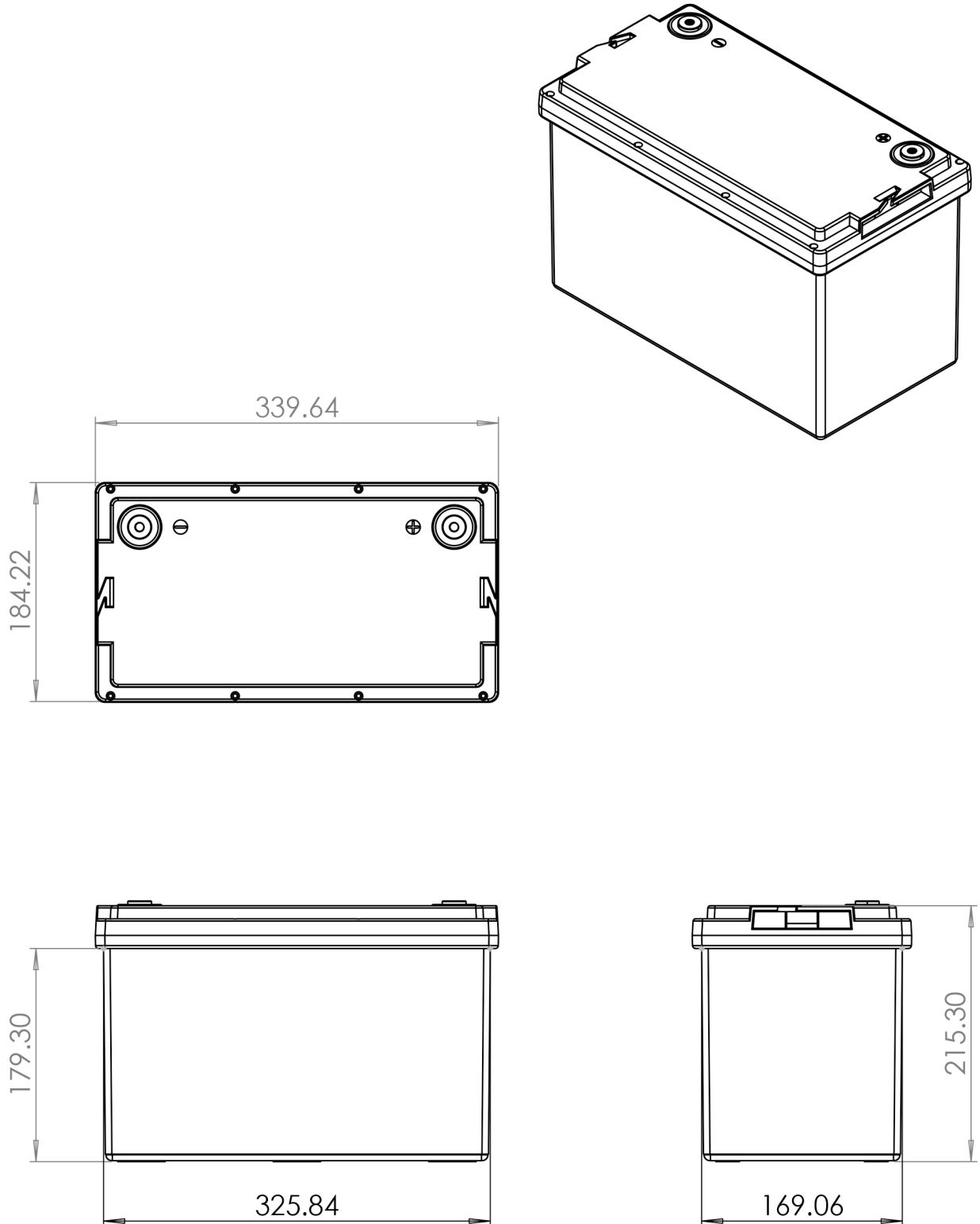


Battery Dimensions

Unless otherwise indicated all linear dimensions are provided in mm and all angular dimensions are in degrees. Dimensions subject to manufacturing variation. Products may vary from those illustrated. This drawing is subject to change without notice.



