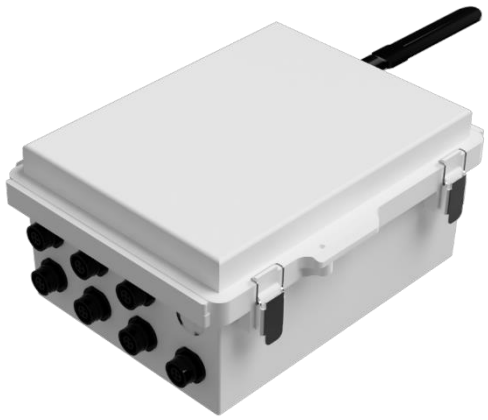
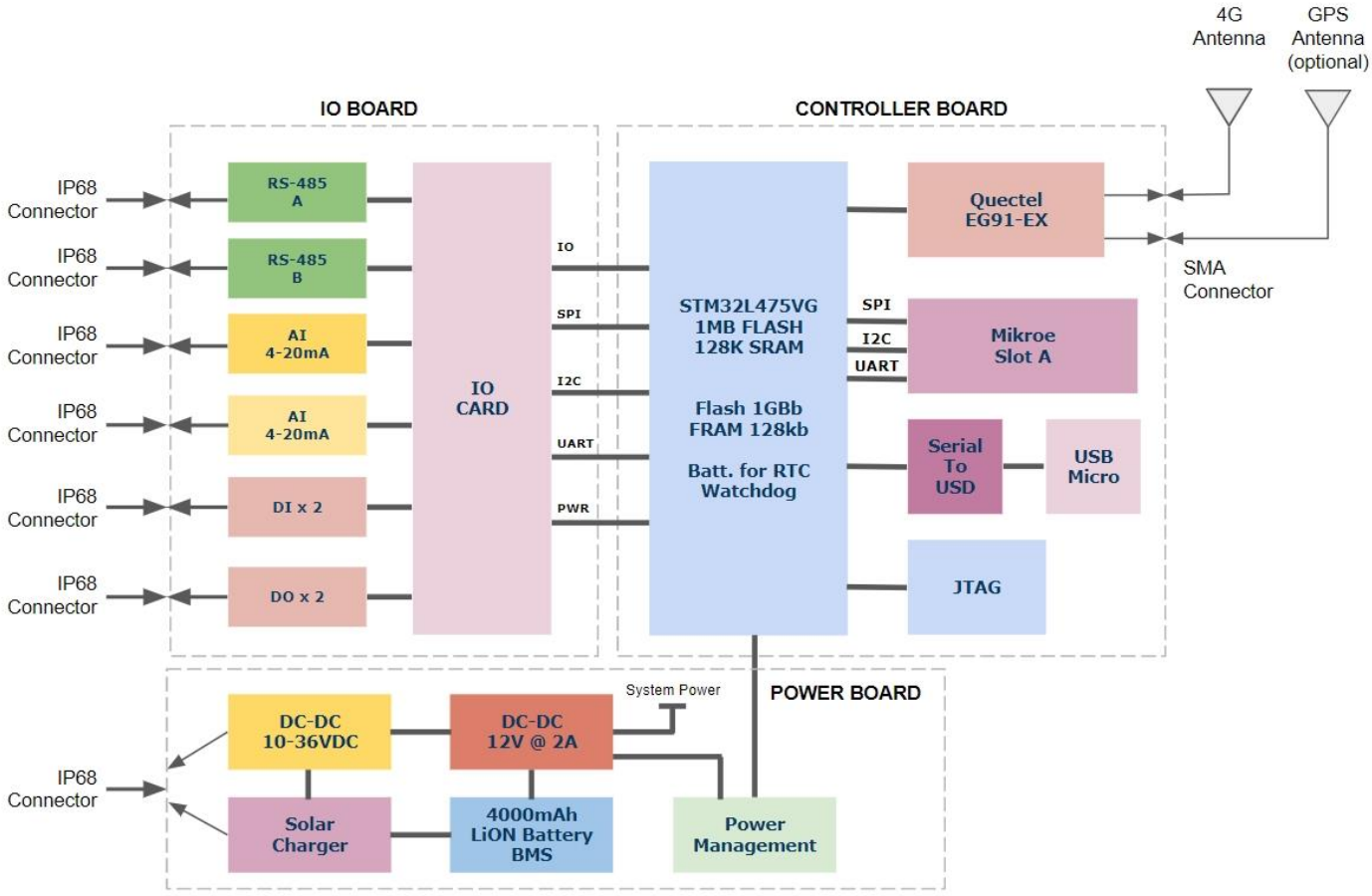
MYIOTA IOT SENSOR HUB

