

## Features

- ◆ Suitable for 9V to 63V Lithium-Ion batteries
- ◆ Ultra-lightweight with only 75 g (without cooling)
- ◆ Separated charge / discharge power ports
- ◆ Discharge current up to 200 A
- ◆ Charge current up to 100 A
- ◆ Embedded precharge channel with power and pulse duration settings
- ◆ Embedded current sensor
- ◆ Bi-directional isolated current sensing
- ◆ Analog overcurrent protection with adjustable Electronic fuse for discharging port up to 400 A
- ◆ Connector link with TYVA BMS boards
- ◆ Flexible opto-isolated I/O port

## Applications

Mobile and stationary electrical storage equipment:

- ◆ Industrial and home storage
- ◆ Electric and hybrid electric vehicles
- ◆ Backup battery systems
- ◆ Drones, robots, Street Lighting, ...

## Description

TYVA ENERGIE solid state relay is a new generation of electronic relay for lithium battery. It is designed to accomplish robust, lightweight and compact battery protection with current monitoring.

SW200 drives x 3 independent power ports dedicated for charge and discharge and precharge. It supports a wide range of batteries from 9V up to 63V.

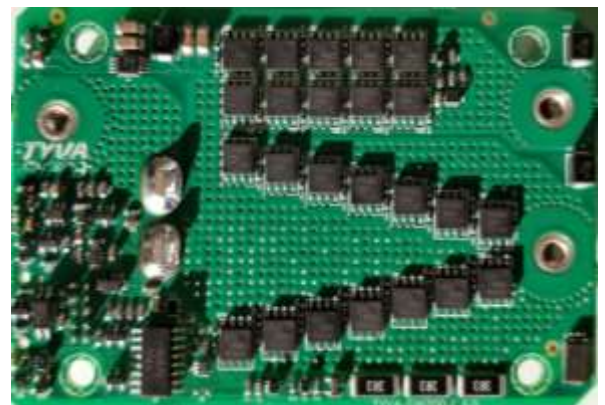
It is easy and safe to connect to live batteries and BMS.

Current measurement is done using a state of the art integrated isolated current sensor. This sensor is factory trimmed for accuracy, extremely stable, with nearly zero magnetic hysteresis.

Analog current protection is also embedded for fast protection against short-circuits with a less than 80  $\mu$ s reaction time.

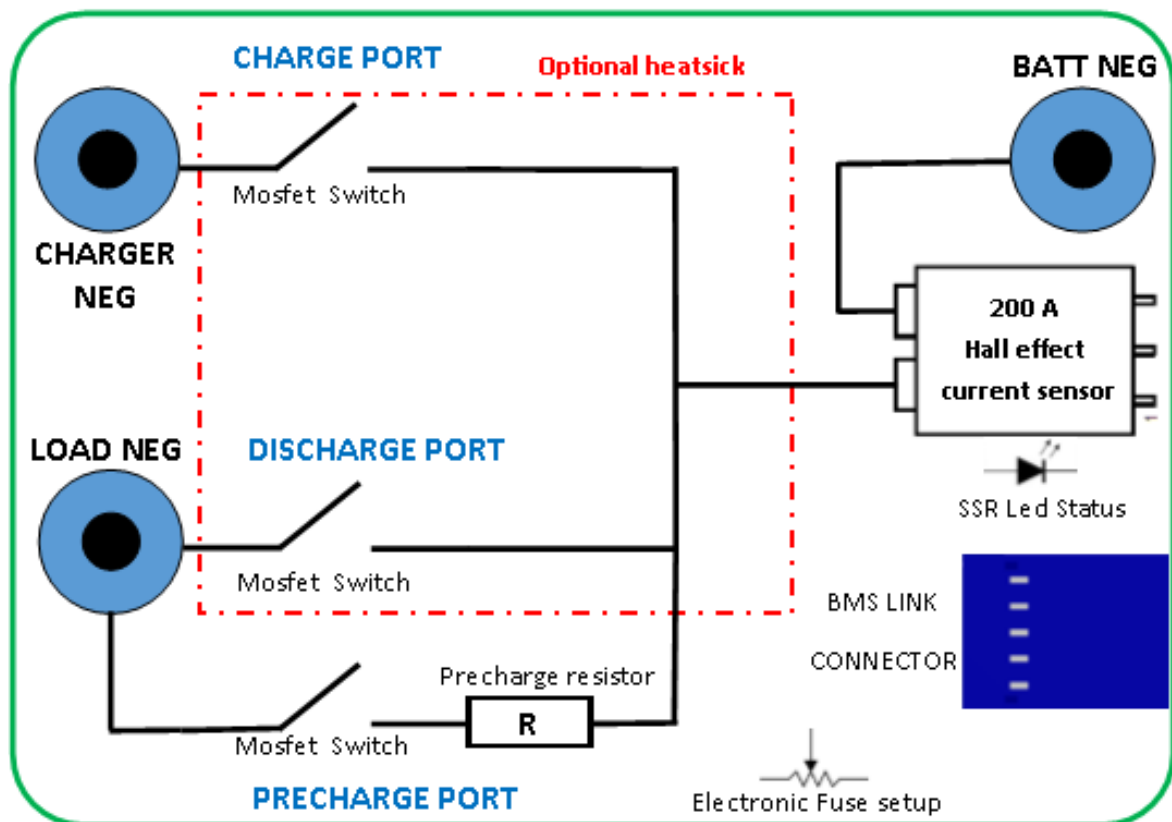
SW200 device can be driven through 5 Opto-isolated inputs that supports a wide range of voltage (3 to 70V)

