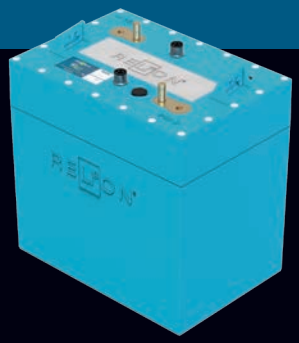
EV FM G RE M RV AWP

FOR ALL USES.
RELIABLE.
RELiON.



A. MÜLLER GmbH

Industriebatterien
Stromversorgungssysteme

RELiON®

TABLE OF CONTENT

A. MÜLLER GmbH
Industriebatterien
Stromversorgungssysteme

RELiON®

ELECTRIC VEHICLE

Drive farther on the course, on the road or on the job with premium RELiON Lithium Iron Phosphate ($LiFePO_4$) batteries. RELiON lithium batteries offer lightweight, safe and long-lasting energy solutions for all types of electric vehicles.

RECREATIONAL VEHICLE

Whether you‘re living on the road or be an enthusiastic weekend warrior, you want reliable power both on and off the grid. RELiON Lithium Iron Phosphate ($LiFePO_4$) batteries offer lightweight, safe and high power energy solutions for all types of recreational vehicles.

MARINE POWER

Cruisers, racers and anglers want reliable power both on and off the water. RELiON Lithium Iron Phosphate ($LiFePO_4$) batteries offer lightweight, safe and high power energy solutions for all types of water craft.

RENEWABLE ENERGY

Whether you‘re powering your home or business, or mission-critical remote monitoring equipment, you want reliable power for your residential and commercial energy needs, both on and off the grid. RELiON Lithium Iron Phosphate ($LiFePO_4$) batteries offer safe, clean and high power energy solutions for all types of renewable energy systems.

GOLF BATTERIES

Enjoy your game and play longer with premium RELiON Lithium Iron Phosphate ($LiFeP0_4$) batteries in your golf trolley. RELiON lithium batteries offer lightweight, safe and long-lasting energy solutions for all types of trolleys.

AERIAL WORK PLATFORMS

Heavy workload? Tight deadlines? No time to worry about your batteries? RELiON Lithium Iron Phosphate ($LiFeP0_4$) batteries don‘t require maintanance or special treatment, even in harsh conditions. Concernde about battery neglect? No problem. Just charge ‘em up and go work. It‘s that simple.

FLOOR MACHINES

Got a schedule to keep and a large area to cover? Your floor maschines need batteries that can keep up. Premium RELiON Lithium Iron Phosphate ($LiFeP0_4$) batteries give you 2-3 times the capacity of lead-acid batteries in the same size case, and they‘re maintenance-free. Talk about a clean sweep.

A. MÜLLER GmbH
Industriebatterien
Stromversorgungssysteme

RELiON®

RELiON LITHIUM

READY WHEN YOU ARE: RELiON lithium batteries charge much faster than traditional lead-acid batteris, and they`re packed with more usable energy and up to 10 times longer life so you`re always ready to roll!
MORE HOURS OF POWER: RELiON lithium batteries provide 2-3 more energy than traditional lead-acid batteries, at half the weight, and they maintain a constant level of power for your machines.
WORRY-FREE: RELiON lithium batteries are maintenance-free - no watering no corrosion. In addition, they can be charged more quickly using a variety of systems. Partial charging does not affect performance quality, and a low self-discharge rate means worry-free storage so occasional users can be assured of high performance by every use.
BUILD-IN PROTECTION: Every RELiON lithium battery comes with a state-of-the-art battery management system (BMS) that provides protection from over-charge, over-discharge and short circuit conditions. Battery cells are enclosed in explosion-proof stainless steel casings. Build-in thermal fuses and other safety features offer added protection.
THE RIGHT FIT: RELiON lithium batteries are available in a variety of BCI standard sizes for easy drop-in replacement. Are you looking for a custom solution? No problem! Our Certified PowerPros will work to design the best system for your needs.
EXTREME PERFORMANCE: RELiON lithium batteries are designed to perform in harsh conditions, be it freezing cold, scorching heat or rough terrain.
ECO-FRIENDLY: RELiON lithium batteries are the ultimate clean energy. No gassing, no fumes and no pollution. Enjoy reliable power, while protecting the enviroment, using these non-hazardous batteries.
SAFETY TESTED: Unlike other lithium chemistries, RELiON LiFePO4 batteries are inherently safe due to their stable chemical composition, and we have the UL1642 (cells) and IEC62133 test result to prove it.
BACKED BY THE BEST: Built to last, designed to perform, premium RELiON lithium batteries deliver unsurpassed performance.
LIGHT ON WEIGHT, HEAVY ON POWER: RELiON lithium batteries provide more power than traditional lead-acid batteries and are typically half the weight. This makes for better acceleration and more agility.
TAKE CHARGE: Partial state of charge, known as PSOC, which is a killer of lead-acid batteries, does not affect performance or battery life of a lithium battery. Sometimes battereis don`t get fully charged, or they regularly operate in a partial state of charge. Either way, you can count on RELiON lithium batteries living a long and productive life.
ULTRA-LONG LIFE: RELiON lithium batteries provide up to 10 times longer life than lead-acid batteries, and they still provide 80% of rated capacity after 2,000 cycles. Spend more time powering your applications an less time replacing your batteries.
HIGHLY EFFICIENT: RELiON lithium batteries have super low resistance allowing you to charge much faster. And lithium batteries are 99% efficient, minimizing the losses during charge. Compare that to traditional lead acid batteries at 75-80% efficiency, which results in significant loss when recharging.
CHARGE AHEAD: Partial charging does not affect performance quality or battery life. A low self-discharge rate means worry-free storage so even occasional users can be assured of reliable performance.

TERMINAL CONFIGURATIONS

M 8

Bolt with lock washer & regular washer

AMPHENOL CONNECTORS

A. MÜLLER GmbH
Industriebatterien
Stromversorgungssysteme

RELiON®

RELi3ON®

LITHIUM PRODUCT SPECIFICATION GUIDE

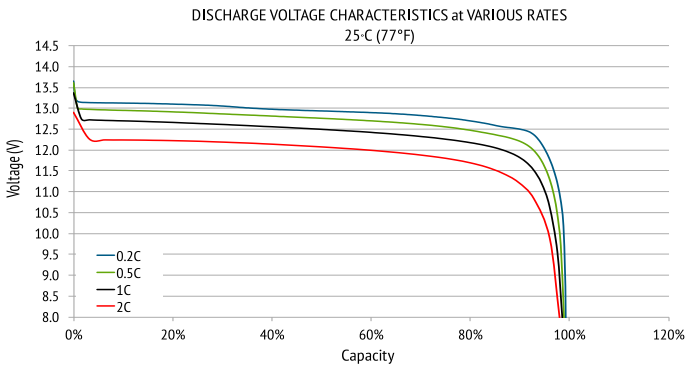
Part Number	BCI Group Size	Capacity @ 25°C (77°F)		Energy (Wh)	Current Capability		Dimensions inches (mm)			Weight lbs (kg)	Terminal Type	Case Material
		AH	Min @ 25A		Continuous (A)	Peak (A)	Length	Width	Height			
12V - STANDARD												
RB5	NA	5	12	64	5	10	5.9 (151)	2.6 (65)	3.9 (99)	2.0 (0.9)	F2	ABS
RB10	NA	10	24	128	10	20	5.9 (151)	3.9 (98)	4.0 (101)	3.6 (1.65)	F2	ABS
RB20	NA	20	48	256	20	40	7.1 (181)	3.0 (76)	6.7 (169)	5.6 (2.55)	M6	ABS
RB35	U1	35	84	448	35	70	7.7 (195)	5.2 (131)	6.7 (171)	11 (4.8)	M8	ABS
RB40	NA	40	96	512	40	80	7.8 (197)	6.5 (166)	6.8 (173)	12 (5.4)	M8	ABS
RB50	NA	50	120	640	50	100	7.8 (197)	6.5 (166)	6.8 (173)	15 (6.7)	M8	ABS
RB75	24	75	180	960	75	150	10.2 (260)	6.6 (168)	8.6 (218)	24 (10.7)	M8	ABS
RB80	27	80	192	1024	80	160	12.0 (305)	6.6 (168)	8.6 (219)	25 (11.3)	M8	ABS
RB80-D	DIN	80	192	1024	80	160	13.2 (335)	6.9 (174)	7.5 (191)	25 (11.3)	M8	ABS
RB100	31	100	240	1280	100	200	13.0 (329)	6.8 (172)	8.8 (223)	30 (13.5)	M8	ABS
RB100-D	DIN	100	240	1280	100	200	13.2 (335)	6.9 (174)	7.5 (191)	30 (13.7)	M8	ABS
RB170	NA	170	408	2176	200	250	19.5 (495)	10.6 (268)	8.0 (202)	66 (30)	M8	STEEL
RB200	8D	200	480	2560	100	200	20.5 (520)	10.5 (267)	9.0 (228)	61 (27.7)	M8	ABS
RB300	8D	300	720	3840	100	200	20.5 (520)	10.5 (267)	9.0 (228)	83 (37.5)	M8	ABS
12V - X-SERIES (HIGH CONTINUOUS AND PEAK PERFORMANCE)												
RB20-X	NA	20	48	256	50	90	7.1 (181)	3.0 (76)	6.7 (169)	5.6 (2.55)	M6	ABS
RB35-X	U1	35	84	448	70	100	7.7 (195)	5.2 (131)	6.7 (171)	11 (4.8)	M8	ABS
RB60-X	24	60	144	768	100	200	10.2 (260)	6.6 (168)	8.6 (218)	20 (8.9)	M8	ABS
12V - HP-SERIES (HIGH PEAK PERFORMANCE)												
RB50-HP	24	50	120	640	50	400	10.2 (260)	6.6 (168)	8.6 (218)	18.7 (8.5)	M8	ABS
RB100-HP	31	100	240	1280	100	800	13.0 (329)	6.8 (172)	8.8 (223)	30 (13.5)	M8	ABS
RB100-DHP	DIN	100	240	1280	100	800	13.2 (335)	6.9 (174)	7.5 (191)	30 (13.7)	M8	ABS
RB300-HP	8D	300	720	3840	100	800	20.5 (520)	10.5 (267)	9.0 (228)	83 (37.5)	M8	ABS
12V - LT-SERIES (LOW TEMPERATURE OPERATION)												
RB20-LT	NA	20	48	256	20	40	7.1 (181)	3.0 (76)	6.7 (169)	6.6 (3)	M6	ABS
RB35-LT	U1	35	84	448	35	70	7.7 (195)	5.2 (131)	6.7 (171)	11 (5)	M8	ABS
RB100-LT	31	100	240	1280	100	200	13.0 (329)	6.8 (172)	8.8 (223)	30 (13.5)	M8	ABS
12V - GOLF TROLLEY												
RBGT-16	NA	16	NA	205	16	25	6.6 (168)	5.0 (127)	2.9 (74)	5 (2.1)	ANDERSON	ABS
RBGT-19	NA	19	NA	243	16	25	7.1 (180)	3.0 (76)	6.5 (165)	6 (2.7)	ANDERSON	ABS
RBGT-22	NA	22	NA	282	16	25	6.6 (168)	5.0 (127)	4.0 (102)	6 (2.9)	ANDERSON	ABS
24V - STANDARD												
RB24V20	U1	20	48	512	30	60	7.7 (195)	5.2 (131)	6.7 (171)	12 (5.4)	M8	ABS
RB24V40	24	40	96	1024	30	70	10.2 (260)	6.6 (168)	8.3 (210)	28.7 (13)	M8	ABS
RB24V50	31	50	120	1280	50	100	13.0 (329)	6.8 (172)	8.8 (223)	29 (13.2)	M8	ABS
RB24V100	NA	100	240	2560	100	200	20.5 (520)	10.5 (267)	9.0 (228)	61 (27.7)	M8	ABS
RB24V200	NA	200	480	5120	200	250	16.1 (410)	13.7 (349)	16.4 (417)	110 (50)	M10	STEEL
48V - STANDARD												
RB48V25	24	25	60	1280	20	25	10.2 (260)	6.6 (168)	8.6 (218)	28 (12.5)	M8	ABS
RB48V100	NA	100	240	5120	200	250	22.8 (578)	16.1 (410)	8.3 (210)	137 (62)	M10	STEEL
RB48V150	NA	150	360	7680	100	350	23.6 (600)	12.1 (308)	12.6 (320)	179 (81)	M10	STEEL
RB48V200	NA	200	480	10240	200	250	34.1 (867)	14.1 (358)	15.5 (393)	302 (137)	M10	STEEL
RB48V300	NA	300	720	15360	200	250	29.1 (740)	19.9 (506)	16.1 (408)	388 (176)	M10	STEEL

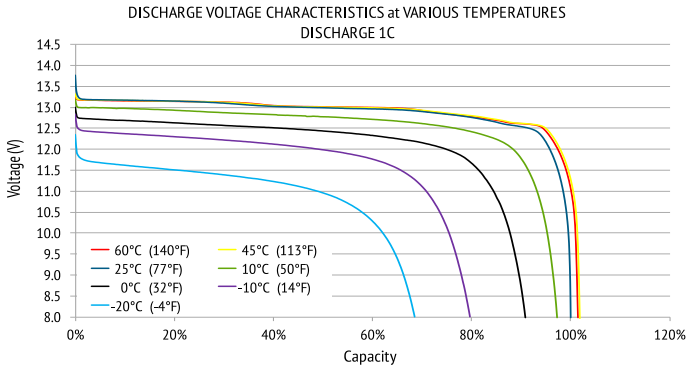
A. MÜLLER GmbH
Industriebatterien
Stromversorgungssysteme