SKU ID : **IOT-SensorHub-MIYOTA-V1**

MYIOT IOT SENSORHUB is 100% design, developed, certified and manufactured within Malaysia by MYIOTA member. Build with various members contribution and integration, this IOT Sensor Hub design to leverage the need of IOT SENSOR which have local support and System Integrator customization. For developer that have means to custom develop the firmware, MYIOTA open up the SDK for this kit to allow future customization.



System Block Diagram



Application Areas

Smart Agriculture

Smart Building

Smart Manufacturing

Smart City

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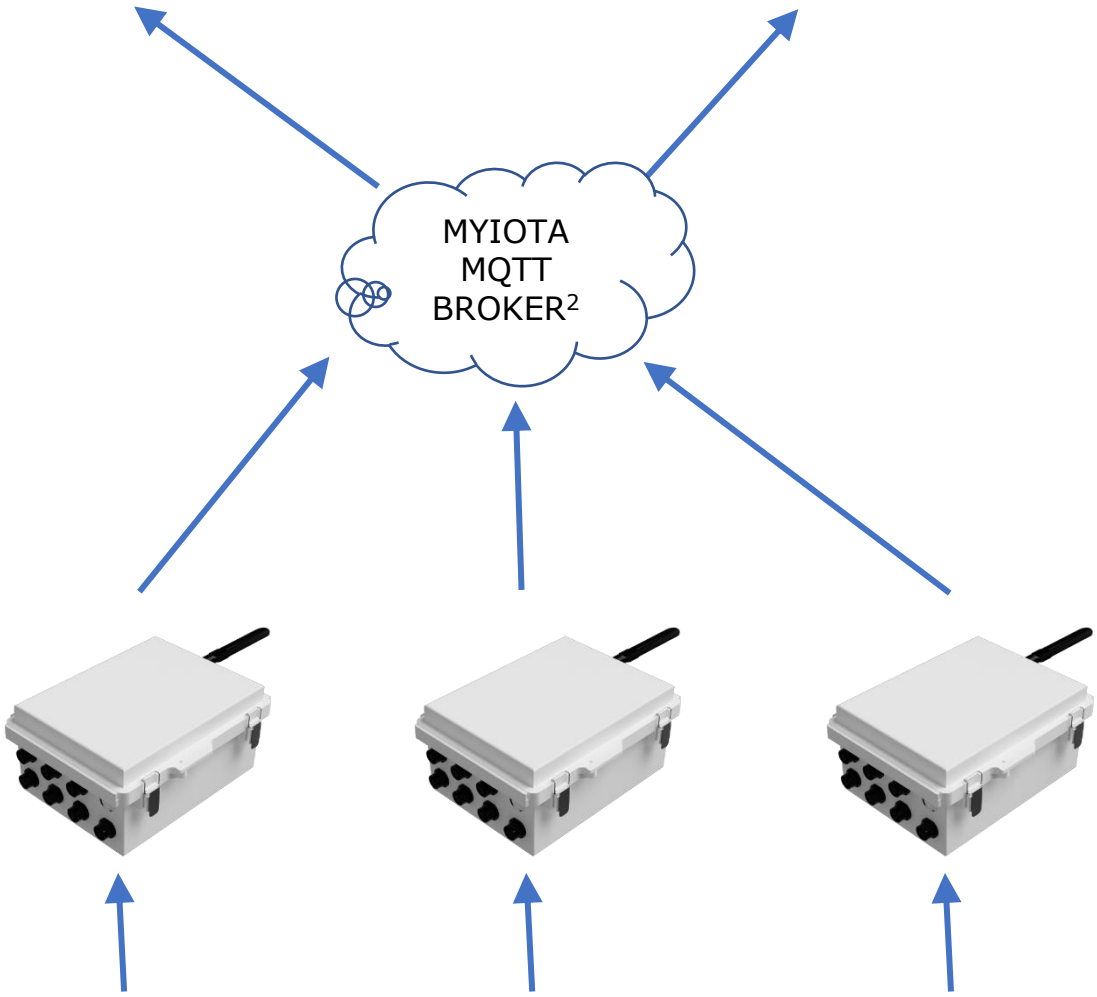
Application Diagram

Cumulocity IoT Platform | Google Cloud's IoT Platform | Microsoft Azure IoT Suite | IBM Watson IoT Platform | AWS IoT Platform



Note : 2 – Free for use for 12 months with maximum 300 PUB and SUB per day, typically uploading of sensor data every 15 min.