Battery Specification

	Identifier	Min	Typical	Max	Unit
Nominal Voltage	V_N	-	12.8	-	V
Nominal Capacity	C_N	-	100	110	Ah
Energy Capacity	E_N	-	1280	-	Wh
Cell Chemistry	-	-	LT LFP	-	-
Cell Type	-	-	Cylindrical	-	-
Cell Capacity	C_C	3.2	3.2	-	Ah
Cell Configuration	-	-	4S 32P	-	-
Pack Internal Resistance	R_I	-	-	20	mΩ
Parallel Limit	N_P^{MAX}	-	-	4	-
Series Limit	N_S^{MAX}	-	-	2	-
Cycle Life at 50% DoD	-	-	4000	-	-
Cycle Life at 80% DoD	-	-	2000	-	-
Cycle Life at 100% DoD	-	-	1500	-	-

Physical Specification

	Identifier	Min	Typical	Max	Unit
Length	L_L	-	338	-	mm
Width	L_W	-	185	-	mm
Depth	L_D	-	215	-	mm
Mass	M	-	12	-	kg
Case Type	-	-	ABS Permanent	-	-
Terminal Type	-	-	M8 Female	-	-
Terminal Torque Rating	T_{MAX}	9	10	11	Nm
IP Rating	-	-	IP65	-	-

Charging Parameters

	Identifier	Min	Recommended	Max	Unit
Battery Safe Voltage	V_{BS}	10	-	14.6	V
Battery Working Voltage	V_{BW}	10.8	-	14.2	V
Nominal Cell Voltage	V_{CN}	2.8	-	3.7	V
Absorption Voltage	V_{CA}	-	14.2	14.6	V
Float Voltage	V_{CF}	-	13.5	-	V
Maintenance Voltage	V_{CS}	-	13.2	-	V
Charge Current Limit	I_C	5	-	250	A
Recommended Charge Rate	R_C	-	-	1	·C
Charge Temperature	T_C	-30	-	60	°C
Charge Current >25°C	I_{CMAX}^{25}	-	-	100	A
Charge Current @ 10°C	I_{CMAX}^{10}	-	-	100	A
Charge Current @ 5°C	I_{CMAX}^5	-	-	100	A
Charge Current < 0°C	I_{CMAX}^0	-	-	50	A
Charge Current < -20°C	I_{CMAX}^{-20}	-	-	20	A

Discharging Parameters

	Identifier	Min	Recommended	Max	Unit
Peak Discharge Current	I_{CP}	0	-	250	A
Continuous Discharge Current	I_{CC}	0	-	250	A
Recommended Discharge Rate	R_D	-	-	2.5	·C
Discharge Temperature	T_D	-40	-	60	°C

Storage Parameters

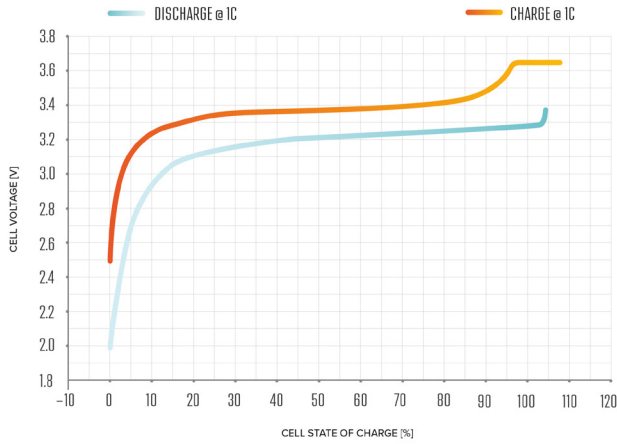
	Identifier	Min	Recommended	Max	Unit
Recommended Storage Temperature	T_S	10	-	35	°C
Recommended Storage SoC	S_S	30	50	80	%
Recommended Storage Voltage	V_S	13	13.2	13.25	V