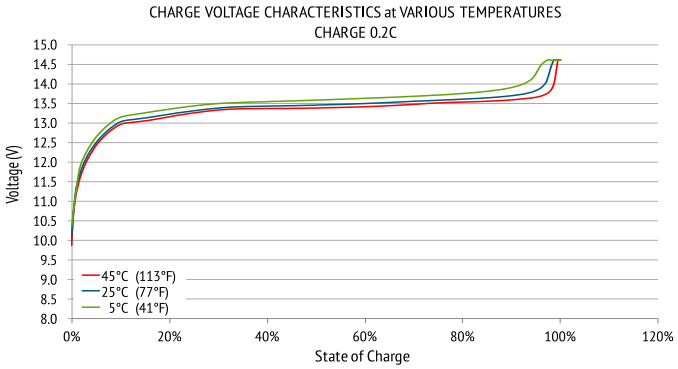
RELi3ON®

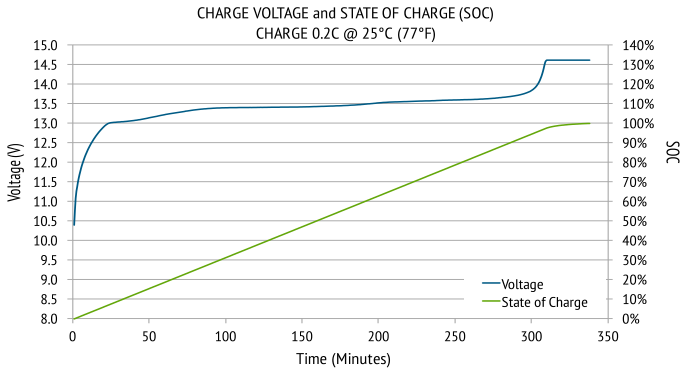
GENERAL PERFORMANCE FOR RB-SERIES

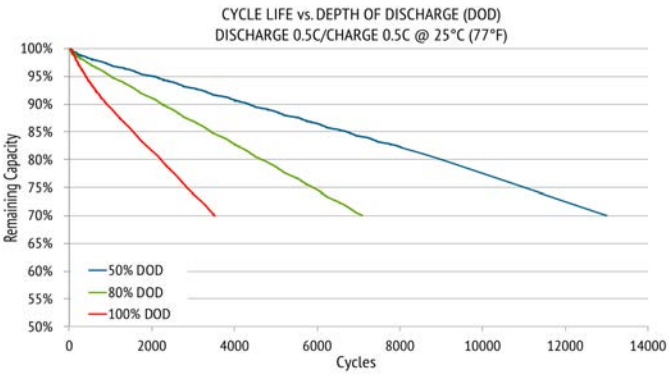
PERFORMANCE CHARACTERISTICS

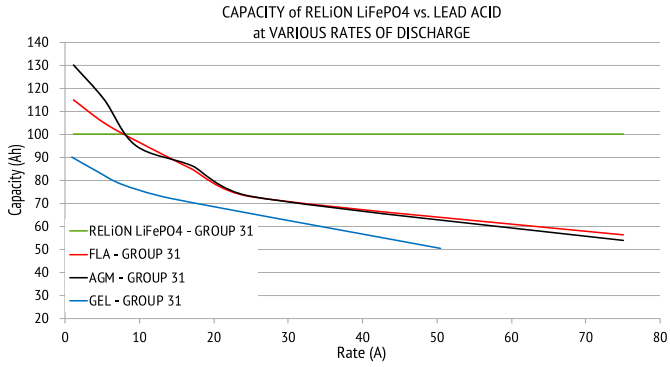












UN38.3 CE 12 Lithium

RELi3ON®

RB5

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS

Nominal Voltage	12.8 V
Nominal Capacity	5 Ah
Capacity @ 25A	12 min
Energy	64 Wh
Resistance	≤130 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Modules in Series	1

MECHANICAL SPECIFICATIONS

Dimensions (L x W x H)	5.9 x 2.6 x 3.9" 151 x 65 x 99 mm
Weight	2.0 lbs (0.9 kg)
Terminal Type	F2
Case Material	ABS
Enclosure Protection	IP56
Cell Type	Cylindrical
Chemistry	$LiFePO_4$

DISCHARGE SPECIFICATIONS

Maximum Continuous Discharge Current	5 A
Peak Discharge Current	10 A (7.5 s ±2.5 s)
BMS Discharge Current Cut-Off	15 A ±3 A (10 ±5 ms)
Recommended Low Voltage Disconnect	11 V
BMS Discharge Voltage Cut-Off	8 V (2.0 ±0.08 vpc) (100 ±50 ms)
Reconnect Voltage	10 V (2.5 ±0.1 vpc)
Short Circuit Protection	200-500 µs

CHARGE SPECIFICATIONS

Recommended Charge Current	0.25 A - 2.5 A
Maximum Charge Current	5 A
Charge Current (0 to -10 °C)	≤0.1 C
Charge Current (-20 to -10 °C)	≤0.05 C
Recommended Charge Voltage	14.2 V - 14.6 V
BMS Charge Voltage Cut-Off	15.6 V (3.9 ±0.025 vpc) (1.0 ±0.5 s)
Reconnect Voltage	15.2 V (3.8 ±0.05 vpc)

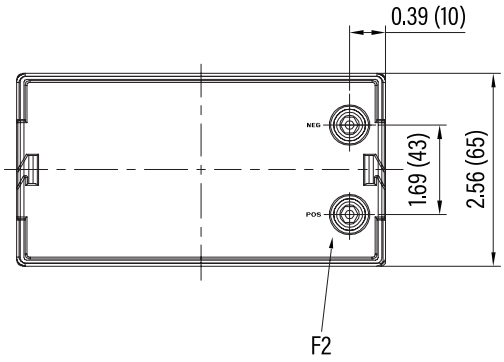
TEMPERATURE SPECIFICATIONS

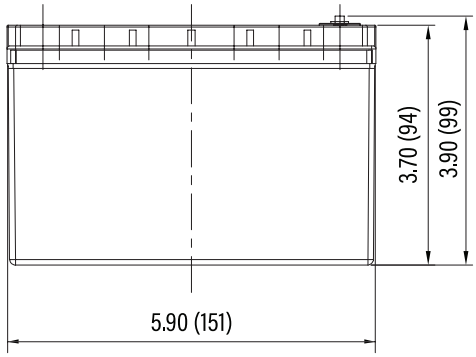
Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
Charge Temperature	-4 to 113 °F (-20 to 45 °C)
Storage Temperature	23 to 95 °F (-5 to 35 °C)

COMPLIANCE SPECIFICATIONS

Certifications	CE (battery) UN38.3 (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS





+1.803.547.7288
844.385.9840
1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELi3ON®

RB10

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS

Nominal Voltage	12.8 V
Nominal Capacity	10 Ah
Capacity @ 25A	24 min
Energy	128 Wh
Resistance	≤90 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Modules in Series	1

MECHANICAL SPECIFICATIONS

Dimensions (L x W x H)	5.9 x 3.9 x 4.0" 151 x 98 x 101 mm
Weight	3.6 lbs (1.65 kg)
Terminal Type	F2
Case Material	ABS
Enclosure Protection	IP56
Cell Type	Cylindrical
Chemistry	$LiFePO_4$

DISCHARGE SPECIFICATIONS

Maximum Continuous Discharge Current	10 A
Peak Discharge Current	20 A (7.5 s ±2.5 s)
BMS Discharge Current Cut-Off	30 A ±5 A (10 ±5 ms)
Recommended Low Voltage Disconnect	11 V
BMS Discharge Voltage Cut-Off	8 V (2.0 ±0.08 vpc) (100 ±50 ms)
Reconnect Voltage	10 V (2.5 ±0.1 vpc)
Short Circuit Protection	200-500 µs

CHARGE SPECIFICATIONS

Recommended Charge Current	0.5 A - 5 A
Maximum Charge Current	10 A
Charge Current (0 to -10 °C)	≤0.1 C
Charge Current (-20 to -10 °C)	≤0.05 C
Recommended Charge Voltage	14.2 V - 14.6 V
BMS Charge Voltage Cut-Off	15.6 V (3.9 ±0.025 vpc) (1.0 ±0.5 s)
Reconnect Voltage	15.2 V (3.8 ±0.05 vpc)

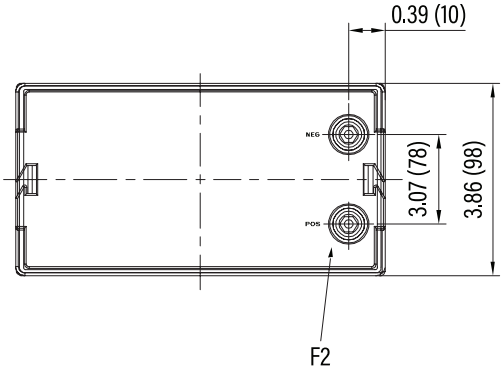
TEMPERATURE SPECIFICATIONS

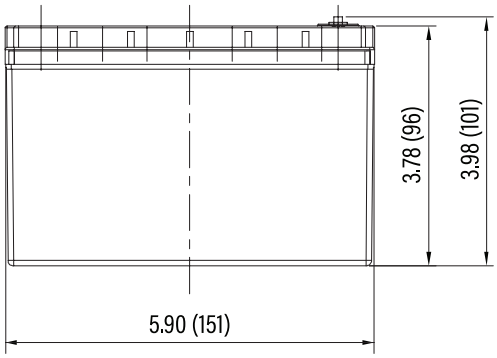
Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
Charge Temperature	-4 to 113 °F (-20 to 45 °C)
Storage Temperature	23 to 95 °F (-5 to 35 °C)

COMPLIANCE SPECIFICATIONS

Certifications	CE (battery) UN38.3 (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS





relionbattery.com
+1.803.547.7288
844.385.9840
1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELi3ON®

RB20

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS

Nominal Voltage	12.8 V
Nominal Capacity	20 Ah
Capacity @ 25A	48 min
Energy	256 Wh
Resistance	≤60 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Modules in Series	3

MECHANICAL SPECIFICATIONS

Dimensions (L x W x H)	7.1 x 3.0 x 6.7" 181 x 76 x 169 mm
Weight	5.6 lbs (2.55 kg)
Terminal Type	M6
Terminal Torque	35 - 44 in-lbs (4 - 5 N-m)
Case Material	ABS
Enclosure Protection	IP56
Cell Type - Chemistry	Cylindrical - $LiFePO_4$

DISCHARGE SPECIFICATIONS

Maximum Continuous Discharge Current	20 A
Peak Discharge Current	40 A (7.5 s ±2.5 s)
BMS Discharge Current Cut-Off	70 A ±10 A (20 ±5 ms)
Recommended Low Voltage Disconnect	11 V
BMS Discharge Voltage Cut-Off	8 V (2.0 ±0.08 vpc) (140 ±60 ms)
Reconnect Voltage	10 V (2.5 ±0.10 vpc)
Short Circuit Protection	200-500 µs

CHARGE SPECIFICATIONS

Recommended Charge Current	1 A - 10 A
Maximum Charge Current	20 A
Charge Current (0 to -10 °C)	≤0.1 C
Charge Current (-20 to -10 °C)	≤0.05 C
Recommended Charge Voltage	14.2 V - 14.6 V
BMS Charge Voltage Cut-Off	15.2 V (3.8 ±0.025 vpc) (1.1 ±0.4 s)
Reconnect Voltage	14.4 V (3.6 ±0.050 vpc)
Balancing Voltage	14.4 V (3.6 ±0.025 vpc)

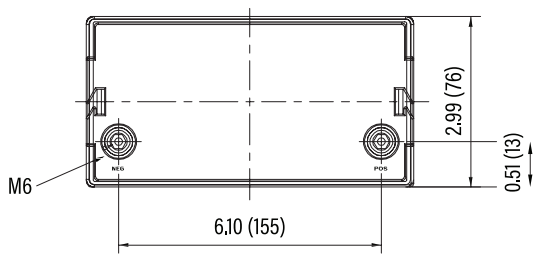
TEMPERATURE SPECIFICATIONS

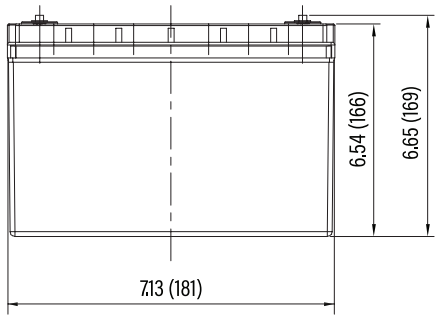
Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
*Charge Temperature	-4 to 113 °F (-20 to 45 °C)
Storage Temperature	23 to 95 °F (-5 to 35 °C)
BMS High Temperature Cut-Off	158 °F (70 °C)
Reconnect Temperature	122 °F (50 °C)

COMPLIANCE SPECIFICATIONS

Certifications	CE (battery) UN38.3 (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS





relionbattery.com
+1.803.547.7288
844.385.9840
1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELi3ON®

RB35

Group: U1

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS

Nominal Voltage	12.8 V
Nominal Capacity	35 Ah
Capacity @ 25A	84 min
Energy	448 Wh
Resistance	≤50 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Modules in Series	3

MECHANICAL SPECIFICATIONS

Dimensions (L x W x H)	7.8 x 5.2 x 6.7" 195 x 131 x 171 mm
Weight	11 lbs (4.8 kg)
Terminal Type	M8
Terminal Torque	80 - 100 in-lbs (9 - 11 N-m)
Case Material	ABS
Enclosure Protection	IP56
Cell Type - Chemistry	Cylindrical - $LiFePO_4$

DISCHARGE SPECIFICATIONS

Maximum Continuous Discharge Current	35 A
Peak Discharge Current	70 A (7.5 s ±2.5 s)
BMS Discharge Current Cut-Off	170 A ±20 A (20 ±5 ms)
Recommended Low Voltage Disconnect	11 V
BMS Discharge Voltage Cut-Off	8 V (2.0 ±0.08 vpc) (140 ±60 ms)
Reconnect Voltage	10 V (2.5 ±0.10 vpc)
Short Circuit Protection	200-600 µs

CHARGE SPECIFICATIONS

Recommended Charge Current	1.75 A - 17.5 A
Maximum Charge Current	35 A
Charge Current (0 to -10 °C)	≤0.1 C
Charge Current (-20 to -10 °C)	≤0.05 C
Recommended Charge Voltage	14.2 V - 14.6 V
BMS Charge Voltage Cut-Off	15.2 V (3.8 ±0.025 vpc) (1.1 ±0.4 s)
Reconnect Voltage	14.4 V (3.6 ±0.050 vpc)
Balancing Voltage	14.4 V (3.6 ±0.025 vpc)