- ◆ **Lightweight: 75 gr**
- ◆ **Compact: 90 x 62 x 18 mm**

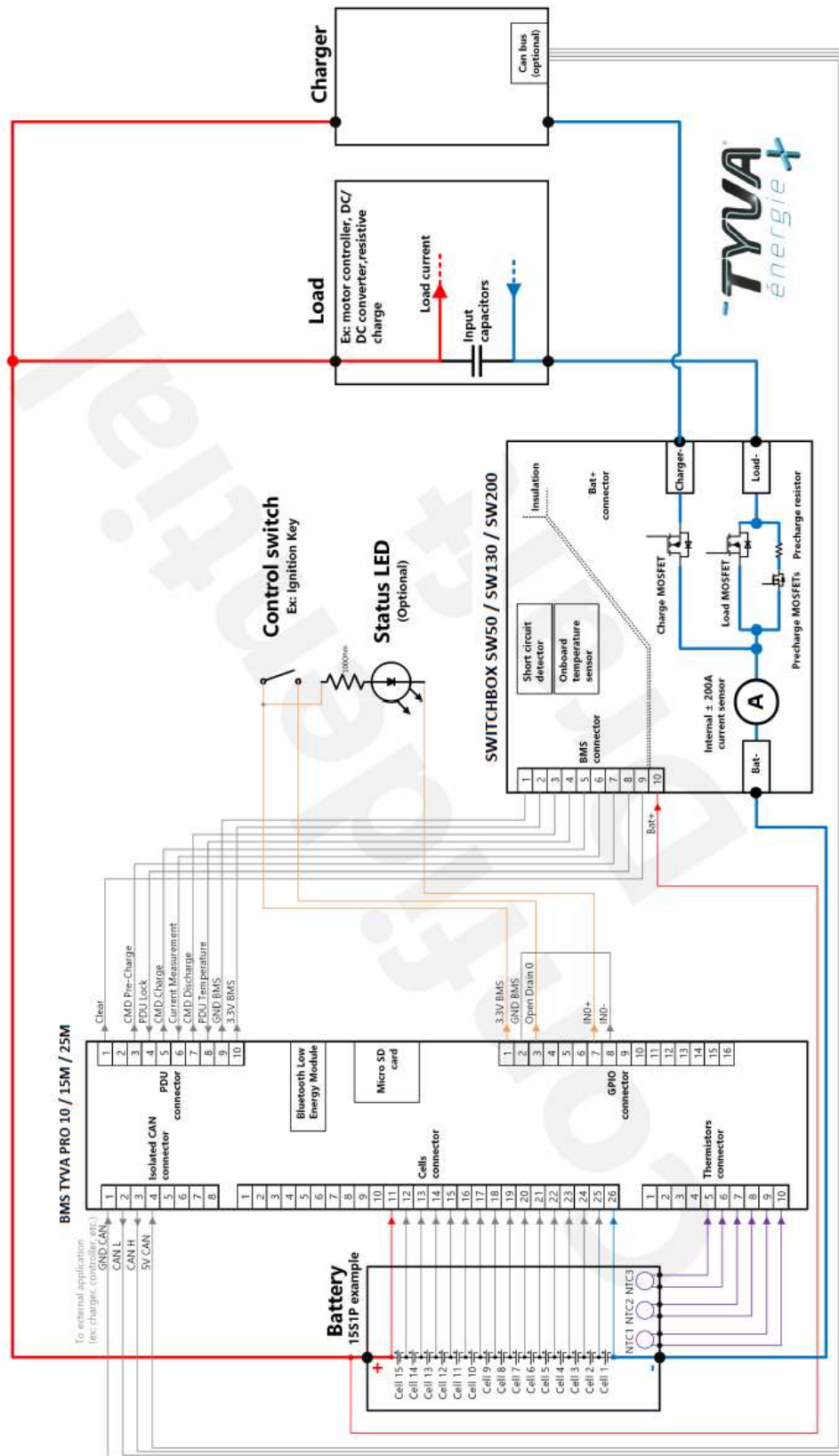


## General Specifications

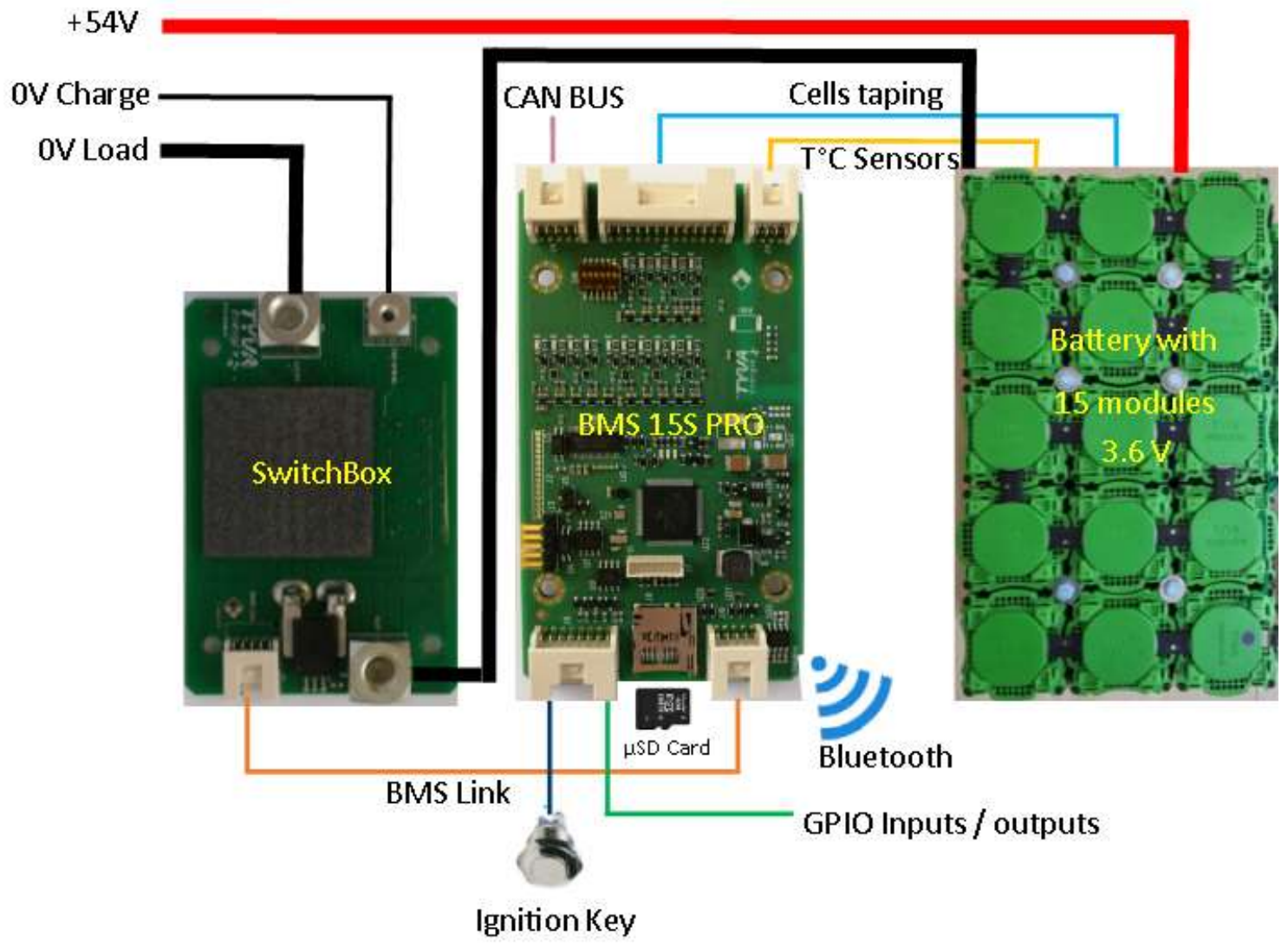
Parameters		Value
Voltage	Max	63 V
	Min	9 V
	<b>Nominal</b>	<b>48 V</b>
Current (Discharge)	Max	200 A (3 minutes)
	<b>Nominal</b>	<b>130 A</b>
Current (Charge)	Max	100 A
	<b>Nominal</b>	<b>50 A</b>
DC impedance (Discharge)	Nominal	0,5 mOhm
DC impedance (Charge)	Nominal	1 mOhm
Temperature range		-40 to + 85°C
Size		90 x 62 x 18 mm
Power Terminals		M4
Weight		75 g (100 g with TYVA cooling)
Versions		TYVA SW-50C TYVA SW-130C TYVA SW-200C



System Architecture



Typical 54V Lithium Battery Application



Mechanical characteristics

