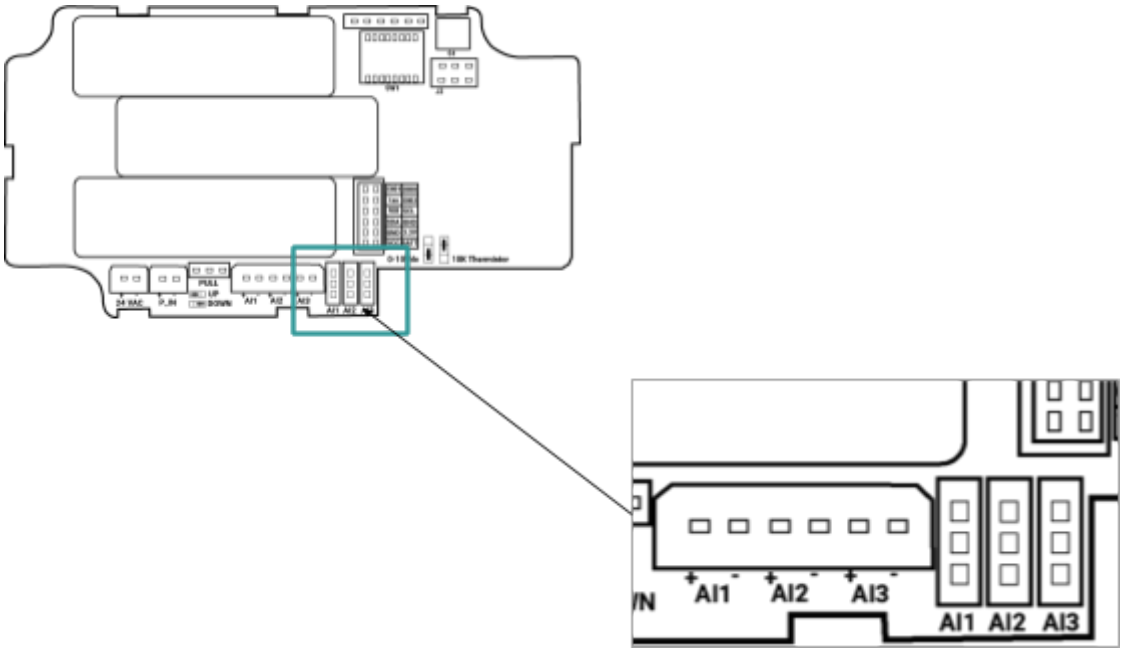
6.2 Power Supply Connection



6.3 Digital Input (pulse)



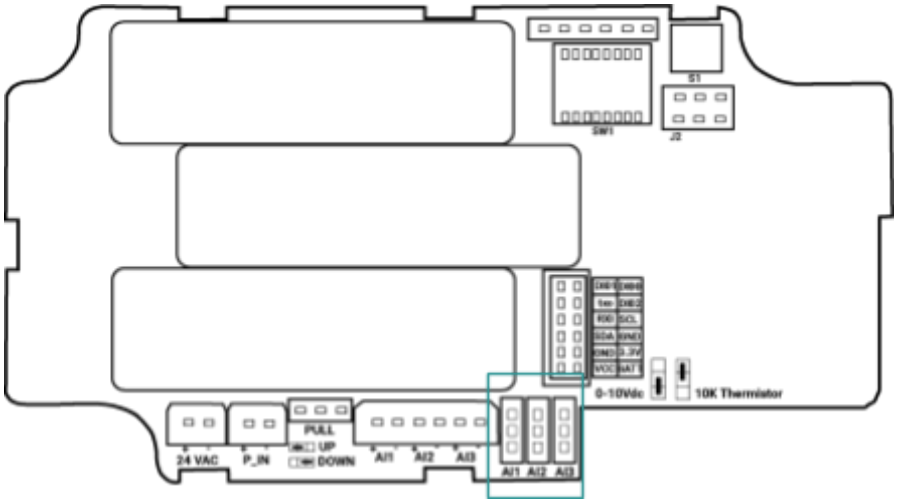
6.4 Universal Inputs



7 Universal input jumper pins

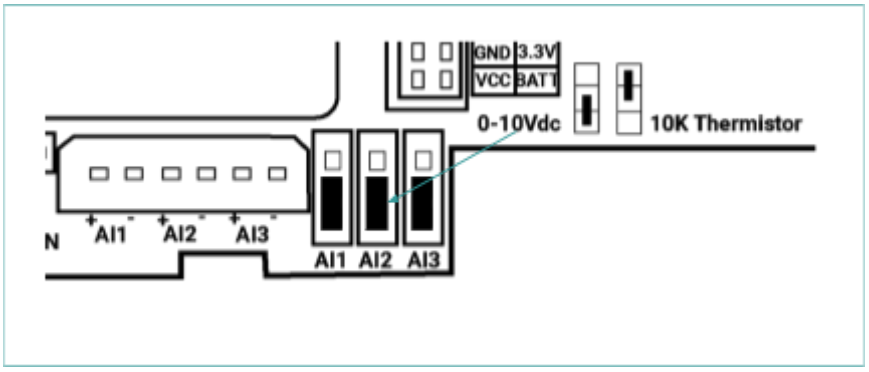
7.1 Overview

The Universal Input Jumpers are used to set the configuration from 10K Resistor and 0-10V DC. There are two settings to configure universal input type, set with a 2-pin. Hardware setting for switch, jumpers to be set to 10K.



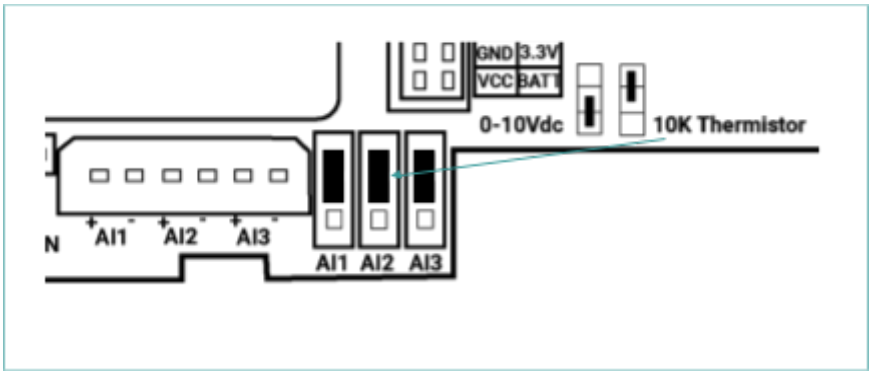
7.2 0-10V DC