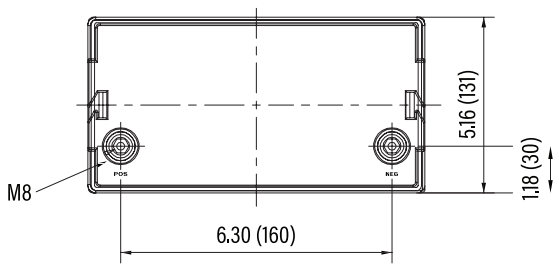
TEMPERATURE SPECIFICATIONS

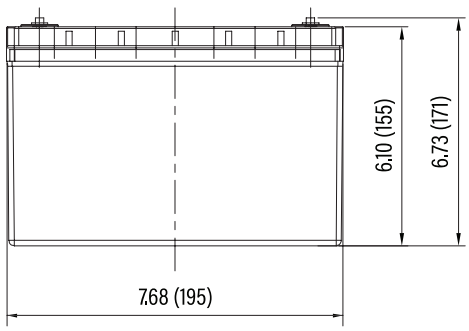
Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
Charge Temperature	-4 to 113 °F (-20 to 45 °C)
Storage Temperature	23 to 95 °F (-5 to 35 °C)
BMS High Temperature Cut-Off	176 °F (80 °C)
Reconnect Temperature	122 °F (50 °C)

COMPLIANCE SPECIFICATIONS

Certifications	CE (battery) UN38.3 (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS





relionbattery.com
+1.803.547.7288
844.385.9840
1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELiON®

RB40

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS	
Nominal Voltage	12.8 V
Nominal Capacity	40 Ah
Capacity @ 25A	96 min
Energy	512 Wh
Resistance	≤50 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Modules in Series	4

DISCHARGE SPECIFICATIONS	
Maximum Continuous Discharge Current	40 A
Peak Discharge Current	80 A (7.5 s ±2.5 s)
BMS Discharge Current Cut-Off	170 A ±20 A (20 ±5 ms)
Recommended Low Voltage Disconnect	11 V
BMS Discharge Voltage Cut-Off	8 V (2.0 ±0.08 vpc) (140 ±60 ms)
Reconnect Voltage	10 V (2.5 ±0.1 vpc)
Short Circuit Protection	200-600 µs

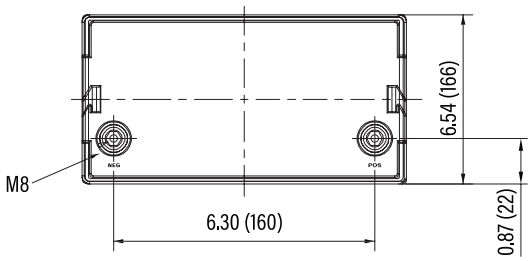
TEMPERATURE SPECIFICATIONS	
Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
Charge Temperature	-4 to 113 °F (-20 to 45 °C)
Storage Temperature	23 to 95 °F (-5 to 35 °C)
BMS High Temperature Cut-Off	176 °F (80 °C)
Reconnect Temperature	122 °F (50 °C)

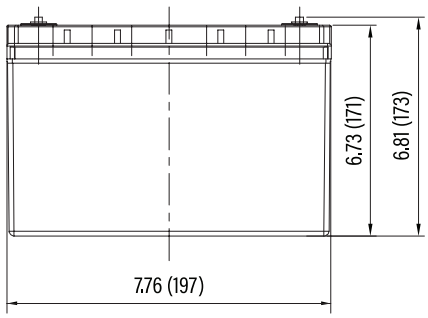
MECHANICAL SPECIFICATIONS	
Dimensions (L x W x H)	7.8 x 6.5 x 6.8" 197 x 166 x 173 mm
Weight	12 lbs (5.4 kg)
Terminal Type	M8
Terminal Torque	80 - 100 in-lbs (9 - 11 N-m)
Case Material	ABS
Enclosure Protection	IP56
Cell Type - Chemistry	Cylindrical - $LiFePO_4$

CHARGE SPECIFICATIONS	
Recommended Charge Current	2 A - 20 A
Maximum Charge Current	40 A
Charge Current (0 to -10 °C)	≤0.1 C
Charge Current (-20 to -10 °C)	≤0.05 C
Recommended Charge Voltage	14.2 V - 14.6 V
BMS Charge Voltage Cut-Off	15.2 V (3.8 ±0.025 vpc) (1.1 ±0.4 s)
Reconnect Voltage	14.4 V (3.6 ±0.050 vpc)
Balancing Voltage	14.4 V (3.6 ±0.025 vpc)

COMPLIANCE SPECIFICATIONS	
Certifications	CE (battery) UN38.3 (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS





relionbattery.com
+1.803.547.7288
844.385.9840
1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELi3ON®

RB50

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS

Nominal Voltage	12.8 V
Nominal Capacity	50 Ah
Capacity @ 25A	120 min
Energy	640 Wh
Resistance	≤50 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Modules in Series	4

MECHANICAL SPECIFICATIONS

Dimensions (L x W x H)	7.8 x 6.5 x 6.8" 197 x 166 x 173 mm
Weight	15 lbs (6.7 kg)
Terminal Type	M8
Terminal Torque	80 - 100 in-lbs (9 - 11 N-m)
Case Material	ABS
Enclosure Protection	IP56
Cell Type - Chemistry	Cylindrical - $LiFePO_4$

DISCHARGE SPECIFICATIONS

Maximum Continuous Discharge Current	50 A
Peak Discharge Current	100 A (7.5 s ±2.5 s)
BMS Discharge Current Cut-Off	170 A ±20 A (10 ±5 ms)
Recommended Low Voltage Disconnect	11 V
BMS Discharge Voltage Cut-Off	8 V (2.0 ±0.08 vpc) (140 ±60 ms)
Reconnect Voltage	9.2 V (2.3 ±0.1 vpc)
Short Circuit Protection	200-600 µs

CHARGE SPECIFICATIONS

Recommended Charge Current	2.5 A - 25 A
Maximum Charge Current	50 A
Charge Current (0 to -10 °C)	≤0.1 C
Charge Current (-20 to -10 °C)	≤0.05 C
Recommended Charge Voltage	14.2 V - 14.6 V
BMS Charge Voltage Cut-Off	15.6 V (3.9 ±0.025 vpc) (1.1 ±0.4 s)
Reconnect Voltage	15.2 V (3.8 ±0.05 vpc)
Balancing Voltage	14.4 V (3.6 ±0.025 vpc)

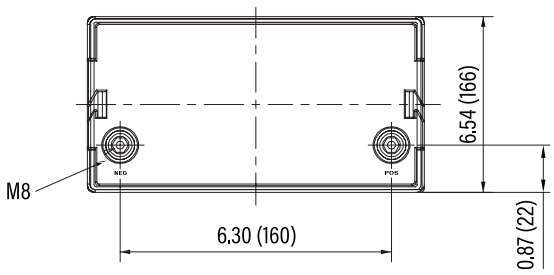
TEMPERATURE SPECIFICATIONS

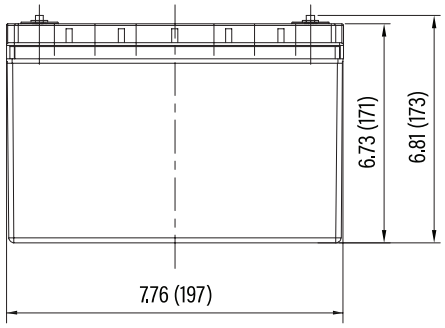
Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
Charge Temperature	-4 to 113 °F (-20 to 45 °C)
Storage Temperature	23 to 95 °F (-5 to 35 °C)
BMS High Temperature Cut-Off	176 °F (80 °C)
Reconnect Temperature	122 °F (50 °C)

COMPLIANCE SPECIFICATIONS

Certifications	CE (battery) UN38.3 (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS





relionbattery.com
+1.803.547.7288
844.385.9840
1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELi3ON®

RB75

Group: 24

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS

Nominal Voltage	12.8 V
Nominal Capacity	75 Ah
Capacity @ 25A	180 min
Energy	960 Wh
Resistance	≤30 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Modules in Series	4

MECHANICAL SPECIFICATIONS

Dimensions (L x W x H)	10.2 x 6.6 x 8.6" 260 x 168 x 218 mm
Weight	24 lbs (10.7 kg)
Terminal Type	M8
Terminal Torque	80 - 100 in-lbs (9 - 11 N-m)
Case Material	ABS
Enclosure Protection	IP56
Cell Type - Chemistry	Cylindrical - $LiFePO_4$

DISCHARGE SPECIFICATIONS

Maximum Continuous Discharge Current	75 A
Peak Discharge Current	150 A (7.5 s ±2.5 s)
BMS Discharge Current Cut-Off	280 A ±50 A (9 ±4 ms)
Recommended Low Voltage Disconnect	11 V
BMS Discharge Voltage Cut-Off	8 V (2.0 ±0.08 vpc) (140 ±60 ms)
Reconnect Voltage	9.2 V (2.3 ±0.1 vpc)
Short Circuit Protection	200-600 µs

CHARGE SPECIFICATIONS

Recommended Charge Current	3.7 A - 37.5 A
Maximum Charge Current	75 A
Charge Current (0 to -10 °C)	≤0.1 C
Charge Current (-20 to -10 °C)	≤0.05 C
Recommended Charge Voltage	14.2 V - 14.6 V
BMS Charge Voltage Cut-Off	15.6 V (3.9 ±0.025 vpc) (1.1 ±0.4 s)
Reconnect Voltage	15.2 V (3.8 ±0.05 vpc)
Balancing Voltage	14.4 V (3.6 ±0.025 vpc)

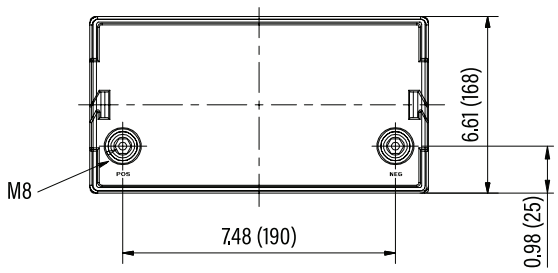
TEMPERATURE SPECIFICATIONS

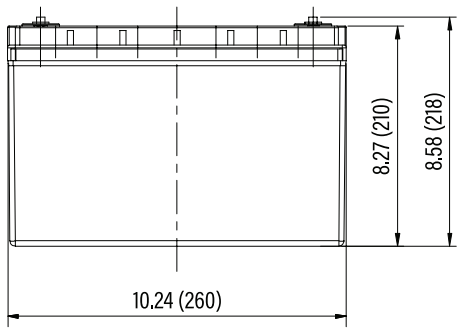
Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
Charge Temperature	-4 to 113 °F (-20 to 45 °C)
Storage Temperature	23 to 95 °F (-5 to 35 °C)
BMS High Temperature Cut-Off	176 °F (80 °C)
Reconnect Temperature	122 °F (50 °C)

COMPLIANCE SPECIFICATIONS

Certifications	CE (battery) UN38.3 (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS





relionbattery.com

+1.803.547.7288
844.385.9840

1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELi3ON®

RB80

Group: 27

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS

Nominal Voltage	12.8 V
Nominal Capacity	80 Ah
Capacity @ 25A	192 min
Energy	1024 Wh
Resistance	≤30 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Modules in Series	4

MECHANICAL SPECIFICATIONS

Dimensions (L x W x H)	12 x 6.6 x 8.6" 305 x 168 x 219 mm
Weight	25 lbs (11.3 kg)
Terminal Type	M8
Terminal Torque	80 - 100 in-lbs (9 - 11 N-m)
Case Material	ABS
Enclosure Protection	IP56
Cell Type - Chemistry	Cylindrical - $LiFePO_4$

DISCHARGE SPECIFICATIONS

Maximum Continuous Discharge Current	80 A
Peak Discharge Current	160 A (7.5 s ±2.5 s)
BMS Discharge Current Cut-Off	280 A ±50 A (9 ±4 ms)
Recommended Low Voltage Disconnect	11 V
BMS Discharge Voltage Cut-Off	8 V (2.0 ±0.08 vpc) (140 ±60 ms)
Reconnect Voltage	9.2 V (2.3 ±0.1 vpc)
Short Circuit Protection	200-600 µs

CHARGE SPECIFICATIONS

Recommended Charge Current	4 A - 40 A
Maximum Charge Current	80 A
Charge Current (0 to -10 °C)	≤0.1 C
Charge Current (-20 to -10 °C)	≤0.05 C
Recommended Charge Voltage	14.2 V - 14.6 V
BMS Charge Voltage Cut-Off	15.6 V (3.9 ±0.025 vpc) (1.1 ±0.4 s)
Reconnect Voltage	15.2 V (3.8 ±0.05 vpc)
Balancing Voltage	14.4 V (3.6 ±0.025 vpc)

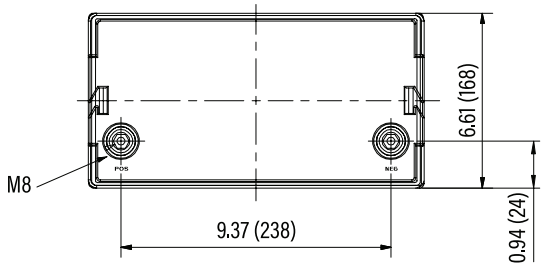
TEMPERATURE SPECIFICATIONS

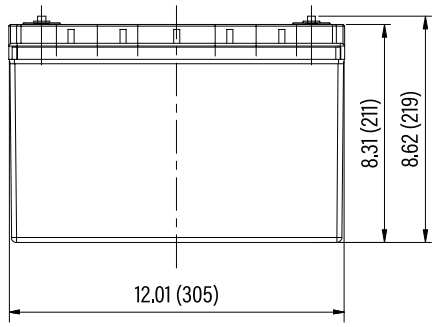
Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
Charge Temperature	-4 to 113 °F (-20 to 45 °C)
Storage Temperature	23 to 95 °F (-5 to 35 °C)
BMS High Temperature Cut-Off	176 °F (80 °C)
Reconnect Temperature	122 °F (50 °C)

