

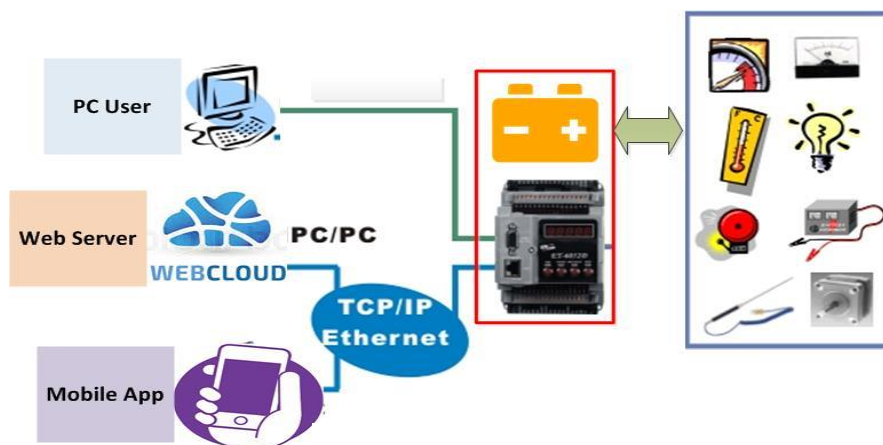
Smart Building Energy Automation (SBEA)

Smart Building Energy Automation (SBEA) with technical building management functions will have an impact on the energy performance of a building with the battery systems. That system will monitor, profile and control of the applications to provide the information needed to make informed decisions based on energy usage patterns. A novel complete building energy management system is linked to battery system in each apartment in a building with resiliency algorithm, and to interface with the battery management.

Energy Technology from GPROSYS

For home, factory, camp, building

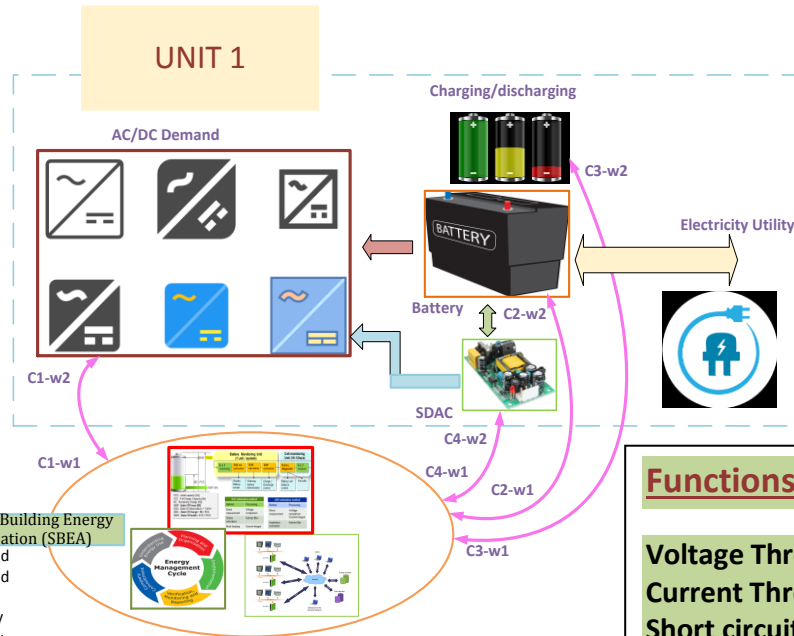
Automatic Charging/Discharging
Protection
Monitoring
Stability
Resiliency



SBEA System

Key Features:

- Integrated input current sensing and limiting ($\pm 5\%$)
- Enabled input setting
- High integration with compensation Input voltage dynamic power management allows compatibility with multiple external adapter types
- Charge based on optimizer for protection and stability rate at any power level.