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Technical Specification

System

Core Processors	STM32L475VG, Cortex-M4 MCU 80 MHz with 1 Mbyte of Flash memory, 128 KB SRAM
Flash Memory	1GB FLASH (QSPI Interface) - W25N01GVZEIG (20,000 sampling log, 100,000 activity log)
FRAM	128Kbit FRAM (SPI) - FM25V01A-GTR (system parameter storage)
Real Time Clock	Real-Time Clock with Li-On battery (Coin Cell)
Watchdog	Dedicate WD Chip which will do FORCE SYSTEM RESET upon MCU hang.
Connector	IP68 Connector (PVC type)
Size	160mm x 210mm x 100mm
IP Rating	IP65 , with optional PROTECTIVE VENT, VENTILATION LOUVER, ADHESIVE PROTECTIVE VENT FILTER, VENTILATION or OUTDOOR ROOF

Power Supply

Main Source	External 12-32VDC or 15W to 50W Solar Panel Interface
Backup Source	Internal 4000mAh Li-ON Battery with Battery Management System
Sensor Supply	5V, 12, 24VDC (selectable via internal jumper) 100mA max.

Sensory (IO Card)

Rs-485	2 channels, MODBUS-RTU
Analog In	2 channels of 4-20mA , 12 bit, 3-way isolated, 24V sensor power loop (max.25mA per channel) or single ended with 20-ohm impedance.
Digital Input	2 channel opto-isolated, can be configured as contact input or pulse input. (100Hz)
Digital Output	2 channels , NC-C-NO

Uplink

Main Connection (Default)	4G CAT-1 GSM modem (LTE EG91-EX)
Secondary Connection	MikroE Socket
Uplink protocol	MQTT, MQTTS, RESTful HTTP or RESTful HTTPS