COMPLIANCE SPECIFICATIONS

Certifications	CE (battery) UN38.3 (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS





relionbattery.com
+1.803.547.7288
844.385.9840
1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELion®

RB80-D

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS

Nominal Voltage	12.8 V
Nominal Capacity	80 Ah
Capacity @ 25A	192 min
Energy	1024 Wh
Resistance	≤30 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Modules in Series	4

DISCHARGE SPECIFICATIONS

Maximum Continuous Discharge Current	80 A
Peak Discharge Current	160 A (7.5 s ±2.5 s)
BMS Discharge Current Cut-Off	280 A ±50 A (9 ±4 ms)
Recommended Low Voltage Disconnect	11 V
BMS Discharge Voltage Cut-Off	8 V (2.0 ±0.08 vpc) (140 ±60 ms)
Reconnect Voltage	9.2 V (2.3 ±0.1 vpc)
Short Circuit Protection	200-600 µs

TEMPERATURE SPECIFICATIONS

Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
Charge Temperature	-4 to 113 °F (-20 to 45 °C)
Storage Temperature	23 to 95 °F (-5 to 35 °C)
BMS High Temperature Cut-Off	176 °F (80 °C)
Reconnect Temperature	122 °F (50 °C)

MECHANICAL SPECIFICATIONS

Dimensions (L x W x H)	13.2 x 6.9 x 7.5" 335 x 174 x 191 mm
Weight	25 lbs (11.3 kg)
Terminal Type	M8
Terminal Torque	80 - 100 in-lbs (9 - 11 N-m)
Case Material	ABS
Enclosure Protection	IP56
Cell Type - Chemistry	Cylindrical - $LiFePO_4$

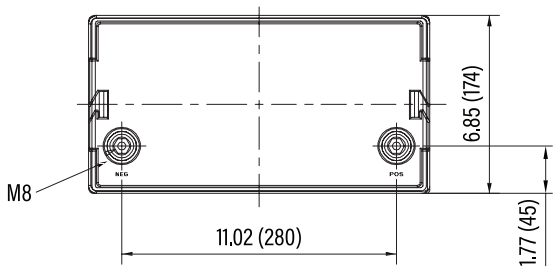
CHARGE SPECIFICATIONS

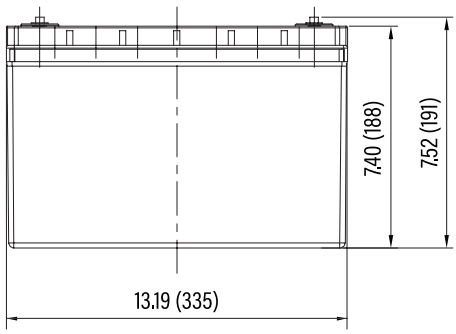
Recommended Charge Current	4 A - 40 A
Maximum Charge Current	80 A
Charge Current (0 to -10 °C)	≤0.1 C
Charge Current (-20 to -10 °C)	≤0.05 C
Recommended Charge Voltage	14.2 V - 14.6 V
BMS Charge Voltage Cut-Off	15.6 V (3.9 ±0.025 vpc) (1.1 ±0.4 s)
Reconnect Voltage	15.2 V (3.8 ±0.05 vpc)
Balancing Voltage	14.4 V (3.6 ±0.025 vpc)

COMPLIANCE SPECIFICATIONS

Certifications	CE (battery) UN38.3 (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS





relionbattery.com
+1.803.547.7288
844.385.9840
1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELi3ON®

RB100

Group: 31

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS

Nominal Voltage	12.8 V
Nominal Capacity	100 Ah
Capacity @ 25A	240 min
Energy	1280 Wh
Resistance	≤30 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Modules in Series	6

MECHANICAL SPECIFICATIONS

Dimensions (L x W x H)	12.95 x 6.77 x 8.8" 329 x 172 x 223 mm
Weight	30 lbs (13.5 kg)
Terminal Type	M8
Terminal Torque	80 - 100 in-lbs (9 - 11 N-m)
Case Material	ABS
Enclosure Protection	IP56
Cell Type - Chemistry	Cylindrical - $LiFePO_4$

DISCHARGE SPECIFICATIONS

Maximum Continuous Discharge Current	100 A
Peak Discharge Current	200 A (7.5 s ±2.5 s)
BMS Discharge Current Cut-Off	280 A ±50 A (9 ±4 ms)
Recommended Low Voltage Disconnect	11 V
BMS Discharge Voltage Cut-Off	8 V (2.0 ±0.08 vpc) (140 ±60 ms)
Reconnect Voltage	9.2 V (2.3 ±0.1 vpc)
Short Circuit Protection	200-600 µs

CHARGE SPECIFICATIONS

Recommended Charge Current	5 A - 50 A
Maximum Charge Current	100 A
Charge Current (0 to -10 °C)	≤0.1 C
Charge Current (-20 to -10 °C)	≤0.05 C
Recommended Charge Voltage	14.2 V - 14.6 V
BMS Charge Voltage Cut-Off	15.6 V (3.9 ±0.025 vpc) (1.1 ±0.4 s)
Reconnect Voltage	15.2 V (3.8 ±0.05 vpc)
Balancing Voltage	14.4 V (3.6 ±0.025 vpc)

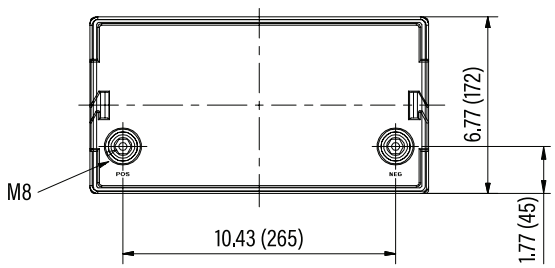
TEMPERATURE SPECIFICATIONS

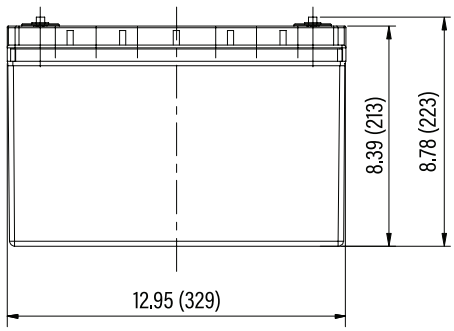
Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
Charge Temperature	-4 to 113 °F (-20 to 45 °C)
Storage Temperature	23 to 95 °F (-5 to 35 °C)
BMS High Temperature Cut-Off	176 °F (80 °C)
Reconnect Temperature	122 °F (50 °C)

COMPLIANCE SPECIFICATIONS

Certifications	CE (battery) UN38.3 (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS





relionbattery.com
+1.803.547.7288
844.385.9840
1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELi3ON®

RB100-D

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS

Nominal Voltage	12.8 V
Nominal Capacity	100 Ah
Capacity @ 25A	240 min
Energy	1280 Wh
Resistance	≤30 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Modules in Series	4

MECHANICAL SPECIFICATIONS

Dimensions (L x W x H)	13.2 x 6.9 x 7.5" 335 x 174 x 191 mm
Weight	30 lbs (13.7 kg)
Terminal Type	M8
Terminal Torque	80 - 100 in-lbs (9 - 11 N-m)
Case Material	ABS
Enclosure Protection	IP56
Cell Type - Chemistry	Cylindrical - $LiFePO_4$

DISCHARGE SPECIFICATIONS

Maximum Continuous Discharge Current	100 A
Peak Discharge Current	200 A (7.5 s ±2.5 s)
BMS Discharge Current Cut-Off	280 A ±50 A (9 ±4 ms)
Recommended Low Voltage Disconnect	11 V
BMS Discharge Voltage Cut-Off	8 V (2.0 ±0.08 vpc) (140 ±60 ms)
Reconnect Voltage	9.2 V (2.3 ±0.1 vpc)
Short Circuit Protection	200-600 µs

CHARGE SPECIFICATIONS

Recommended Charge Current	5 A - 50 A
Maximum Charge Current	100 A
Charge Current (0 to -10 °C)	≤0.1 C
Charge Current (-20 to -10 °C)	≤0.05 C
Recommended Charge Voltage	14.2 V - 14.6 V
BMS Charge Voltage Cut-Off	15.6 V (3.9 ±0.025 vpc) (1.1 ±0.4 s)
Reconnect Voltage	15.2 V (3.8 ±0.05 vpc)
Balancing Voltage	14.4 V (3.6 ±0.025 vpc)

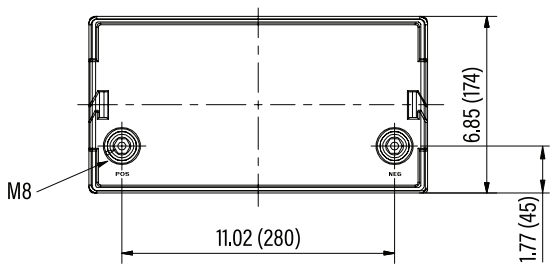
TEMPERATURE SPECIFICATIONS

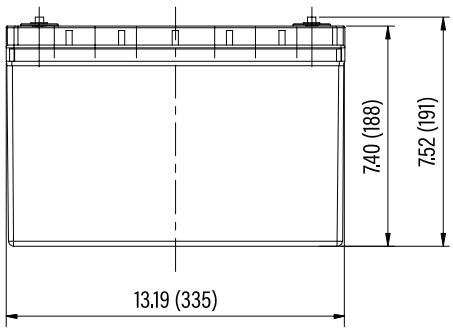
Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
Charge Temperature	-4 to 113 °F (-20 to 45 °C)
Storage Temperature	23 to 95 °F (-5 to 35 °C)
BMS High Temperature Cut-Off	176 °F (80 °C)
Reconnect Temperature	122 °F (50 °C)

COMPLIANCE SPECIFICATIONS

Certifications	CE (battery) UN38.3 (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS





relionbattery.com
+1.803.547.7288
844.385.9840
1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELION®

RB170

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS

Nominal Voltage	12.8 V
Nominal Capacity	170 Ah
Capacity @ 25A	408 min
Energy	2176 Wh
Resistance	≤55 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Modules in Series	1 (Single Use)

MECHANICAL SPECIFICATIONS

Dimensions (L x W x H)	19.5 x 10.6 x 7.9" 495 x 268 x 201.5 mm
Weight	66.1 lbs (30 kg)
Terminal Type	M8 X 1.25
Terminal Torque	80 - 100 in-lbs (9 - 11 N-m)
Case Material	Steel Case
Enclosure Protection	IP56
Cell Type - Chemistry	Cylindrical - $LiFePO_4$

DISCHARGE SPECIFICATIONS

Maximum Continuous Discharge Current	200 A
Peak Discharge Current	250 A (≤5 s)
BMS Discharge Current Cut-Off	480 A (±50 A) (6 ±3 ms)
Recommended Low Voltage Disconnect	11 V
BMS Discharge Voltage Cut-Off	8 V (2.0 ±0.1 vpc) (100 ±50 ms)
Reconnect Voltage	10 V (2.5 ±0.1 vpc)
Short Circuit Protection	400-800 µs

CHARGE SPECIFICATIONS

Recommended Charge Current	8.5 A - 50 A
Maximum Charge Current	100 A
Charge Current (0 to -10 °C)	≤0.1 C
Charge Current (-20 to -10 °C)	≤0.05 C
Recommended Charge Voltage	14.2 V - 14.6 V
BMS Charge Voltage Cut-Off	15.2 V (3.8 ±0.05 vpc) (1 ±0.5 s)
Reconnect Voltage	14.4 V (3.6 ±0.05 vpc)
Balancing Voltage	14.4 V (3.6 ±0.025 vpc)

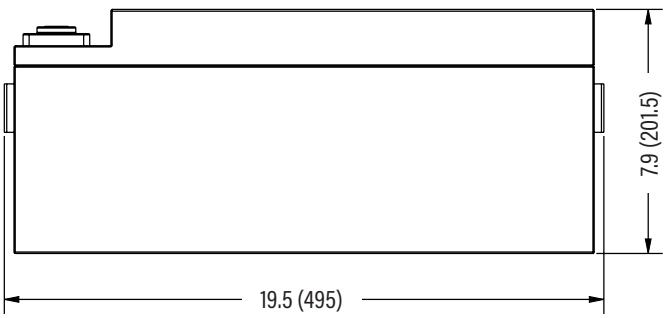
TEMPERATURE SPECIFICATIONS

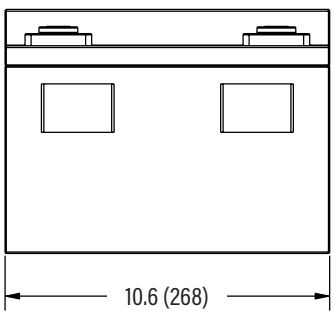
Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
Charge Temperature	-4 to 113 °F (-20 to 45 °C)
Storage Temperature	23 to 95 °F (-5 to 35 °C)
BMS High Temperature Cut-Off	149 °F (65 °C)
Reconnect Temperature	122 °F (50 °C)

COMPLIANCE SPECIFICATIONS

Certifications	CE (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS





relionbattery.com

+1.803.547.7288
844.385.9840

1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELi3ON®

RB200

Group: 8D

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS

Nominal Voltage	12.8 V
Nominal Capacity	200 Ah
Capacity @ 25A	480 min
Energy	2560 Wh
Resistance	30 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Modules in Series	6

MECHANICAL SPECIFICATIONS

Dimensions (L x W x H)	20.5 x 10.5 x 9.0" 520 x 267 x 228 mm
Weight	61 lbs (27.7 kg)
Terminal Type	M8
Terminal Torque	80 - 100 in-lbs (9 - 11 N-m)
Case Material	ABS
Enclosure Protection	IP56
Cell Type - Chemistry	Cylindrical - $LiFePO_4$

