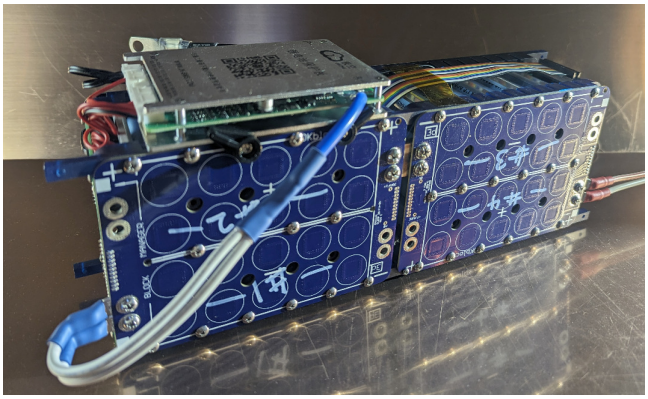
DKblock2®

Open source, plug and play, engineered reusable solution to cylindrical battery cell packaging with tested JK-BMS active battery management system.

FEATURES AND BENEFITS

- Battery Management System – smart JK-BMS with Bluetooth phone application
- User supplies 18650 cells – use latest technology and is reusable unlike welded cells
- Cells are compression packaged – no welding required
- Programmable over/under voltage, over/under temp, gives excellent cell/pack watchdog
- Features include accurate, active balancing, current limiting, control charge and discharge
- Fast assembly and disassembly for cell recycling or repair with a single Phillips driver

DKblock2® specifications	PN: DK-12VDC-JKBD4A-8S-4P - 12V system with 2 battery modules and JK - BMS
Single battery module (2 needed for 12V)	20 cells – 2s10p (2 series by 10 parallel)
2 ea module dimensions (mm)	305 x 76 x 99 (12 x 3 x 4 in) approx.
Weight for 2 ea battery modules (kg)	2.52 (5.54 lbs) with Sanyo NCR18650BD cells
Dimensions of 2 ea battery modules (mm)	100w x 305l x 30h (4 x 12 x 1.25in) approx.
Module nominal capacity (amp-hours)	35 with Sanyo NCR18650BD
12V dual module nominal voltage (VDC)	14.4 for lithium ion and 12.8 for LFP
Spring, module AC impedance (mohms)	< 1.7, < 80 dominated by cell impedance
JK BMS part number, tested by Offgrid	JKBD4A-8S-4P-OG
BMS cell balance (mV)	Programmable to within 3mV differential
Charge protection	Cell and pack overvoltage and over/under temp
Discharge protection	Cell and pack undervoltage and over/under temp
Balancing/Maximum current	400ma / 40A for block for 5 min (30A cont)
Air flow for cooling and warming (m^3/min)	3.0 (105 cfm) if user supplied cells require
Spring contact material	Beryllium copper (Ph-bronze) with gold plating
Operating temp of system	-30° to 60°C depending on cells



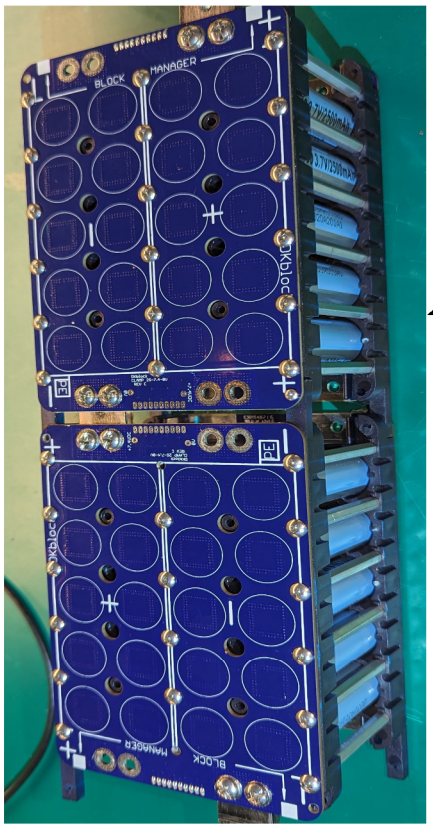
Reusable

Recyclable

Offgrid Systems LLC
Whidbey Island, Wa

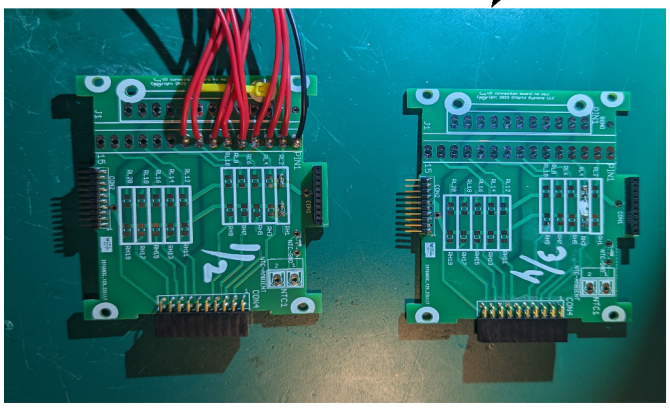
open source hardware

Dkblock2 is comprised of 3 main pieces – **2 battery modules** with **connection boards** that connect to a **smart battery management system (BMS)**

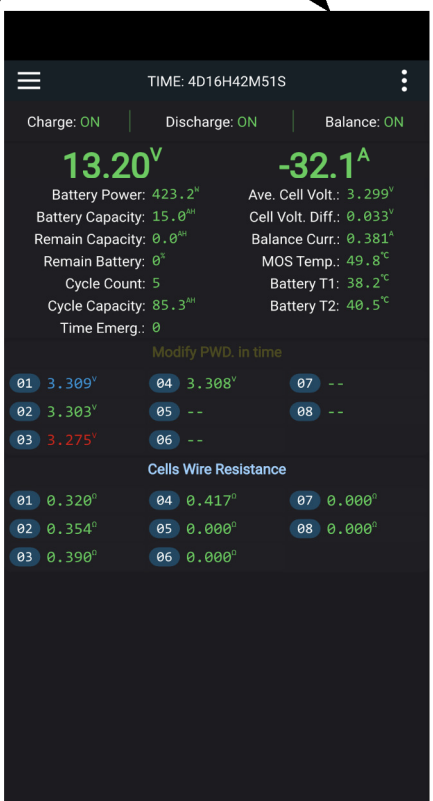


Battery modules –
20 cells in 2 series 10 parallel (2S10P) clamped between two PCBs. Two battery modules are needed for each 12V sytem,

Connection PCBs - Provides connection to BMS, one per battery module



JK – BMS – fully tested
Provides protection and status display for cells and pack



Tested compatible cells*:

Panasonic NCR18650B
LG INR18650 MH1

*18650 cells that are compatible are 18.5mm max in diameter, 65mm long, and 10 ADC maximum current rating