Firmware Development Toolchain

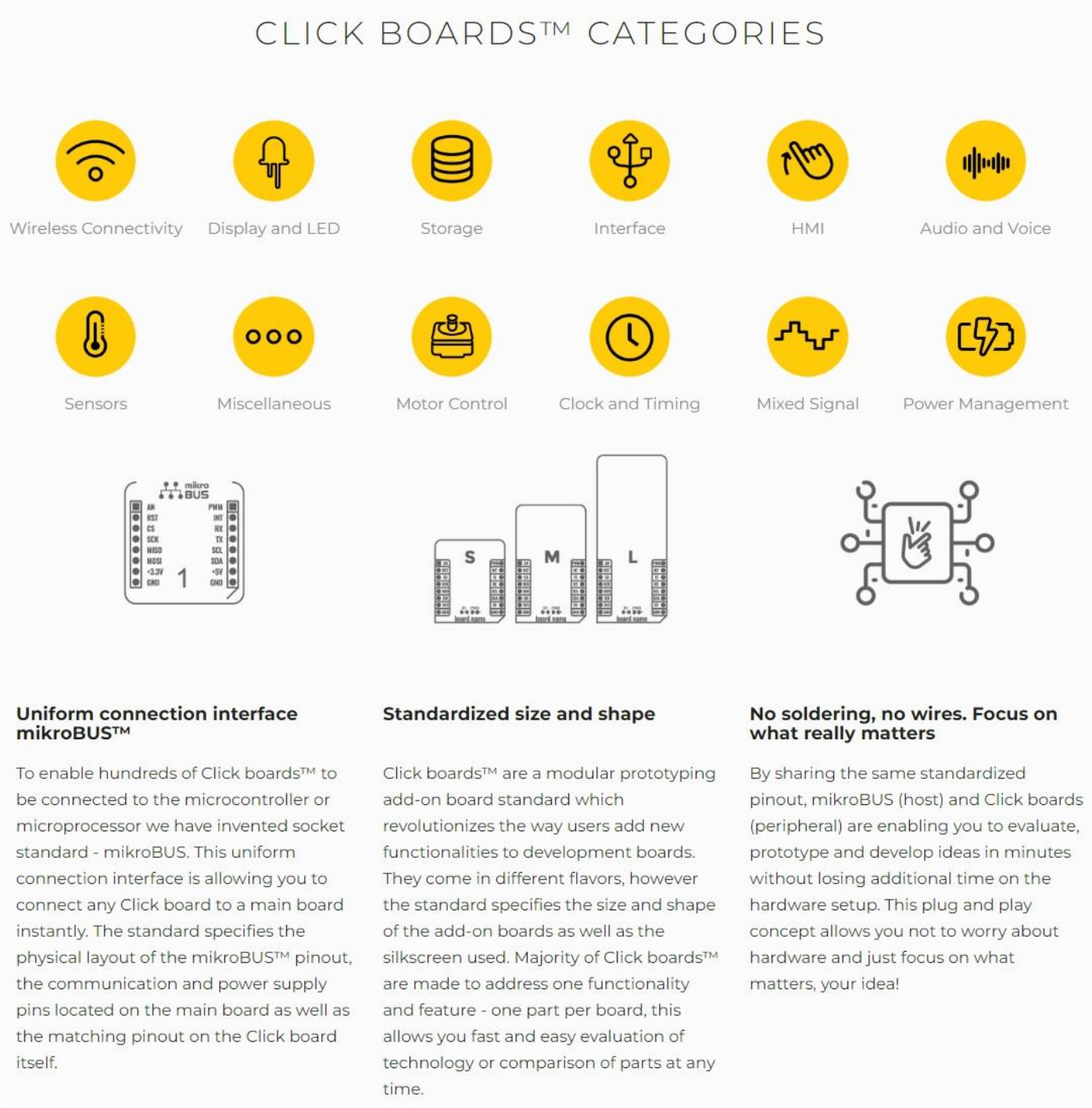
For members who sign up for our SDK, we provide default C-Code architecture with relevant libraries coded in STM32Cube IDE. (Firmware customization service provided by member)

STM32 CubeMX

STM32 CubeIDE

MYIOTA IOT SENSOR HUB - MIKROE CLICK Board Add-On

This version of MIYOTA Sensor Hub has the option to add one MikroE Click Board from MikroElektronika. As of 20th Nov.2022 , MikroElektronika has 1293 types of boards covering 12 sectors.



More information

https://www.mikroe.com/click

https://www.mikroe.com/click-boards

Important Note

Firmware needs to be edited to interface to the attached Click Board. Default firmware does not interface to any click board.