BMS Parameters

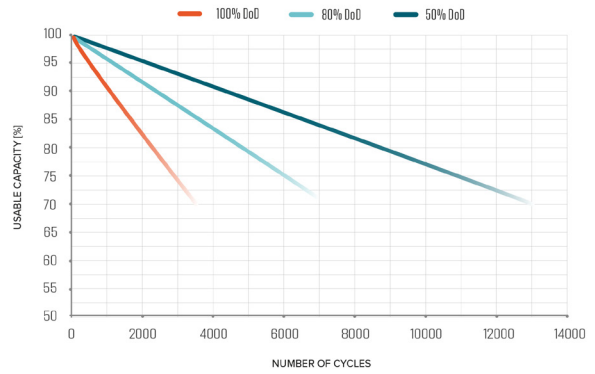
	Identifier	Min	Typical	Max	Unit
Cell Overcharge Detection Voltage	V_{COD}	-	3.65	-	V
Cell Overcharge Release Voltage	V_{COR}	-	3.4	-	V
Pack Overcharge Detection Current	I_{BOD}	-	400	-	A
Pack Overcharge Release Current	I_{BOR}	-	0	-	A
Overcharge Detection Time	t_{OD}	-	1	-	s
Cell Undercharge Detection Voltage	V_{CUD}	-	2.5	-	V
Cell Undercharge Release Voltage	V_{CUR}	-	2.7	-	V
Undercharge Detection Time	t_{UD}	-	1	-	s
Cell Balance Transfer Current	I_{CB}	-	0.1	-	A
Cell Balance Trigger Delta Threshold Voltage	V_{CBD}	-	0.1	-	V
Short Circuit Detection Current	I_{SCD}	-	2000	-	A
Short Circuit Protection Release Current	I_{SCR}	-	0	-	A
Short Circuit Detection Time	t_{SC}	-	400	600	μ s
Charge Temperature Protection	T_{CPD}	-30	-	-25	$^{\circ}$ C
Charge Temperature Protection Release	T_{CPR}	60	-	55	$^{\circ}$ C
Discharge Temperature Protection	T_{DP}	-40	-	-35	$^{\circ}$ C
Discharge Temperature Protection Release	T_{DPR}	60	-	55	$^{\circ}$ C
BMS Working Current Consumption	I_{WRK}	-	20	-	mA
BMS Standby Current Consumption	I_{STBY}	-	800	-	μ A

Battery Characteristics

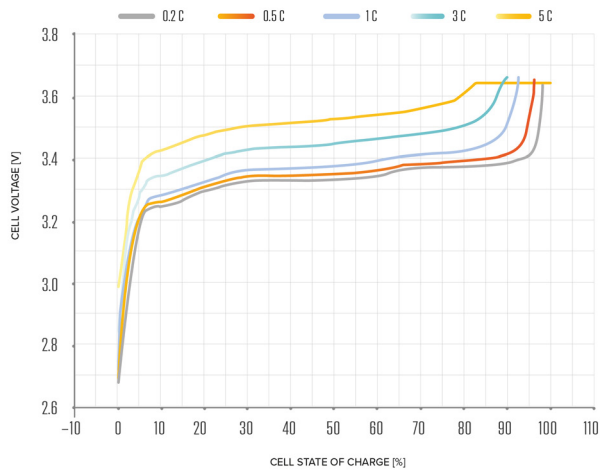
The following graphs demonstrate the operational characteristics of LiFePo4 cells under a variety of conditions. Many factors play a role in the exact capacity, performance, lifetime and safety of a lithium battery so every installation varies depending on the exact setup and use case. These serve only as a guide and do not reflect the exact characteristics of any individual battery.



