



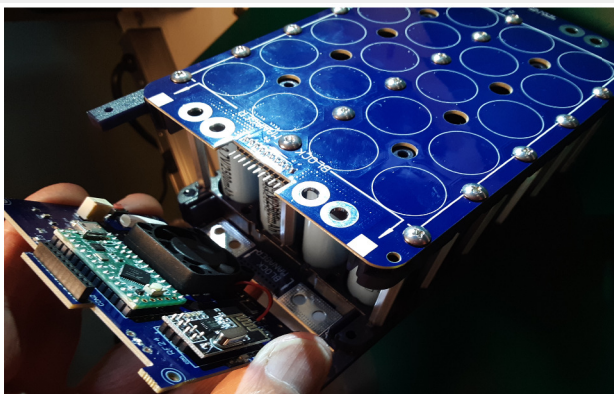
DKblock® An open source engineered solution to cylindrical battery cell packaging with integrated battery management system.

FEATURES AND BENEFITS

- Built-in wireless Battery Management System – no low power wiring needed
- Pack builder supplies 18650 cells – block keeps up with latest technology
- Cells are compression packaged – no welding required
- Energy density 2X that of LiFePO4 cells – build lighter weight packs
- Easily scalable – build packs from 1.2 – 66.0 kilowatt-hour
- Quick assembly and dis-assembly - cells are easily recycled when spent

DKblock® specifications

Dkblock configuration	20 cells – 2s10p (2 series by 10 parallel)
Block Dimensions (mm)	148 x 76 x 99 (6 x 3 x 4 in) approx.
Weight (kg)	1.26 (2.77 lbs) with Sanyo NCR18650BD
Dimensions of Pack Supervisor PCB (mm)	100w x 130l x 30h (4 x 5 x 1.25in) approx.
Module nominal capacity (ahrs - whrs)	35 - 259 (with Sanyo NCR18650BD)
Module nominal voltage (VDC)	7.40
Module internal impedance (AC, mohms)	< 80 dominated by cell impedance
Spring contact impedance (AC, mohms)	< 1.7
Energy density (watt-hours per kg)	> 200 (using LG, Sanyo, or Samsung cells)
Charge protection	Yes via relay
Discharge protection	Yes via relay
Balancing current (ma)/Maximum current (A)	250/100 for block
Air flow for cooling and warming (m ³ /min)	3.0 (105 cfm) suggested
Spring contact material	Phosphor bronze with gold plating
Operating and storage temp(C)	-40° to 60°C