- C1-w1: Control signal 1, way 1 from SEBA to demand
- C1-w2: Control signal 1, way 2 to SEBA from demand
- C2-w1: Control signal 1, way 1 from SEBA to Battery
- C2-w2: Control signal 1, way 2 to SEBA from Battery
- C3-w1: Control signal 1, way 1 from SEBA to Charger
- C3-w2: Control signal 1, way 2 to SEBA from Charger
- C4-w1: Control signal 1, way 1 from SEBA to SDAC
- C4-w2: Control signal 1, way 2 to SEBA from SDAC

Functions:

- Voltage Threshold Settings
- Current Threshold Settings
- Short circuit protection
- Cell Voltages measurement
- Pack Voltage measurement
- Pack Current measurement
- SOC Estimation
- Cell Balancing
- Over-current cut-off
- Under-voltage cut-off

The battery can be charged and discharged simultaneously. When the battery is fully charged, the charge current will be disabled, while the discharge current is still allowed. Likewise, when the battery is fully discharged, the discharge current will be disabled, while the charge current is allowed.

SBEA-M2 Model

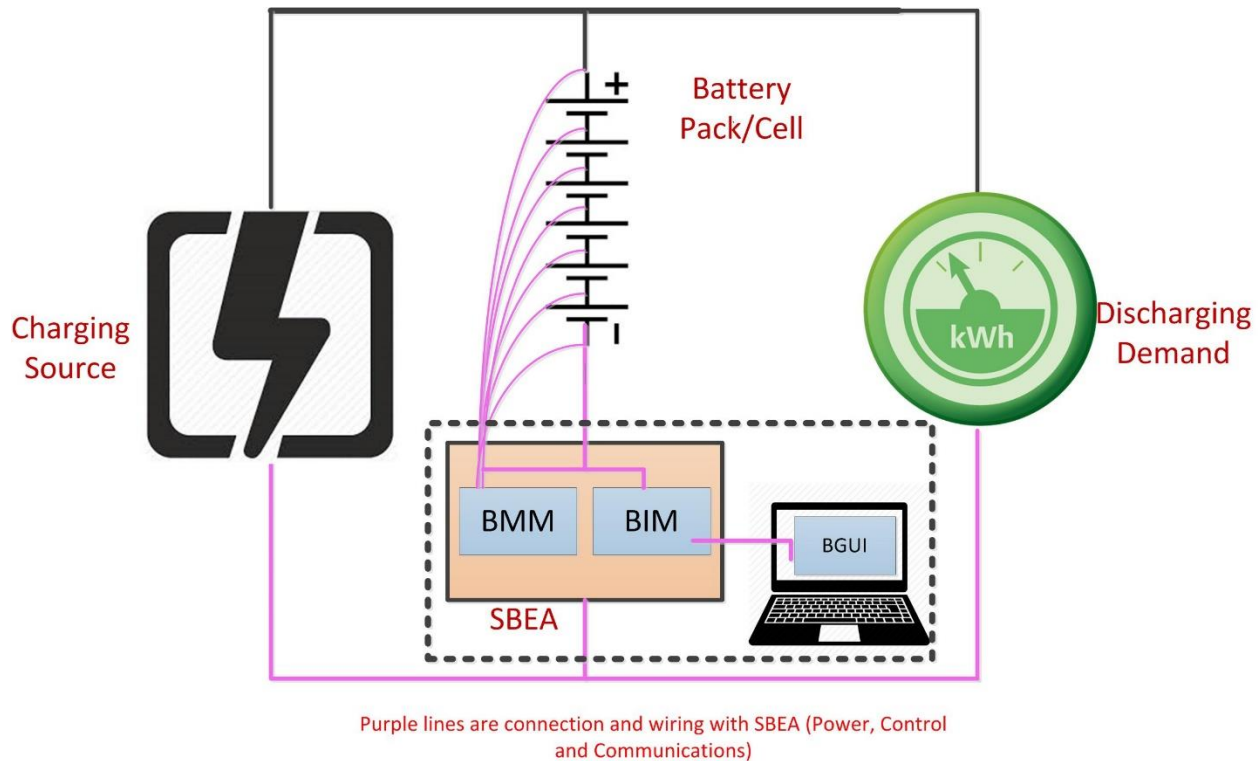
	SBEA-M2-3K	SBEA-M2-5K	SBEA-M2-10K
Rated Power	3 kWatt	5 kWatt	10 kWatt
Operating Voltages	12-48 V	12-48 V	12-48 V
Unit Prices	\$400	\$600	\$1200

Delivery time: 2-3 weeks, upon purchase order and 30% down payment

Installation: for installation by our team, there will be estimated cost 25% of the unit price.

