

IBEM

New

ESP32-C3

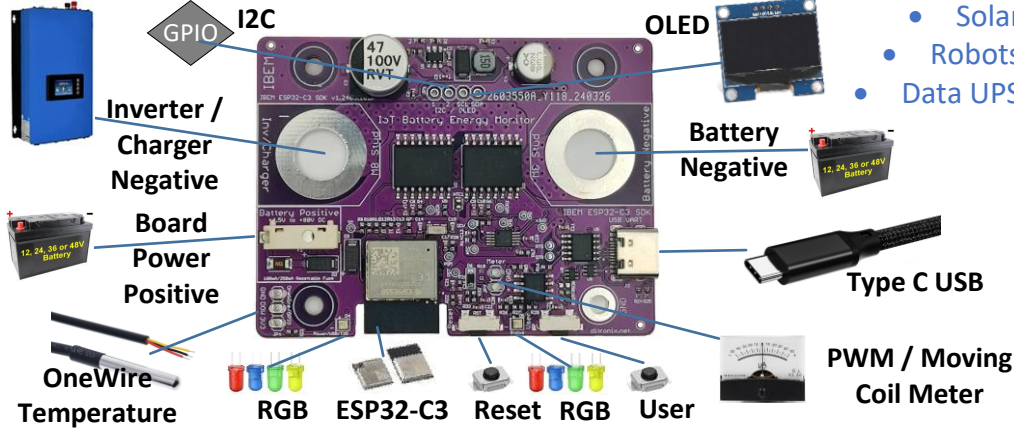
• IBEM-1-ESP32C3-1-SDK

ESP32-C3-MINI-1-N4
PCB Antenna

Options
• IBEM-1-ESP32C3-1U-SDK

ESP32-C3-MINI-1U-N4
External Antenna via U. FL

Compatible Examples of Battery Types: LI, SLD, FLD, GEL, AGM, LFP, NiCd, NiMH, LiPO, LiFePO4, VRLA.

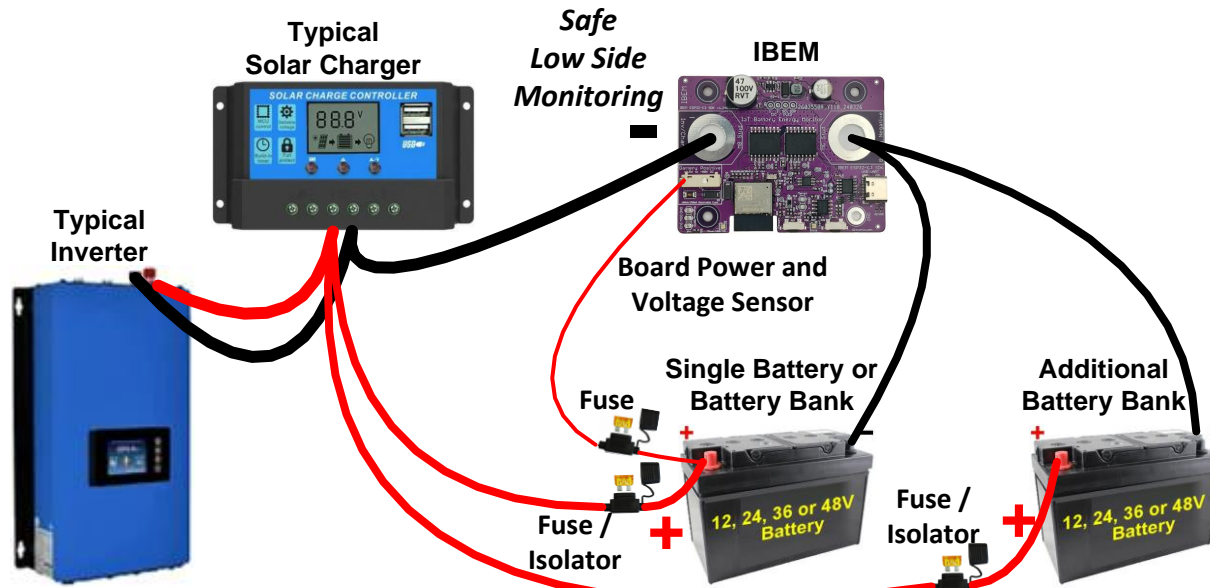


- Solar
- Robots
- Data UPS

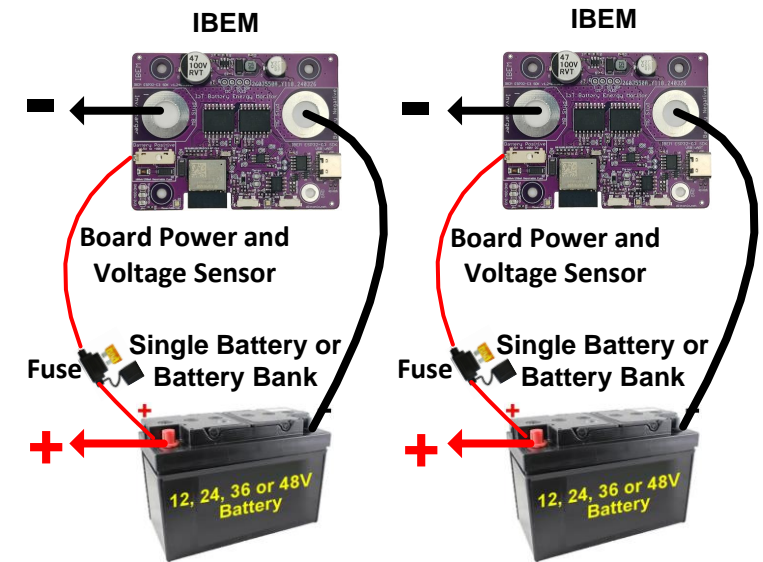
IBEM – IoT Battery Energy Monitor
 ESP32-C3 - Wi-Fi 802.11b/g/n and Bluetooth 5
 ADS1115 – 16bit Analog to Digital Converter
 No External Current Shunt Required
 Single Battery, Battery Bank or Stacked
 Up to $\pm 150A$ Current Monitoring (Low Side)
 Battery or Battery Bank Voltage Monitoring
 Supports 4.5 to 80V Battery Voltages
 I2C Interface plus OLED Connector
 NTC Ambient Temperature and OneWire Interface
 EEPROM for User Parameters or Logging
 Integrated Type C UART 'ESP32-C3 DEV' Interface
 Flashing and Monitoring rate up to 921600 BAUD

Features

Example Solar Connections (one or more paralleled battery banks)



Example Multiple Battery Monitoring



Current

The IBEM board can be either safely connected to a single battery, battery bank or multiple battery banks.

Ensure the overall 100% duty cycle current does not exceed ± 150 Amperes per IBEM.

Ensure the battery is safely fused, isolatable.

Voltage Monitor

For Safety, the feed from the battery bank(s) to the IBEM positive, go via a low current fuse close to the battery positive.

The IBEM board power has a resettable 100mA fuse to provide local protection.

Suitable 12V, 24V, 36V and 48V Systems.

Multiple Banks

Connections of a single, or multiple IBEM boards really depends on your requirements and solar system setup.

Separate IBEM boards, one on each bank, provides a greater level of monitoring information granularity and flexibility.

Mains and Solar Power Energy Monitor Boards SDK Overview

IBEM Board Topology
 ditronix.net



DitroniX.net
 IoT Smart Home
 Energy Automation

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