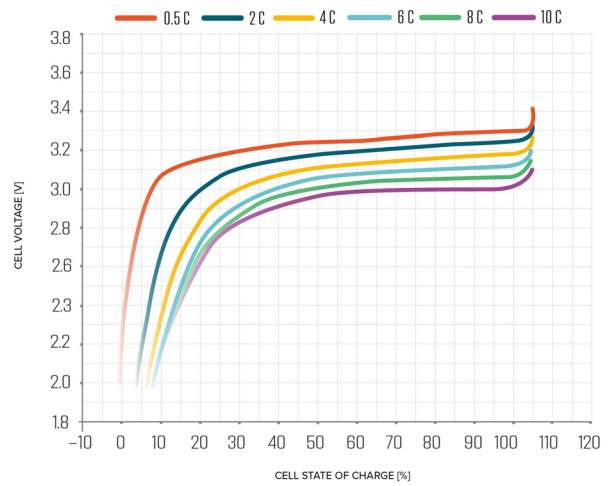
TYPICAL CHARGE & DISCHARGE VOLTAGE VS CHARGE STATE (SoC) CURVE OF A LiFePO₄ CELL (25 °C)



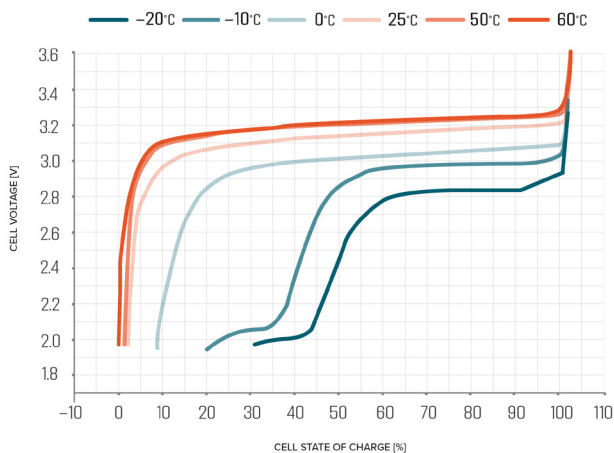
TYPICAL USABLE CAPACITY VS CYCLE LIFE FOR DIFFERENT DEPTHS OF DISCHARGE (0.5C, 25 °C)



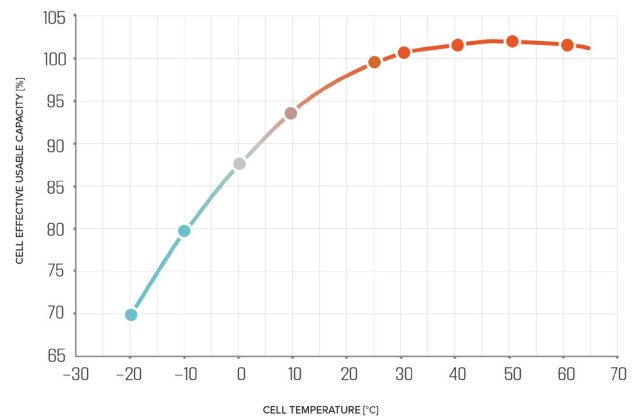
CELL VOLTAGE VS STATE OF CHARGE AT DIFFERENT CHARGE RATES (25 °C)



CELL VOLTAGE VS STATE OF CHARGE AT DIFFERENT DISCHARGE RATES (25 °C)



CELL VOLTAGE VS STATE OF CHARGE AT DIFFERENT TEMPERATURES



TYPICAL EFFECTIVE USABLE CAPACITY VS CELL TEMPERATURE

Document Information

Document Version	Release Date	Status	Change Notice
1.0	11/12/2022	Release	Initial issue
2.0	16/08/2023	Release	Major revision

All efforts have been made to ensure the data in this datasheet are correct and up to date. Roamer Batteries constantly monitor product documentation for inaccuracy and routinely update documentation to reflect the most accurate information available. This version of the document supersedes and replaces all information supplied prior to the publication hereof.

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