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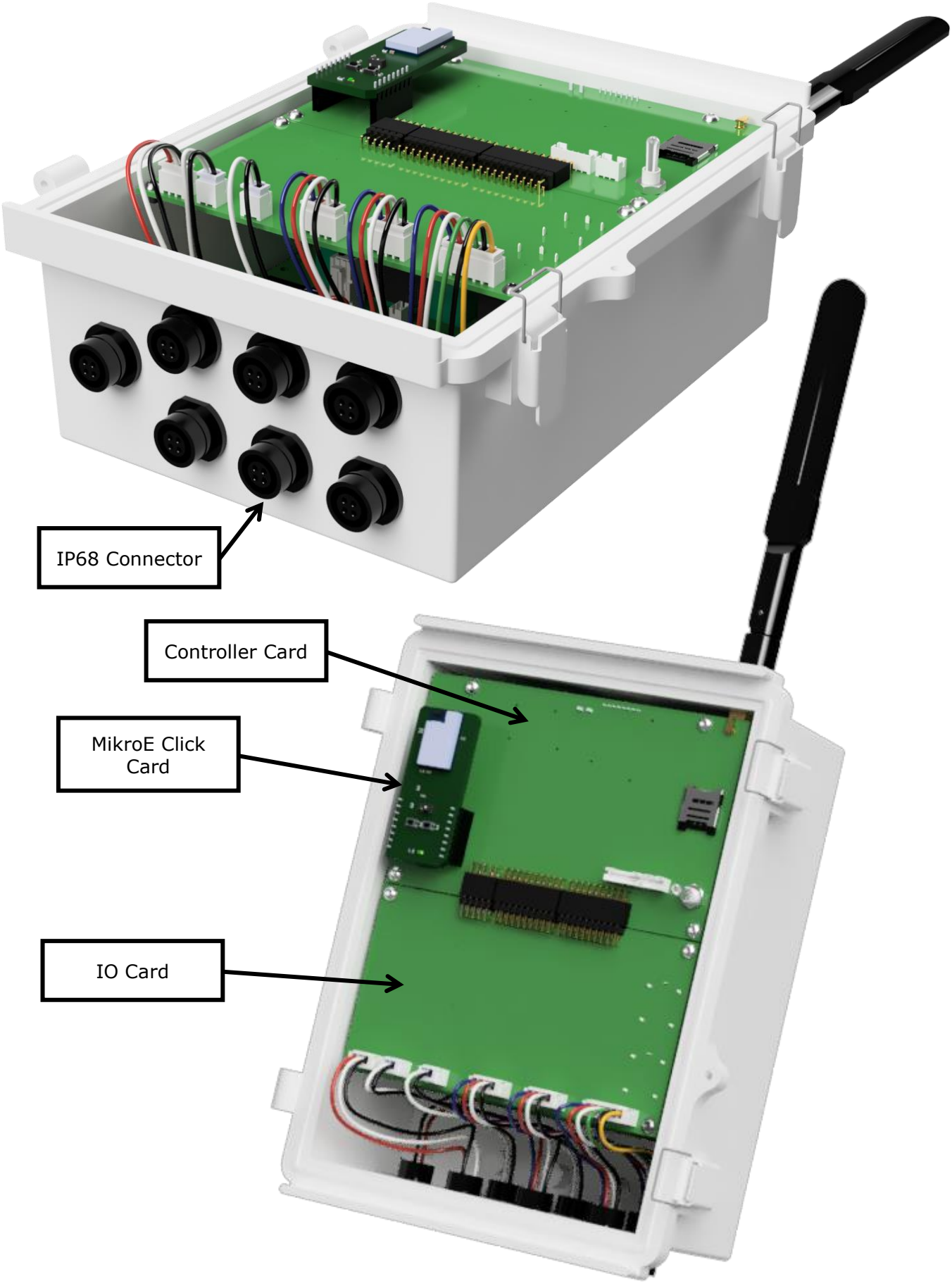
Images