Maintenance: we offer lifetime maintenance and warranty for SBEA, with marginal costs.

We can customize any other battery size after providing us your load and/or battery specifications.

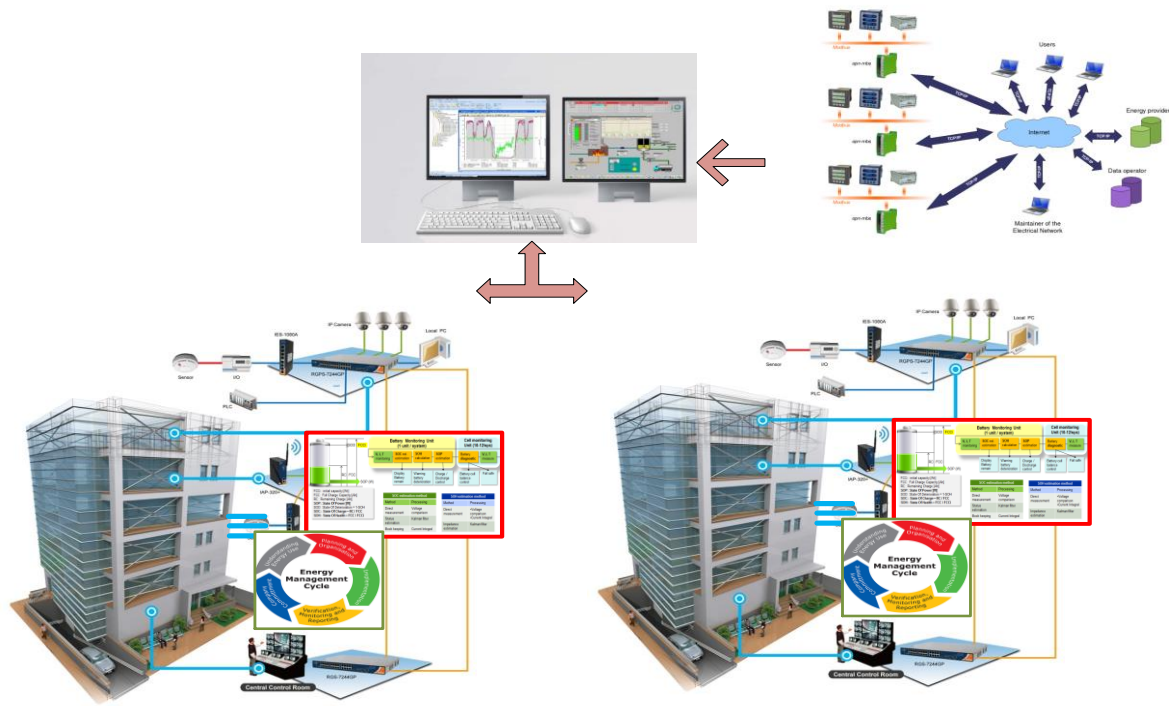


SBEA-M2 Components

Module-1 [BMM]: Battery Management Module: it is a PCM circuit for protecting charging and discharging with control continuity and cut-off of the charging and discharging current based on certain assigned current value, that PCM will be integrated (wired and connected to the battery internally).

Module-2 [BIM]: Battery Interface Module: it is a Raspberry/Arduino Kit that receive the operating battery data to show and process, it will be connected to PCM and battery for voltage and current sensing signals.

Module-3 [BGUI]: Battery Graphical User Interface: it is a user interface program that show and monitor the operating conditions of the battery on PC or Laptop.



Implementation of SBEA in Residential and Commercial Buildings

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