

Cell Cycler

Model: BA-CC1
(Developer Kit)

The 18650 B.A Battery Cycler is the first launched battery cycler from Battery Associates, it aims to achieve B.A's objective of creating an intelligent and affordable battery cycler.



Features

Product Name	18650 Cell Cycler Development Kit
Model Number	BA-CC1
Compatible Cell Package	Cylindrical 18650
Compatible Chemistries ¹	LCO, LMO, NMC, NCA
Product Function	<ul style="list-style-type: none"> ● Capacity and retention testing of li-ion cells ● Programmable charge and discharge cycle scenarios ● Wi-Fi and Bluetooth connectivity ● Connects to Battery Associates visualisation platform ² ● Powered from Raspberry Pi 4 USB-C charger
Protection Features	<ul style="list-style-type: none"> ● Short circuit fuse ● Over-current disconnect ● Low-voltage disconnect ● Over-temperature disconnect
User interface	<ul style="list-style-type: none"> ● 2x push buttons to interact with the cycler ● 4x LEDs to display: power on, charging status, and two re-programmable general-purpose status indicators.

¹ Lithium Iron Phosphate (LFP) is not supported at this time due to the design of our charge control stage. Compatibility with LFP will be introduced in a future build.

² The web platform is not available at this stage but we are committed to providing an online community platform for data storage, visualisation and analysis.

Battery Associates Cell Cycler

Electrical Properties

	Min	Max	Unit
Input Voltage	-	5.2	V
Charge Voltage ⁴	-	4.2	V
Charge Current	50	500	mA
Discharge Voltage	2.0	4.2	V
Discharge Current	100	1000	mA

³ The maximum output charge voltage is fixed at 4.2 V due to the selected charge control IC. Alternative parts in the MCP73831 IC family can be used instead to achieve 4.20 V, 4.35 V, 4.40 V or 4.50 V (not provided by B.A at this point in time).

Measurement

	Min	Max	Precision	Unit
Cell Voltage	300	4300	5	mV
Charge Current	50	500	0.2	mA
Discharge Current	50	1000	0.35	mA
Ambient Temperature	-25	+100	0.125	°C

Mechanical Properties

Dimensions (mm)	120 (W) x 120 (L) x 30 (D)
Weight (g)	200 - 500
Casing Material	PLA/PETG
IP Rating	IP20 (self-defined)

This design is still being finalised so the details represented in this document are subject to change.

Battery Associates Cell Cycler

Packaging

1. Enclosure.
2. Accessories (incl. USB-C charger).
3. Manual.

Delivery time

Expected shipment in February/March 2022.

Cost

250€ downpayment

- Refundable upon no delivery.
- Shipping costs will be charged separately and prior to shipping.

Contact battery-tester@battery.associates if you are interested in pre-ordering a Battery Associates Cell Cycler.