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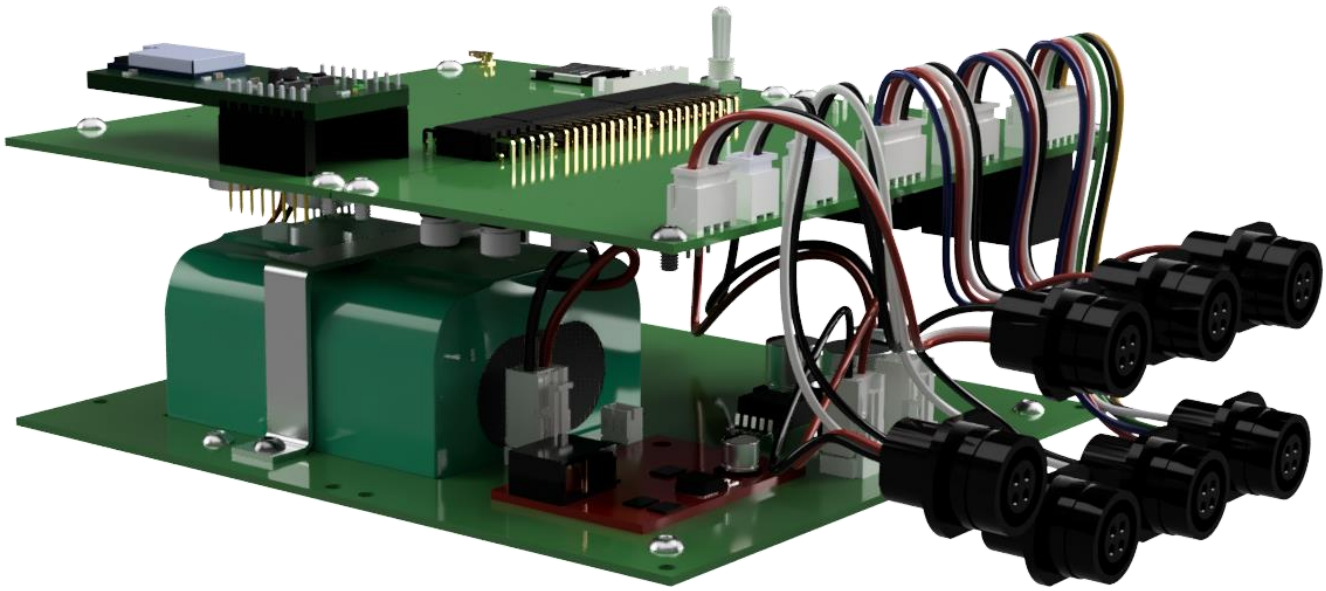
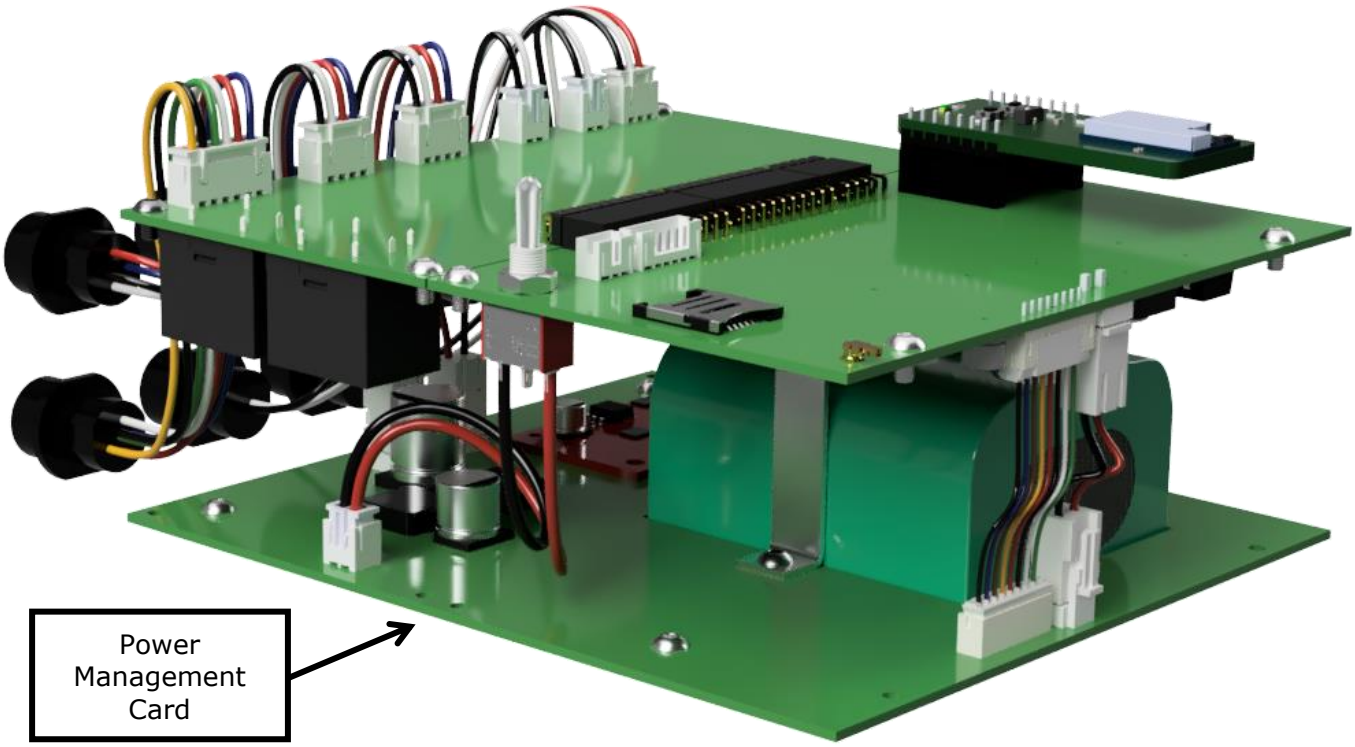
Images



Internal view showing Li-On battery with Solar Charger



Internal view showing Power Relay’s on IO Card