For the use of 0-10V DC please ensure that jumpers AI1 to AI3 are located across the bottom 2 pins positions to allow for temperature monitoring



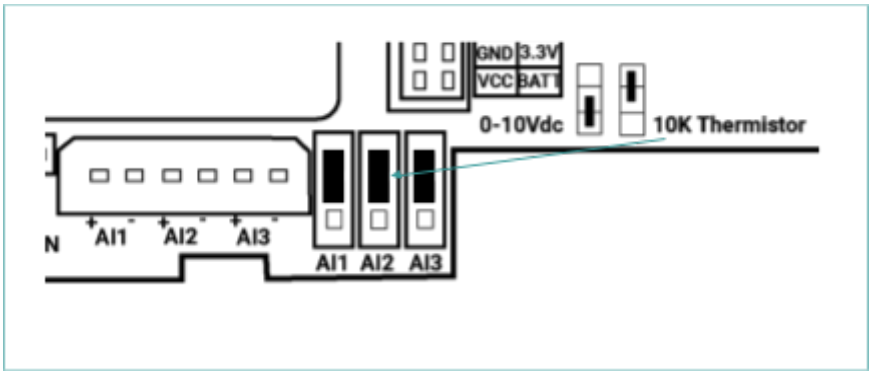
7.3 10K Thermistors

For the use of 10K thermistors please ensure that jumpers AI1 to AI3 are located across the top 2 pins positions.



7.3 Switch

For the use of switch please ensure that jumpers AI1 to AI3 are located across the top 2 pin positions (10K thermistors).



9 About Nube iO

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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