

Eiger C63 BMS Controller

Up to 24S, 92V, 1000A
(external current sense and contactor)



TECHNICAL
DATA SHEET

Provide BMS solution for applications requiring low voltage and high power.

BMS Features

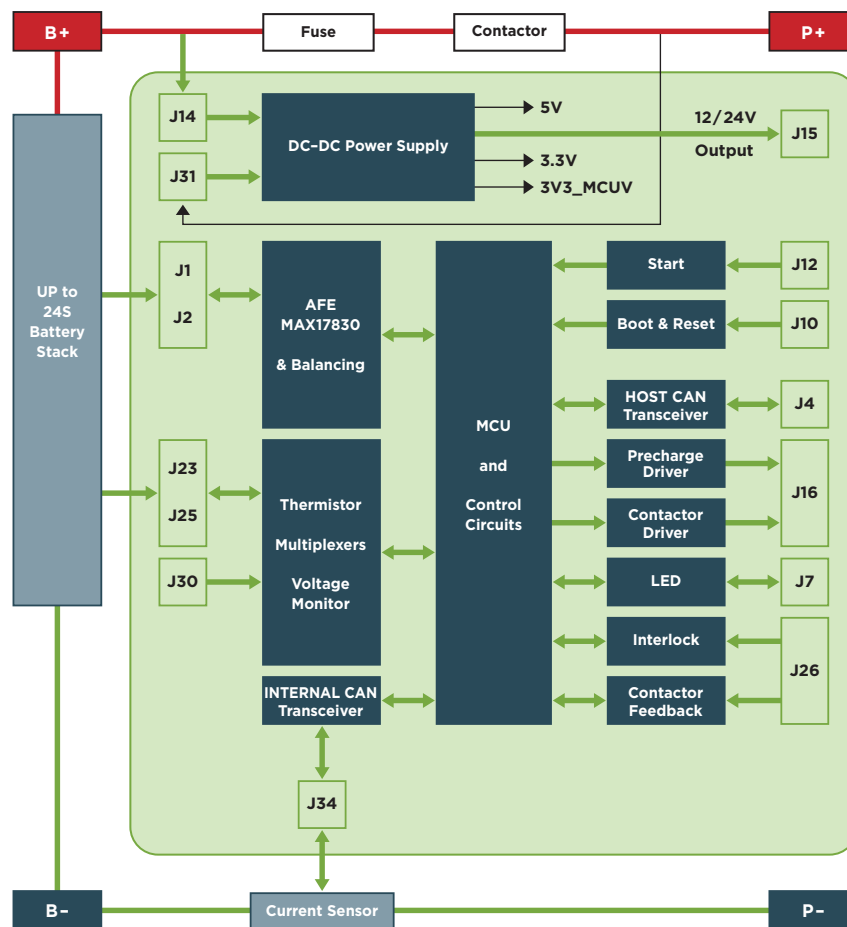
General

- 24 Cell-monitor inputs (LTO/NMC)
- 24 Temperature inputs
- 2 LED status indicators
- 5 LED for SOC indication
- 2 CAN interfaces
- Internal cell balancing
- Powered by the battery, no external supply required
- Very low consumption in Sleep mode ($<1\text{mA}$)
- Precharge function
- Accurate estimation of SOC/SOH, Current Limits, based on advanced Leclanché algorithms
- Housekeeping voltage 12V/24V
- Wakeup function using startup button or a charger
- Long term logging.