DISCHARGE SPECIFICATIONS

Maximum Continuous Discharge Current	100 A
Peak Discharge Current	200 A (7.5 s ±2.5 s)
BMS Discharge Current Cut-Off	280 A ±50 A (9 ±4 ms)
Recommended Low Voltage Disconnect	11 V
BMS Discharge Voltage Cut-Off	8 V (2.0 ±0.08 vpc) (140 ±60 ms)
Reconnect Voltage	9.2 V (2.3 ±0.1 vpc)
Short Circuit Protection	200-600 µs

CHARGE SPECIFICATIONS

Recommended Charge Current	10 A - 50 A
Maximum Charge Current	100 A
Charge Current (0 to -10 °C)	≤0.1 C
Charge Current (-20 to -10 °C)	≤0.05 C
Recommended Charge Voltage	14.2 V - 14.6 V
BMS Charge Voltage Cut-Off	15.6 V (3.9 ±0.025 vpc) (1.1 ±0.4 s)
Reconnect Voltage	15.2 V (3.8 ±0.05 vpc)
Balancing Voltage	14.4 V (3.6 ±0.025 vpc)

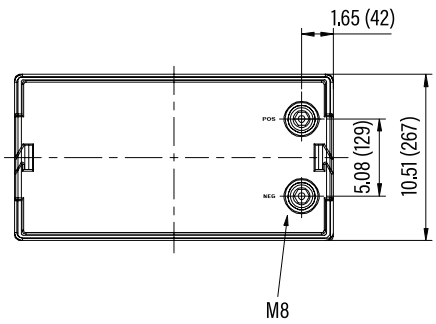
TEMPERATURE SPECIFICATIONS

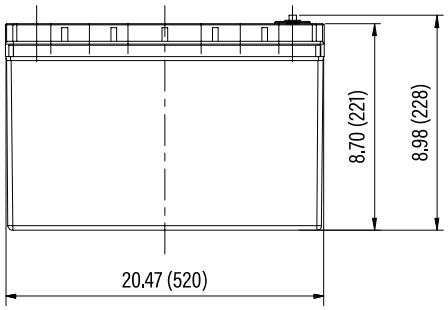
Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
Charge Temperature	-4 to 113 °F (-20 to 45 °C)
Storage Temperature	-4 to 140 °F (-20 to 60 °C)
BMS High Temperature Cut-Off	176 °F (80 °C)
Reconnect Temperature	122 °F (50 °C)

COMPLIANCE SPECIFICATIONS

Certifications	CE (battery) UN38.3 (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS





relionbattery.com

+1.803.547.7288
844.385.9840

1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELi3ON®

RB300

Group: 8D

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS

Nominal Voltage	12.8 V
Nominal Capacity	300 Ah
Capacity @ 25A	720 min
Energy	3840 Wh
Resistance	≤30 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Modules in Series	6

MECHANICAL SPECIFICATIONS

Dimensions (L x W x H)	20.5 x 10.5 x 9.0" 520 x 267 x 228 mm
Weight	83 lbs (37.5 kg)
Terminal Type	M8
Terminal Torque	80 - 100 in-lbs (9 - 11 N-m)
Case Material	ABS
Enclosure Protection	IP56
Cell Type - Chemistry	Cylindrical - $LiFePO_4$

DISCHARGE SPECIFICATIONS

Maximum Continuous Discharge Current	100 A
Peak Discharge Current	200 A (7.5 s ±2.5 s)
BMS Discharge Current Cut-Off	280 A ±50 A (9 ±4 ms)
Recommended Low Voltage Disconnect	11 V
BMS Discharge Voltage Cut-Off	8 V (2.0 ±0.08 vpc) (140 ±60 ms)
Reconnect Voltage	9.2 V (2.3 ±0.1 vpc)
Short Circuit Protection	200-600 µs

CHARGE SPECIFICATIONS

Recommended Charge Current	15 A - 50 A
Maximum Charge Current	100 A
Charge Current (0 to -10 °C)	≤0.1 C
Charge Current (-20 to -10 °C)	≤0.05 C
Recommended Charge Voltage	14.2 V - 14.6 V
BMS Charge Voltage Cut-Off	15.6 V (3.9 ±0.025 vpc) (1.1 ±0.4 s)
Reconnect Voltage	15.2 V (3.8 ±0.05 vpc)
Balancing Voltage	14.4 V (3.6 ±0.025 vpc)

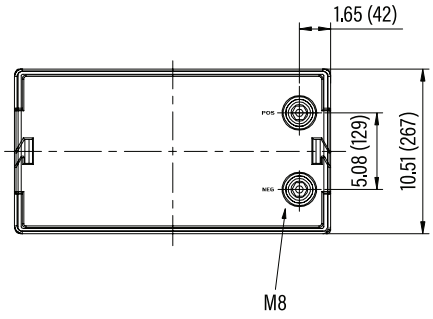
TEMPERATURE SPECIFICATIONS

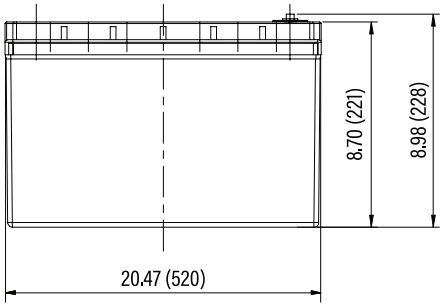
Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
Charge Temperature	-4 to 113 °F (-20 to 45 °C)
Storage Temperature	23 to 95 °F (-5 to 35 °C)
BMS High Temperature Cut-Off	176 °F (80 °C)
Reconnect Temperature	122 °F (50 °C)

COMPLIANCE SPECIFICATIONS

Certifications	CE (battery) UN38.3 (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS





relionbattery.com

+1.803.547.7288
844.385.9840

1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELi3ON®

RB20-X

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS

Nominal Voltage	12.8 V
Nominal Capacity	20 Ah
Capacity @ 25A	48 min
Energy	256 Wh
Resistance	≤60 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Modules in Series	3

MECHANICAL SPECIFICATIONS

Dimensions (L x W x H)	7.1 x 3.0 x 6.6" 181 x 76 x 166.5 mm
Weight	6.1 lbs (2.75 kg)
Terminal Type	Flag Terminal
Terminal Torque	35 - 44 in-lbs (4 - 5 N-m)
Case Material	ABS
Enclosure Protection	IP56
Cell Type - Chemistry	Cylindrical - $LiFePO_4$

DISCHARGE SPECIFICATIONS

Maximum Continuous Discharge Current	50 A
Peak Discharge Current	90 A (4 s ±1 s)
BMS Discharge Current Cut-Off	140 A ±20 A (12 ±5 ms)
Recommended Low Voltage Disconnect	11 V
BMS Discharge Voltage Cut-Off	8 V (2.0 ±0.08 vpc) (20 ±5 ms)
Reconnect Voltage	9 V ±1.32 V (2.25 ±0.33 vpc)
Short Circuit Protection	200-600 µs

CHARGE SPECIFICATIONS

Recommended Charge Current	1 A - 10 A
Maximum Charge Current	50 A
Charge Current (0 to -10 °C)	≤0.1 C
Charge Current (-20 to -10 °C)	≤0.05 C
Recommended Charge Voltage	14.2 V - 14.6 V
BMS Charge Voltage Cut-Off	15.6 V (3.9 ±0.025 vpc) (1.0 ±0.5 s)
Reconnect Voltage	15.2 V (3.8 ±0.050 vpc)
Balancing Voltage	14.4 V (3.6 ±0.025 vpc)

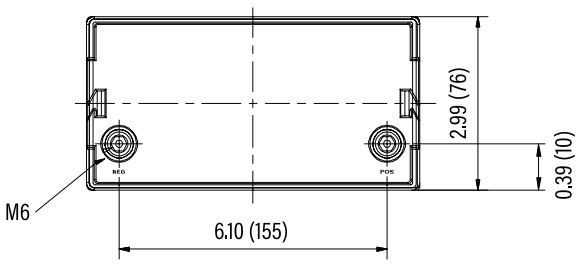
TEMPERATURE SPECIFICATIONS

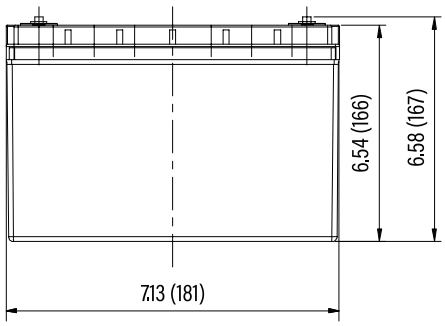
Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
Charge Temperature	-4 to 113 °F (-20 to 45 °C)
Storage Temperature	23 to 95 °F (-5 to 35 °C)
BMS High Temperature Cut-Off	167 °F (75 °C)
Reconnect Temperature	122 °F (50 °C)

COMPLIANCE SPECIFICATIONS

Certifications	CE (battery) UN38.3 (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS





relionbattery.com
+1.803.547.7288
844.385.9840
1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELi3ON®

RB35-X

Group: U1

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS

Nominal Voltage	12.8 V
Nominal Capacity	35 Ah
Capacity @ 25A	84 min
Energy	448 Wh
Resistance	≤50 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Modules in Series	1

MECHANICAL SPECIFICATIONS

Dimensions (L x W x H)	7.7 x 5.2 x 6.7" 195 x 131 x 171 mm
Weight	11.4 lbs (5.17 kg)
Terminal Type	M8
Terminal Torque	80 - 100 in-lbs (9 - 11 N-m)
Case Material	ABS
Enclosure Protection	IP56
Cell Type - Chemistry	Cylindrical - $LiFePO_4$

DISCHARGE SPECIFICATIONS

Maximum Continuous Discharge Current	70 A
Peak Discharge Current	100 A (7.5 s ±2.5 s)
BMS Discharge Current Cut-Off	160 A ±20 A (9 ±4 ms)
Recommended Low Voltage Disconnect	11 V
BMS Discharge Voltage Cut-Off	8 V (2.0 ±0.08 vpc) (144 ±30 ms)
Reconnect Voltage	8.64 V ±0.96 V (2.16 ±0.24 vpc)
Short Circuit Protection	200-800 µs

CHARGE SPECIFICATIONS

Recommended Charge Current	1.75 A - 17.5 A
Maximum Charge Current	70 A
Charge Current (0 to -10 °C)	≤0.1 C
Charge Current (-20 to -10 °C)	≤0.05 C
Recommended Charge Voltage	14.2 V - 14.6 V
BMS Charge Voltage Cut-Off	15.6 V (3.9 ±0.025 vpc) (1.2 ±0.3 s)
Reconnect Voltage	15.2 V (3.8 ±0.050 vpc)
Balancing Voltage	14.4 V (3.6 ±0.025 vpc)

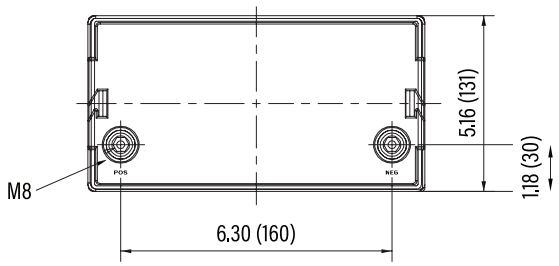
TEMPERATURE SPECIFICATIONS

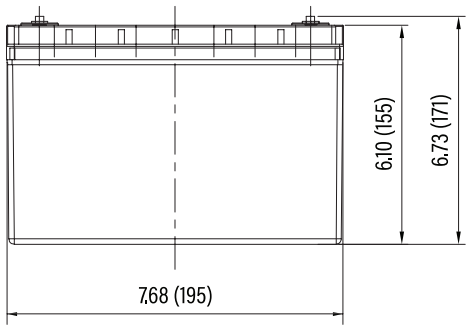
Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
Charge Temperature	-4 to 113 °F (-20 to 45 °C)
Storage Temperature	14 to 95 °F (-10 to 35 °C)
BMS High Temperature Cut-Off	167 °F (75 °C)
Reconnect Temperature	122 °F (50 °C)

COMPLIANCE SPECIFICATIONS

Certifications	CE (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS





relionbattery.com
+1.803.547.7288
844.385.9840
1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELiON®

RB60-X

Group: 24

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS

Nominal Voltage	12.8 V
Nominal Capacity	60 Ah
Capacity @ 25A	144 min
Energy	768 Wh
Resistance	≤20 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Modules in Series	4

MECHANICAL SPECIFICATIONS

Dimensions (L x W x H)	10.2 x 6.6 x 8.6" 260 x 168 x 218 mm
Weight	20 lbs (8.9 kg)
Terminal Type	M8
Terminal Torque	80 - 100 in-lbs (9 - 11 N-m)
Case Material	ABS
Enclosure Protection	IP56
Cell Type - Chemistry	Cylindrical - $LiFePO_4$

DISCHARGE SPECIFICATIONS

Maximum Continuous Discharge Current	100 A
Peak Discharge Current	200 A (7.5 s ±2.5 s)
BMS Discharge Current Cut-Off	550 A ±50 A (9 ±5 ms)
Recommended Low Voltage Disconnect	11 V
BMS Discharge Voltage Cut-Off	8 V (2.0 ±0.08 vpc) (144 ±30 ms)
Reconnect Voltage	8.64 V (2.16 ±0.24 vpc)
Short Circuit Protection	200-600 µs

CHARGE SPECIFICATIONS

Recommended Charge Current	3 A - 30 A
Maximum Charge Current	60 A
Charge Current (0 to -10 °C)	≤0.1 C
Charge Current (-20 to -10 °C)	≤0.05 C
Recommended Charge Voltage	14.2 V - 14.6 V
BMS Charge Voltage Cut-Off	15.6 V (3.9 ±0.025 vpc) (1.2 ±0.3 s)
Reconnect Voltage	15.2 V (3.8 ±0.05 vpc)
Balancing Voltage	14.4 V (3.6 ±0.025 vpc)