Reusable
Recyclable

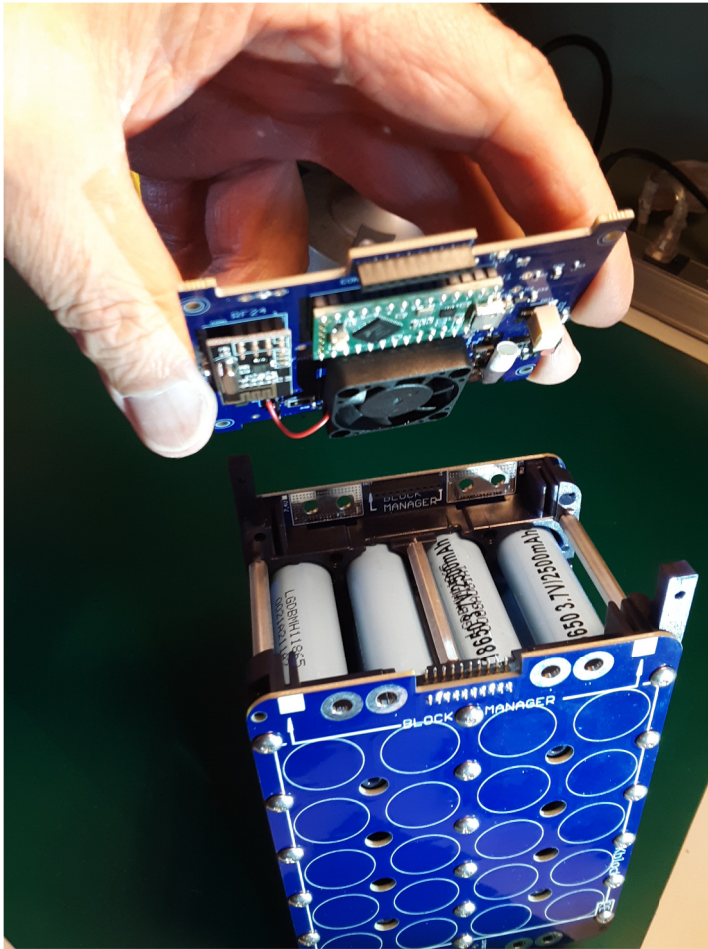


open source
hardware



Offgrid Systems LLC

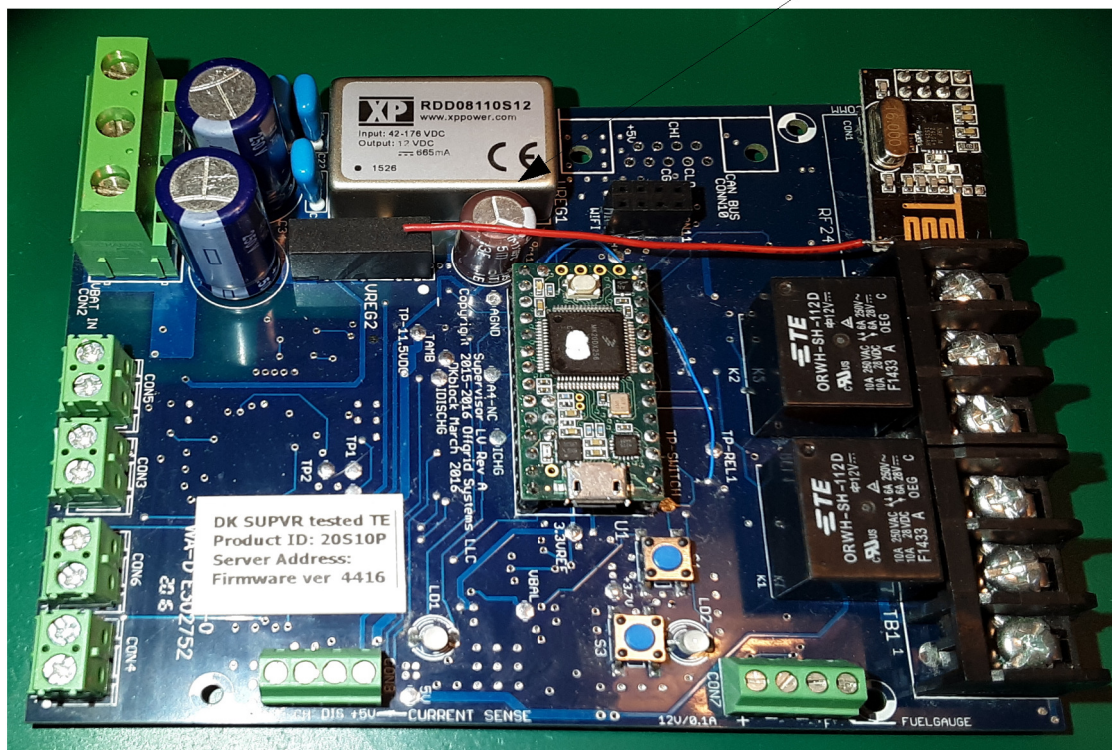
Dkblock is comprised of 3 main pieces – **Block Manager** connects to **Battery Block** that communicates to **Pack Supervisor**



Block Manager
Battery management
and wireless
comms to Supervisor

Battery Block – 7.4VDC
With 20 cells in 2 series
10 parallel (2S10P) clamped
between two circuit boards

Pack Supervisor
Wireless comm with Blocks
and provides motor and
charge control





Tested compatible cells*:

Panasonic NCR18650B

LG INR18650 MH1

*18650 cells that are compatible are 18.5mm maximum in diameter and 10 ADC maximum current rating



Busbar drawing

Material: 110 copper

Temper = H04 full hard)

Finish = Dip solder plated or tinned

Torque for 8-32 busbar screws - 4Nm (35in-lbs)