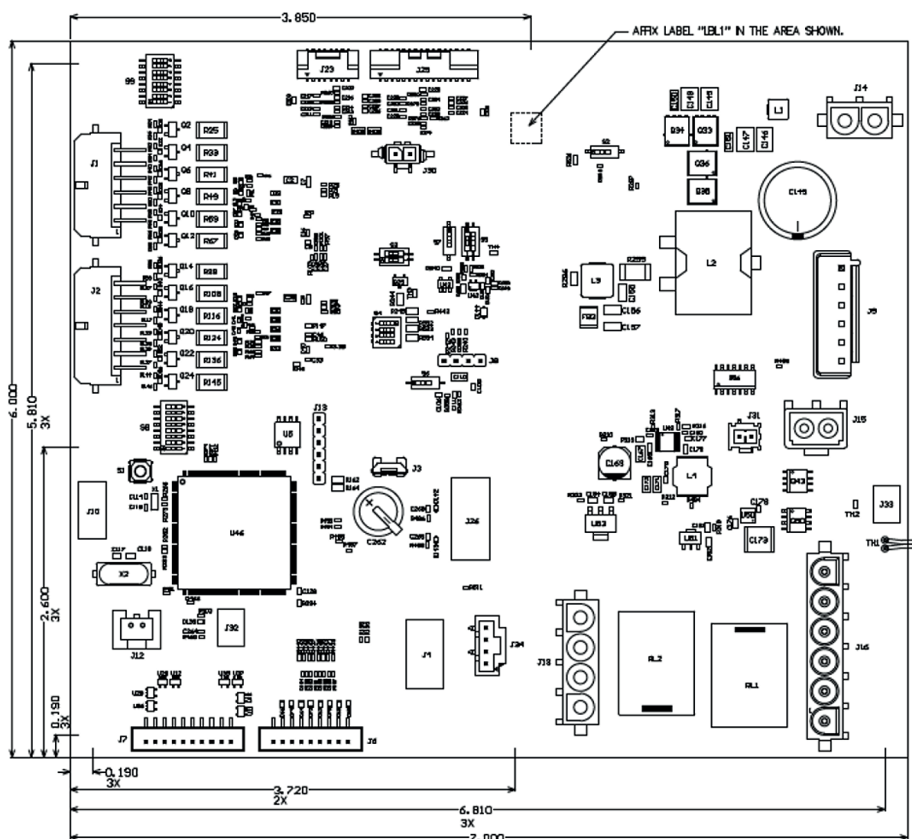
Safety events detection

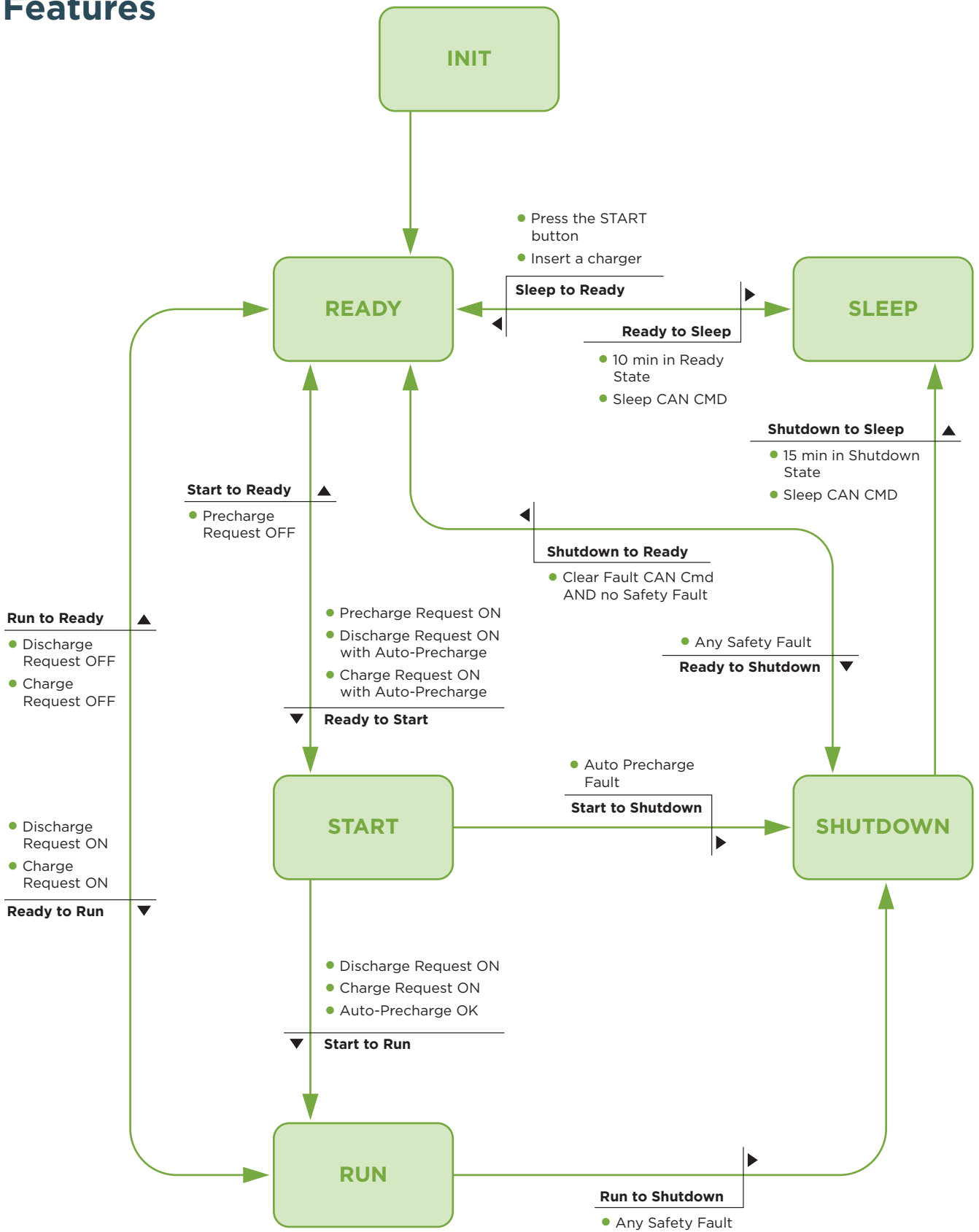
- Over/Under voltage
- Over/Under temperature
- Over charge/discharge current several levels
- Fuse blown detection
- Interlock function
- Shortcircuit detection.