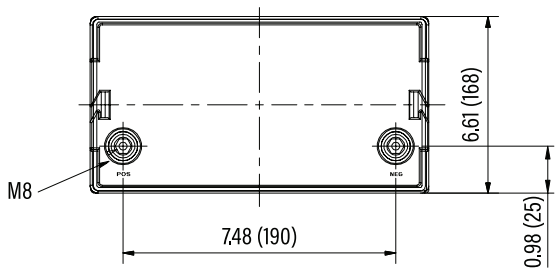
TEMPERATURE SPECIFICATIONS

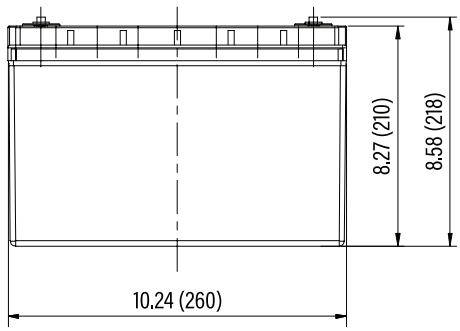
Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
Charge Temperature	-4 to 113 °F (-20 to 45 °C)
Storage Temperature	23 to 95 °F (-5 to 35 °C)
BMS High Temperature Cut-Off	167 °F (75 °C)
Reconnect Temperature	122 °F (50 °C)

COMPLIANCE SPECIFICATIONS

Certifications	CE (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS





relionbattery.com

+1.803.547.7288
844.385.9840

1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELi3ON®

RB50-HP

Group: 24

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS

Nominal Voltage	12.8 V
Nominal Capacity	50 Ah
Capacity @ 25A	120 min
Energy	640 Wh
Resistance	≤20 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Modules in Series	1 (Single Use)

MECHANICAL SPECIFICATIONS

Dimensions (L x W x H)	10.2 x 6.6 x 8.6" 260 x 168 x 218 mm
Weight	18.7 lbs (8.5 kg)
Terminal Type	M8
Terminal Torque	80 - 100 in-lbs (9 - 11 N-m)
Case Material	ABS
Enclosure Protection	IP56
Cell Type - Chemistry	Cylindrical - $LiFePO_4$

DISCHARGE SPECIFICATIONS

Maximum Continuous Discharge Current	50 A
Peak Discharge Current	400 A (≤3 s)
BMS Discharge Current Cut-Off	550 A ±60 A (42 ±22 ms)
Recommended Low Voltage Disconnect	11 V
BMS Discharge Voltage Cut-Off	8 V (2.0 ±0.08 vpc) (100 ±50 ms)
Reconnect Voltage	10 V (2.5 ±0.1 vpc)
Short Circuit Protection	200-800 µs

CHARGE SPECIFICATIONS

Recommended Charge Current	2.5 A - 25 A
Maximum Charge Current	50 A
Charge Current (0 to -10 °C)	≤0.1 C
Charge Current (-20 to -10 °C)	≤0.05 C
Recommended Charge Voltage	14.2 V - 14.6 V
BMS Charge Voltage Cut-Off	15.2 V (3.8 ±0.05 vpc) (1.0 ±0.5 s)
Reconnect Voltage	14.4 V (3.6 ±0.05 vpc)
Balancing Voltage	14.4 V (3.6 ±0.025 vpc)

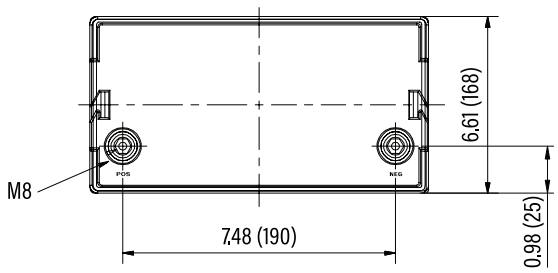
TEMPERATURE SPECIFICATIONS

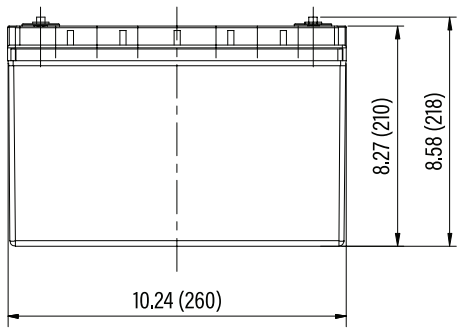
Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
Charge Temperature	-4 to 113 °F (-20 to 45 °C)
Storage Temperature	23 to 95 °F (-5 to 35 °C)
BMS High Temperature Cut-Off	185 °F ±5 °F (85 °C ±5 °C)
Reconnect Temperature	140 °F ±59 °F (60 °C ±15 °C)

COMPLIANCE SPECIFICATIONS

Certifications	CE (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS





relionbattery.com

+1.803.547.7288
844.385.9840

1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELi3ON®

RB100-HP

Group: 31

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS

Nominal Voltage	12.8 V
Nominal Capacity	100 Ah
Capacity @ 25A	240 min
Energy	1280 Wh
Resistance	≤30 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Modules in Series	1 (Single Use)

MECHANICAL SPECIFICATIONS

Dimensions (L x W x H)	13.0 x 6.8 x 8.8" 329 x 172 x 223 mm
Weight	30 lbs (13.5 kg)
Terminal Type	M8
Terminal Torque	80 - 100 in-lbs (9 - 11 N-m)
Case Material	ABS
Enclosure Protection	IP56
Cell Type - Chemistry	Cylindrical - $LiFePO_4$

DISCHARGE SPECIFICATIONS

Maximum Continuous Discharge Current	100 A
Peak Discharge Current	800 A (2 s)
BMS Discharge Current Cut-Off	1000 A ±100 A (2.2 ±1 ms)
Recommended Low Voltage Disconnect	11 V
BMS Discharge Voltage Cut-Off	9.2 V (2.3 ±0.08 vpc) (4.2 ±0.5 s)
Reconnect Voltage	10 V (2.5 ±0.1 vpc)
Short Circuit Protection	200-600 µs

CHARGE SPECIFICATIONS

Recommended Charge Current	5 A - 50 A
Maximum Charge Current	100 A
Charge Current (0 to -10 °C)	≤0.1 C
Charge Current (-20 to -10 °C)	≤0.05 C
Recommended Charge Voltage	14.2 V - 14.6 V
BMS Charge Voltage Cut-Off	15.4 V (3.85 ±0.025 vpc) (1 ±0.2 s)
Reconnect Voltage	14.6 V (3.65 ±0.05 vpc)
Balancing Voltage	14.4 V (3.6 ±0.025 vpc)

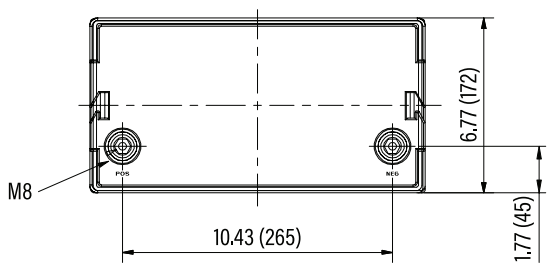
TEMPERATURE SPECIFICATIONS

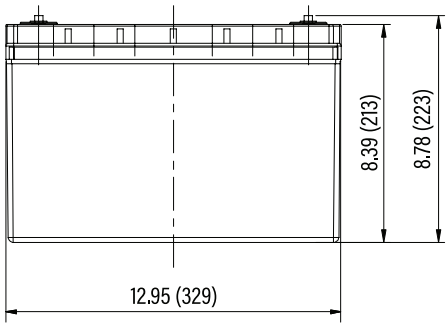
Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
Charge Temperature	-4 to 113 °F (-20 to 45 °C)
Storage Temperature	23 to 95 °F (-5 to 35 °C)
BMS High Temperature Cut-Off	176 °F (80 °C)
Reconnect Temperature	122 °F (50 °C)

COMPLIANCE SPECIFICATIONS

Certifications	CE (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS





relionbattery.com

+1.803.547.7288
844.385.9840

1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELi3ON®

RB100-DHP

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS

Nominal Voltage	12.8 V
Nominal Capacity	100 Ah
Capacity @ 25A	240 min
Energy	1280 Wh
Resistance	≤30 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Modules in Series	1 (Single Use)

DISCHARGE SPECIFICATIONS

Maximum Continuous Discharge Current	100 A
Peak Discharge Current	800 A (2 s)
BMS Discharge Current Cut-Off	1000 A ±100 A (2.2 ±1 ms)
Recommended Low Voltage Disconnect	11 V
BMS Discharge Voltage Cut-Off	9.2 V (2.3 ±0.08 vpc) (4.2 ±0.5 s)
Reconnect Voltage	10 V (2.5 ±0.1 vpc)
Short Circuit Protection	200-600 µs

TEMPERATURE SPECIFICATIONS

Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
Charge Temperature	-4 to 113 °F (-20 to 45 °C)
Storage Temperature	23 to 95 °F (-5 to 35 °C)
BMS High Temperature Cut-Off	176 °F (80 °C)
Reconnect Temperature	122 °F (50 °C)

MECHANICAL SPECIFICATIONS

Dimensions (L x W x H)	13.2 x 6.9 x 7.5" 335 x 174 x 191 mm
Weight	30 lbs (13.7 kg)
Terminal Type	M8
Terminal Torque	80 - 100 in-lbs (9 - 11 N-m)
Case Material	ABS
Enclosure Protection	IP56
Cell Type - Chemistry	Cylindrical - $LiFePO_4$

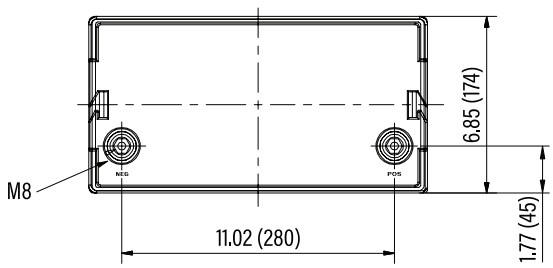
CHARGE SPECIFICATIONS

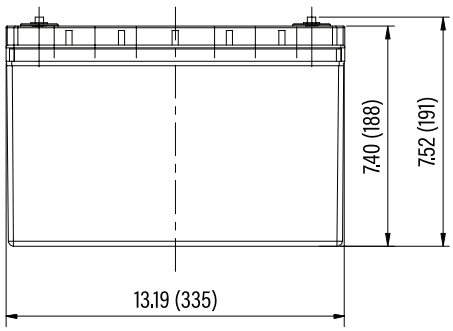
Recommended Charge Current	5 A - 50 A
Maximum Charge Current	100 A
Charge Current (0 to -10 °C)	≤0.1 C
Charge Current (-20 to -10 °C)	≤0.05 C
Recommended Charge Voltage	14.2 V - 14.6 V
BMS Charge Voltage Cut-Off	15.4 V (3.85 ±0.025 vpc) (1 ±0.2 s)
Reconnect Voltage	14.6 V (3.65 ±0.05 vpc)
Balancing Voltage	14.4 V (3.6 ±0.025 vpc)

COMPLIANCE SPECIFICATIONS

Certifications	CE (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS





relionbattery.com
+1.803.547.7288
844.385.9840
1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELiON®

RB300-HP

Group: 8D

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS

Nominal Voltage	12.8 V
Nominal Capacity	300 Ah
Capacity @ 25A	720 min
Energy	3840 Wh
Resistance	≤30 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Modules in Series	1 (Single Use)

MECHANICAL SPECIFICATIONS

Dimensions (L x W x H)	20.5 x 10.5 x 9.0" 520 x 267 x 228 mm
Weight	83 lbs (37.5 kg)
Terminal Type	M8
Terminal Torque	80 - 100 in-lbs (9 - 11 N-m)
Case Material	ABS
Enclosure Protection	IP56
Cell Type - Chemistry	Cylindrical - $LiFePO_4$

DISCHARGE SPECIFICATIONS

Maximum Continuous Discharge Current	100 A
Peak Discharge Current	800 A (2 s)
BMS Discharge Current Cut-Off	1000 A ±100 A (2.2 ±1 ms)
Recommended Low Voltage Disconnect	11 V
BMS Discharge Voltage Cut-Off	9.2 V (2.3 ±0.08 vpc) (4.2 ±0.5 s)
Reconnect Voltage	10 V (2.5 ±0.1 vpc)
Short Circuit Protection	200-600 µs

CHARGE SPECIFICATIONS

Recommended Charge Current	15 A - 50 A
Maximum Charge Current	100 A
Charge Current (0 to -10 °C)	≤0.1 C
Charge Current (-20 to -10 °C)	≤0.05 C
Recommended Charge Voltage	14.2 V - 14.6 V
BMS Charge Voltage Cut-Off	15.4 V (3.85 ±0.025 vpc) (1 ±0.2 s)
Reconnect Voltage	14.6 V (3.65 ±0.05 vpc)
Balancing Voltage	14.4 V (3.6 ±0.025 vpc)

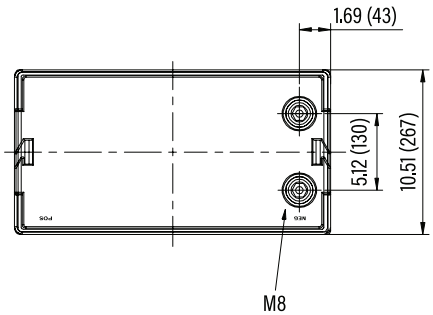
TEMPERATURE SPECIFICATIONS

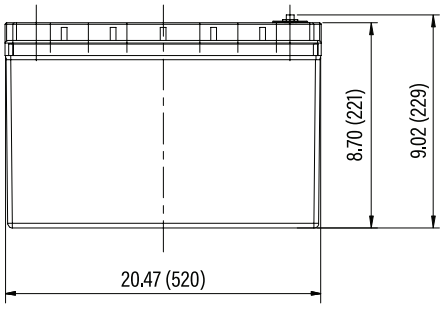
Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
Charge Temperature	-4 to 113 °F (-20 to 45 °C)
Storage Temperature	23 to 95 °F (-5 to 35 °C)
BMS High Temperature Cut-Off	176 °F (80 °C)
Reconnect Temperature	122 °F (50 °C)

COMPLIANCE SPECIFICATIONS

Certifications	CE (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS





relionbattery.com

+1.803.547.7288
844.385.9840

1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELi3ON®

RB20-LT

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS

Nominal Voltage	12.8 V
Nominal Capacity	20 Ah
Capacity @ 25A	48 min
Energy	256 Wh
Resistance	≤45 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Modules in Series	1 (Single Use)

MECHANICAL SPECIFICATIONS

Dimensions (L x W x H)	7.1 x 3.0 x 6.7" 181 x 76 x 169 mm
Weight	6.6 lbs (3 kg)
Terminal Type	M6
Terminal Torque	35 - 44 in-lbs (4 - 5 N-m)
Case Material	ABS
Enclosure Protection	IP56
Cell Type - Chemistry	Cylindrical - $LiFePO_4$

DISCHARGE SPECIFICATIONS

Maximum Continuous Discharge Current	20 A
Peak Discharge Current	40 A (7.5 s ±2.5 s)
BMS Discharge Current Cut-Off	50 A ±8 A (32 ±8 ms)
Recommended Low Voltage Disconnect	11 V
BMS Discharge Voltage Cut-Off	8 V (2.0 ±0.08 vpc) (20 ±8 ms)
Reconnect Voltage	9.04 V (2.26 ±0.34 vpc)
Short Circuit Protection	100-600 µs

CHARGE SPECIFICATIONS

Recommended Charge Current	1 A - 10 A
Maximum Charge Current	20 A
Recommended Charge Voltage	14.2 V - 14.6 V
BMS Charge Voltage Cut-Off	15.6 V (3.9 ±0.025 vpc) (1 ±0.3 s)
Reconnect Voltage	14.6 V (3.8 ±0.050 vpc)
Balancing Voltage	14.4 V (3.6 ±0.025 vpc)

TEMPERATURE SPECIFICATIONS

Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
Charge Temperature	32 to 113 °F (0 to 45 °C)
Storage Temperature	23 to 95 °F (-5 to 35 °C)
BMS High Temperature Cut-Off - Discharge	185 °F (85 °C)
BMS High Temperature Cut-Off - Charge	140 °F (60 °C)
Reconnect Temperature	122 °F (50 °C)

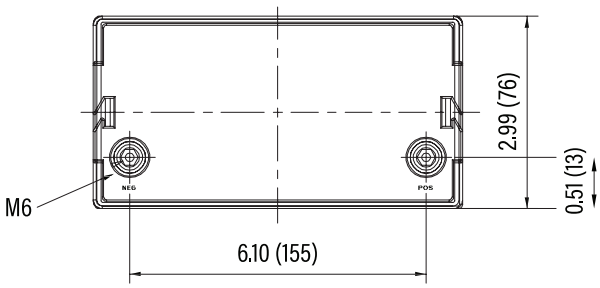
HEATING ELEMENT SPECIFICATIONS

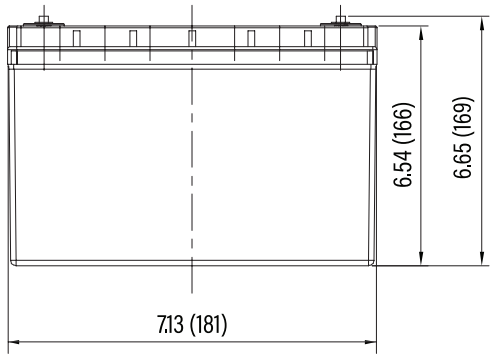
Heating Temperature Range	-4 to 50 °F (-20 to 10 °C)
Heating Time	Approximately 1 hr @ 3 A
BMS Heating Element Cut-Off	158 °F (70 °C)

COMPLIANCE SPECIFICATIONS

Certifications	CE (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS





relionbattery.com
+1.803.547.7288
844.385.9840
1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELi3ON®

RB35-LT

Group: U1

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS

Nominal Voltage	12.8 V
Nominal Capacity	35 Ah
Capacity @ 25A	84 min
Energy	448 Wh
Resistance	≤30 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Modules in Series	1 (Single Use)

MECHANICAL SPECIFICATIONS

Dimensions (L x W x H)	7.7 x 5.2 x 6.7" 195 x 131 x 171 mm
Weight	11 lbs (4.9 kg)
Terminal Type	M8
Terminal Torque	80 - 100 in-lbs (9 - 11 N-m)
Case Material	ABS
Enclosure Protection	IP56
Cell Type - Chemistry	Cylindrical - $LiFePO_4$

DISCHARGE SPECIFICATIONS

Maximum Continuous Discharge Current	35 A
Peak Discharge Current	70 A (7.5 s ±2.5 s)
BMS Discharge Current Cut-Off	80 A ±8 A (32 ±8 ms)
Recommended Low Voltage Disconnect	11 V
BMS Discharge Voltage Cut-Off	8 V (2.0 ±0.08 vpc) (20 ±8 ms)
Reconnect Voltage	9.04 V (2.26 ±0.34 vpc)
Short Circuit Protection	100-600 µs

CHARGE SPECIFICATIONS

Recommended Charge Current	1.75 A - 17.5 A
Maximum Charge Current	35 A
Recommended Charge Voltage	14.2 V - 14.6 V
BMS Charge Voltage Cut-Off	15.6 V (3.9 ±0.025 vpc) (1 ±0.3 s)
Reconnect Voltage	14.6 V (3.8 ±0.050 vpc)
Balancing Voltage	14.4 V (3.6 ±0.025 vpc)

TEMPERATURE SPECIFICATIONS

Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
Charge Temperature	32 to 113 °F (0 to 45 °C)
Storage Temperature	23 to 95 °F (-5 to 35 °C)
BMS High Temperature Cut-Off - Discharge	185 °F (85 °C)
BMS High Temperature Cut-Off - Charge	140 °F (60 °C)
Reconnect Temperature	122 °F (50 °C)

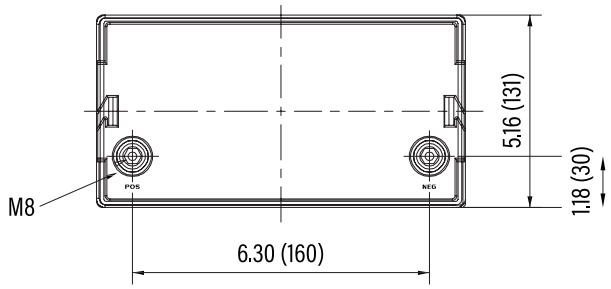
HEATING ELEMENT SPECIFICATIONS

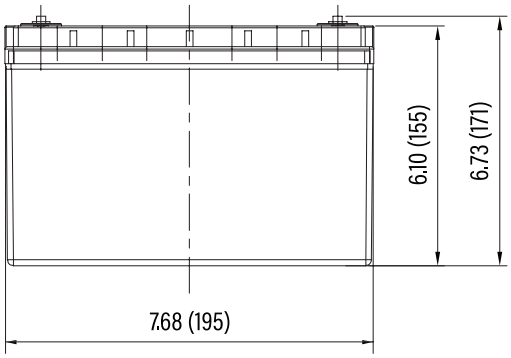
Heating Temperature Range	-4 to 50 °F (-20 to 10 °C)
Heating Time	Approximately 1 hr @ 5 A
BMS Heating Element Cut-Off	158 °F (70 °C)

COMPLIANCE SPECIFICATIONS

Certifications	CE (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS





relionbattery.com
+1.803.547.7288
844.385.9840
1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELi3ON®

RB100-LT

Group: 31

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS

Nominal Voltage	12.8 V
Nominal Capacity	100 Ah
Capacity @ 25A	240 min
Energy	1280 Wh
Resistance	≤30 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Modules in Series	1 (Single-Use)

MECHANICAL SPECIFICATIONS

Dimensions (L x W x H)	12.95 x 6.77 x 8.9" 329 x 172 x 223 mm
Weight	30 lbs (13.59 kg)
Terminal Type	M8 X 1.25
Terminal Torque	80 - 100 in-lbs (9 - 11 N-m)
Case Material	ABS
Enclosure Protection	IP56
Cell Type - Chemistry	Cylindrical - $LiFePO_4$

DISCHARGE SPECIFICATIONS

Maximum Continuous Discharge Current	100 A
Peak Discharge Current	200 A (7.5 s ±2.5 s)
BMS Discharge Current Cut-Off	280 A ±50 A (32 ±10 ms)
Recommended Low Voltage Disconnect	11 V
BMS Discharge Voltage Cut-Off	9.2 V (2.3 ±0.08 vpc) (4.7 ±1 s)
Reconnect Voltage	10 V (2.5 ±0.1 vpc)
Short Circuit Protection	200-600 µs

CHARGE SPECIFICATIONS

Recommended Charge Current	5 A - 50 A
Maximum Charge Current	100 A
Recommended Charge Voltage	14.2 V - 14.6 V
BMS Charge Voltage Cut-Off	15.4 V (3.85 ±0.025 vpc) (1000 ±200 ms)
Reconnect Voltage	14.6 V (3.65 ±0.05 vpc)
Balancing Voltage	14.4 V (3.6 ±0.025 vpc)

TEMPERATURE SPECIFICATIONS

Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
Charge Temperature	-4 to 113 °F (-20 to 45 °C)
Storage Temperature	23 to 95 °F (-5 to 35 °C)
BMS High Temperature Cut-Off - Discharge	185 °F (85 °C)
BMS High Temperature Cut-Off - Charge	140 °F (60 °C)
Reconnect Temperature	122 °F (50 °C)

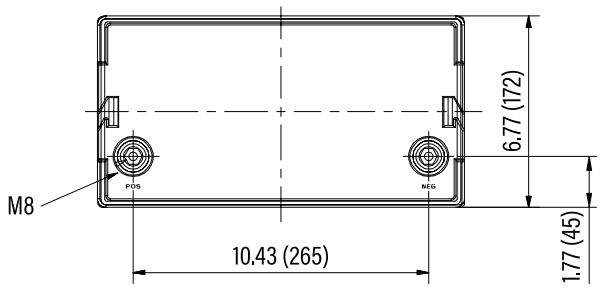
HEATING ELEMENT SPECIFICATIONS

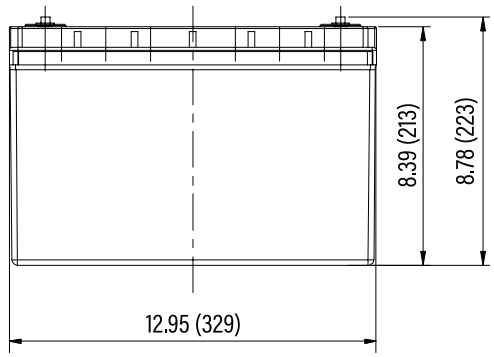
Heating Temperature Range	-4 to 41 °F (-20 to 5 °C)
Heating Time	Approximately 1 hr @ 10 A
BMS Heating Element Cut-Off	167 °F (75 °C)

COMPLIANCE SPECIFICATIONS

Certifications	CE (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS





relionbattery.com
+1.803.547.7288
844.385.9840
1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELION®

RBGT-16 Golf Trolley Battery

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS	
Nominal Voltage	12.8 V
Nominal Capacity	16 Ah
Energy	204.8 Wh
Resistance	40 mΩ
Efficiency	99%
Self Discharge	<3% per Month

DISCHARGE SPECIFICATIONS	
Standard Discharge Current	16 A
Maximum Continuous Discharge Current	25 A
PCM Discharge Current Cut-Off	150 A (±20 A)
Recommended Low Voltage Disconnect	11 V
PCM Discharge Voltage Cut-Off	8 V
Reconnect Voltage	>8 V
Short Circuit Protection	200-500 µs

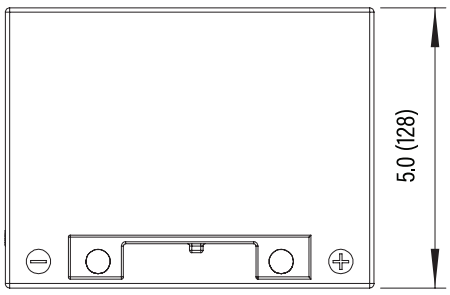
TEMPERATURE SPECIFICATIONS	
Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
Charge Temperature	-4 to 113 °F (-20 to 45 °C)
Storage Temperature	-4 to 140 °F (-20 to 60 °C)
PCM High Temperature Cut-Off	149 °F (65 °C)

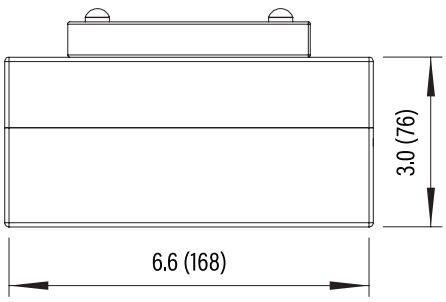
MECHANICAL SPECIFICATIONS	
Dimensions (L x W x H)	6.6 x 5.0 x 3.0" 168 x 128 x 76 mm
Weight	4.6 lbs (2.1 kg)
Terminal Type	T-Bar Connector
Cell Type	Cylindrical
Chemistry	$LiFePO_4$

CHARGE SPECIFICATIONS	
Recommended Charge Current	≤5 A
Maximum Charge Current	5 A
Charge Current (0 to -10 °C)	≤0.1 C
Charge Current (-20 to -10 °C)	≤0.05 C
PCM Charge Current Cut-Off	150 A (±20 A)
Recommended Charge Voltage	14.4 V
PCM Charge Voltage Cut-Off	15.2 V
Reconnect Voltage	14.4 V
Balancing Voltage	14.4 V

COMPLIANCE SPECIFICATIONS	
Certifications	CE (battery) UN38.3 (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS





relionbattery.com
+1.803.547.7288
844.385.9840
1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELi3ON®

RBGT-19 Golf Trolley Battery

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS	
Nominal Voltage	12.8 V
Nominal Capacity	19 Ah
Energy	243.2 Wh
Resistance	60 mΩ
Efficiency	99%
Self Discharge	<3% per Month

DISCHARGE SPECIFICATIONS	
Standard Discharge Current	16 A
Maximum Continuous Discharge Current	25 A
PCM Discharge Current Cut-Off	150 A (±20 A)
Recommended Low Voltage Disconnect	11 V
PCM Discharge Voltage Cut-Off	8 V
Reconnect Voltage	>8 V
Short Circuit Protection	200-500 µs