Simplified Block Diagram



Mechanical Details





Events List

Event Name	Event Description
COV	Cell Overvoltage
CUV	Cell Undervoltage
EUV	Cell Extreme Undervoltage
OCC	Over Current in Charge
OCD	Over Current in Discharge
COT	Charge Over Temperature
CUT	Charge Under Temperature
DOT	Discharge Over Temperature
DUT	Discharge Under Temperature
FUSE	Fuse Blown Detection
INTERLOCK	Interlock Disconnected Detection
FEEDBACK	Contactors Feedback Detection
PRECHARGE	Precharge Failed Detection
SENSOR	Current Sensor Failed Communication

External LED Indications

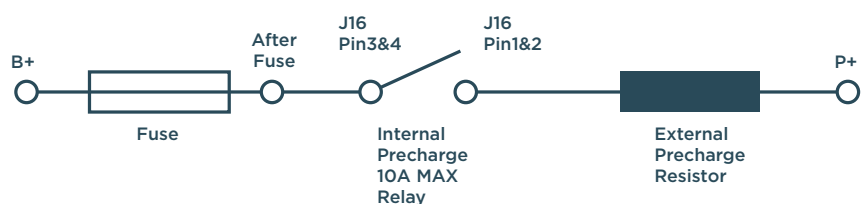
External SOC LED's illuminate 30 seconds after activation as indicated in Table 3. A green status LED can be connected to the board, which is on when there are no faults present. A red status LED can also be connected, which flashes during fault conditions when the LED is active.

Leds are activated by:

- a. Start button pushed
- b. Display button pushed
- c. Charger plugged in

Pre-Charge Function

A precharge feature is available if used with an appropriate external resistor.



If PRECHARGE is ENABLE in the CONFIG file, the BMS activates the pre-charge automatically after a CHG/DSG request. There are two parameters that define the precharge:

1. **PRECHARGE PERCENT :**
This parameter define the percentage of B+ voltage that P+ must reach before the end of the PRECHARGE TIMER.
2. **PRECHARGE TIMER :**
This parameter define the maximum time of the precharge.

If PRECHARGE is DISABLE in the CONFIG file, the Precharge function can be manually activated with the CAN Precharge request.

Monitoring External Contactor's Feedback

The BMS monitors the contactor state by checking its feedback signal. An alarm is activated if the state contradicts the command.

Interlock Function

The BMS implements an interlock safety function loop.

This function is mandatory.

FUSE Detection

This feature can detect if the fuse is blown or if the fuse is not fitted. The BMS measure at each side of the fuse, and if the voltage is not the same, an error is reported.

Leclanché Generic GUI

The Leclanche Generic GUI (LGG) is an easy to use control and data visualization application for Leclanché BMS devices. For the Eiger BMS it can be used to configure the BMS, show all performance indicators and visualize all signals.



Features

- Supports various CAN adapters, including Kvaser Leaf Light and Peak-System PCan.
- Supports CAN data simulation by 'replaying' BusMaster log files.
- Runs on Windows and Linux.
- Show all performance indicators of a BMS, including all warnings and errors.
- Parameter configuration and execution of commands, including switching contactors and clearing faults.
- Raw CAN logging in BusMaster format.
- Large Storage of signal data which can be used for off-line advanced analysis.
- Visualize live signal data and historic data for analysis.
- Export time range selections of signals to CSV text format and PNG images.