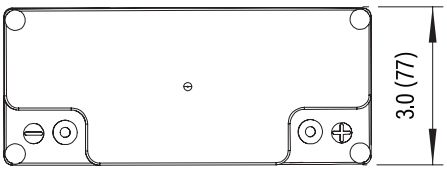
TEMPERATURE SPECIFICATIONS	
Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
Charge Temperature	-4 to 113 °F (-20 to 45 °C)
Storage Temperature	-4 to 140 °F (-20 to 60 °C)
PCM High Temperature Cut-Off	149 °F (65 °C)

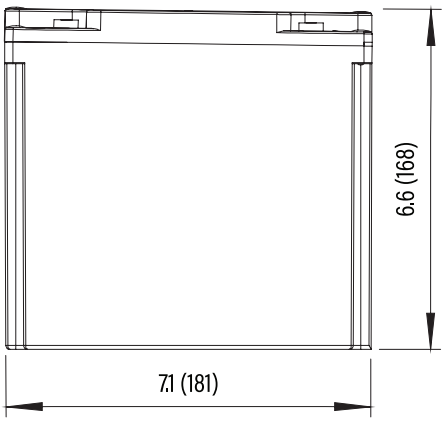
MECHANICAL SPECIFICATIONS	
Dimensions (L x W x H)	7.1 x 3.0 x 6.6" 181 x 77 x 168 mm
Weight	6.0 lbs (2.7 kg)
Terminal Type	Anderson Connector
Cell Type	Cylindrical
Chemistry	$LiFePO_4$

CHARGE SPECIFICATIONS	
Recommended Charge Current	≤8 A
Maximum Charge Current	≤8 A
Charge Current (0 to -10 °C)	≤0.1 C
Charge Current (-20 to -10 °C)	≤0.05 C
PCM Charge Current Cut-Off	150 A (±20 A)
Recommended Charge Voltage	14.4 V
PCM Charge Voltage Cut-Off	15.2 V
Reconnect Voltage	14.4 V
Balancing Voltage	14.4 V

COMPLIANCE SPECIFICATIONS	
Certifications	CE (battery) UN38.3 (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS





relionbattery.com
+1.803.547.7288
844.385.9840
1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELION®

RBGT-22 Golf Trolley Battery

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS	
Nominal Voltage	12.8 V
Nominal Capacity	22 Ah
Energy	281.6 Wh
Resistance	40 mΩ
Efficiency	99%
Self Discharge	<3% per Month

DISCHARGE SPECIFICATIONS	
Standard Discharge Current	16 A
Maximum Continuous Discharge Current	25 A
PCM Discharge Current Cut-Off	150 A (±20 A)
Recommended Low Voltage Disconnect	11 V
PCM Discharge Voltage Cut-Off	8 V
Reconnect Voltage	>8 V
Short Circuit Protection	200-500 µs

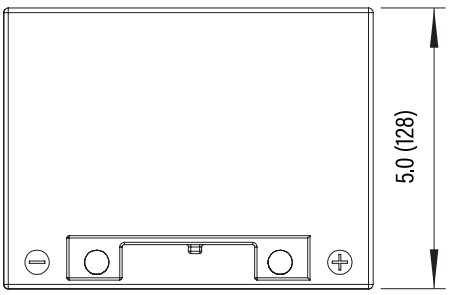
TEMPERATURE SPECIFICATIONS	
Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
Charge Temperature	-4 to 113 °F (-20 to 45 °C)
Storage Temperature	-4 to 140 °F (-20 to 60 °C)
PCM High Temperature Cut-Off	149 °F (65 °C)

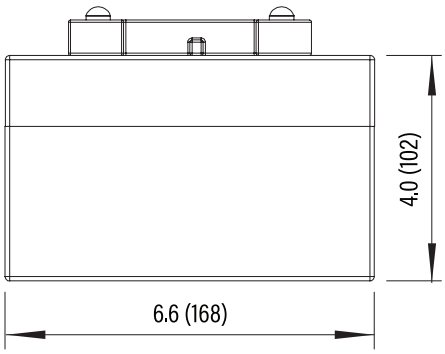
MECHANICAL SPECIFICATIONS	
Dimensions (L x W x H)	6.6 x 5.0 x 4.0" 168 x 128 x 102 mm
Weight	6.4 lbs (2.9 kg)
Terminal Type	T-Bar Connector
Cell Type	Cylindrical
Chemistry	$LiFePO_4$

CHARGE SPECIFICATIONS	
Recommended Charge Current	≤5 A
Maximum Charge Current	5 A
Charge Current (0 to -10 °C)	≤0.1 C
Charge Current (-20 to -10 °C)	≤0.05 C
PCM Charge Current Cut-Off	150 A (±20 A)
Recommended Charge Voltage	14.4 V
PCM Charge Voltage Cut-Off	15.2 V
Reconnect Voltage	14.4 V
Balancing Voltage	14.4 V

COMPLIANCE SPECIFICATIONS	
Certifications	CE (battery) UN38.3 (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS





relionbattery.com
+1.803.547.7288
844.385.9840
1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELi3ON®

RB24V20

Group: U1

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS	
Nominal Voltage	25.6 V
Nominal Capacity	20 Ah
Capacity @ 25A	48 min
Energy	512 Wh
Resistance	50 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Modules in Series	1 (Single Use)

DISCHARGE SPECIFICATIONS	
Maximum Continuous Discharge Current	30 A
Peak Discharge Current	60 A (7.5 s ±2.5 s)
BMS Discharge Current Cut-Off	170 A ±20 A (10 ±5 ms)
Recommended Low Voltage Disconnect	22 V
BMS Discharge Voltage Cut-Off	16 V (2.0 ±0.08 vpc) (20 ±6 ms)
Reconnect Voltage	20 V (2.5 ±0.05 vpc)
Short Circuit Protection	200-600 µs

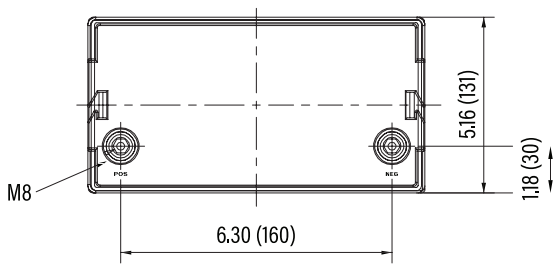
TEMPERATURE SPECIFICATIONS	
Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
Charge Temperature	-4 to 113 °F (-20 to 45 °C)
Storage Temperature	23 to 95 °F (-5 to 35 °C)
BMS High Temperature Cut-Off	176 °F (80 °C)
Reconnect Temperature	122 °F (50 °C)

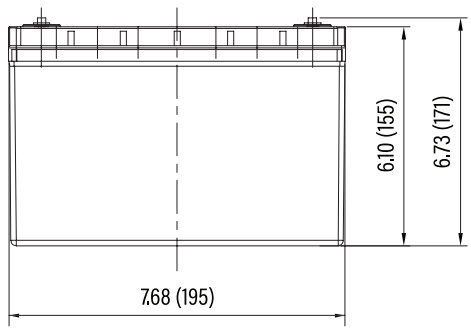
MECHANICAL SPECIFICATIONS	
Dimensions (L x W x H)	7.7 x 5.2 x 6.7" 195 x 131 x 171 mm
Weight	12 lbs (5.4 kg)
Terminal Type	M8
Terminal Torque	80 - 100 in-lbs (9 - 11 N-m)
Case Material	ABS
Enclosure Protection	IP56
Cell Type - Chemistry	Cylindrical - $LiFePO_4$

CHARGE SPECIFICATIONS	
Recommended Charge Current	1 A - 10 A
Maximum Charge Current	30 A
Charge Current (0 to -10 °C)	≤0.1 C
Charge Current (-20 to -10 °C)	≤0.05 C
Recommended Charge Voltage	28.4 V - 29.2 V
BMS Charge Voltage Cut-Off	31.2 V (3.9 ±0.025 vpc) (1 ±0.3 s)
Reconnect Voltage	30.4 V (3.8 ±0.05 vpc)
Balancing Voltage	28.8 V (3.6 ±0.025 vpc)

COMPLIANCE SPECIFICATIONS	
Certifications	CE (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS





relionbattery.com
+1.803.547.7288
844.385.9840
1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELi3ON®

RB24V40

Group: 24

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS

Nominal Voltage	25.6 V
Nominal Capacity	40 Ah
Capacity @ 25A	96 min
Energy	1280 Wh
Resistance	≤40 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Modules in Series	1 (Single Use)

MECHANICAL SPECIFICATIONS

Dimensions (L x W x H)	10.2 x 6.6 x 8.3" 260 x 168 x 210 mm
Weight	28.7 lbs (13 kg)
Terminal Type	M8
Terminal Torque	80 - 100 in-lbs (9 - 11 N-m)
Case Material	ABS
Enclosure Protection	IP56
Cell Type - Chemistry	Cylindrical - $LiFePO_4$

DISCHARGE SPECIFICATIONS

Maximum Continuous Discharge Current	30 A
Peak Discharge Current	70 A (7.5 s ±2.5 s)
BMS Discharge Current Cut-Off	120 A ±15 A (9 ms)
Recommended Low Voltage Disconnect	22 V
BMS Discharge Voltage Cut-Off	16 V (2.0 ±0.08 vpc)
Reconnect Voltage	18.4 V (2.0 ±0.08 vpc)
Short Circuit Protection	200-600 µs

CHARGE SPECIFICATIONS

Recommended Charge Current	2 A - 10 A
Maximum Charge Current	30 A
Charge Current (0 to -10 °C)	≤0.1 C
Charge Current (-20 to -10 °C)	≤0.05 C
Recommended Charge Voltage	28.0 V - 29.2 V
BMS Charge Voltage Cut-Off	31.2 V (3.9 ±0.025 vpc)
Reconnect Voltage	30.4 V (3.8 ±0.05 vpc)
Balancing Voltage	28.8 V (3.6 vpc)

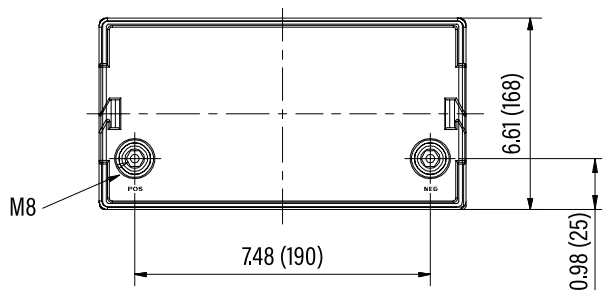
TEMPERATURE SPECIFICATIONS

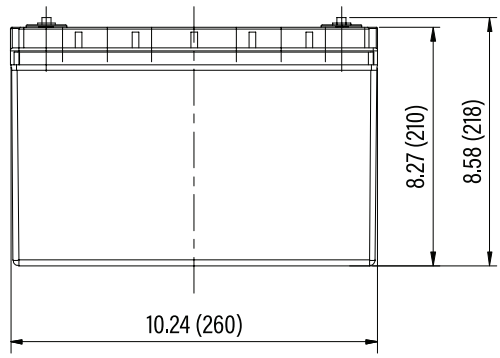
Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
Charge Temperature	-4 to 113 °F (-20 to 45 °C)
Storage Temperature	23 to 95 °F (-5 to 35 °C)
BMS High Temperature Cut-Off	167 °F (75 °C)
Reconnect Temperature	149 °F (65 °C)

COMPLIANCE SPECIFICATIONS

Certifications	CE (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS





relionbattery.com

+1.803.547.7288
844.385.9840

1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELi3ON®

RB24V50

Group: 31

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS

Nominal Voltage	25.6 V
Nominal Capacity	50 Ah
Capacity @ 25A	120 min
Energy	1280 Wh
Resistance	≤60 mΩ @ 50% SOC
Efficiency	99%;
Self Discharge	<3% per Month
Maximum Modules in Series	1 (Single Use)

MECHANICAL SPECIFICATIONS

Dimensions (L x W x H)	13.0 x 6.8 x 8.8" 329 x 172 x 223 mm
Weight	29 lbs (13.2 kg)
Terminal Type	M8
Terminal Torque	80 - 100 in-lbs (9 - 11 N-m)
Case Material	ABS
Enclosure Protection	IP56
Cell Type - Chemistry	Cylindrical - $LiFePO_4$

DISCHARGE SPECIFICATIONS

Maximum Continuous Discharge Current	50 A
Peak Discharge Current	100 A (7.5 s ±2.5 s)
BMS Discharge Current Cut-Off	215 A ±15 A (10 ±5 ms)
Recommended Low Voltage Disconnect	22 V
BMS Discharge Voltage Cut-Off	16 V (2.0 ±0.08 vpc) (20 ±6 ms)
Reconnect Voltage	20 V (2.5 ±0.05 vpc)
Short Circuit Protection	200-600 µs

CHARGE SPECIFICATIONS

Recommended Charge Current	2.5 A - 25 A
Maximum Charge Current	50 A
Charge Current (0 to -10 °C)	≤0.1 C
Charge Current (-20 to -10 °C)	≤0.05 C
Recommended Charge Voltage	28.4 V - 29.2 V
BMS Charge Voltage Cut-Off	31.2 V (3.9 ±0.025 vpc) (1.1 ±0.4 s)
Reconnect Voltage	30.4 V (3.8 ±0.05 vpc)
Balancing Voltage	28.8 V (3.6 vpc)

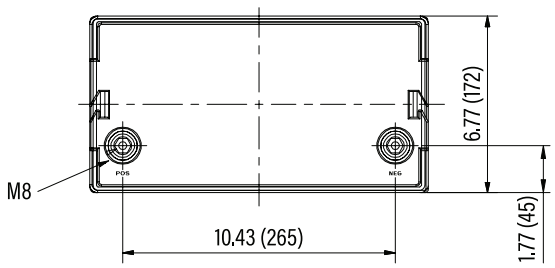
TEMPERATURE SPECIFICATIONS

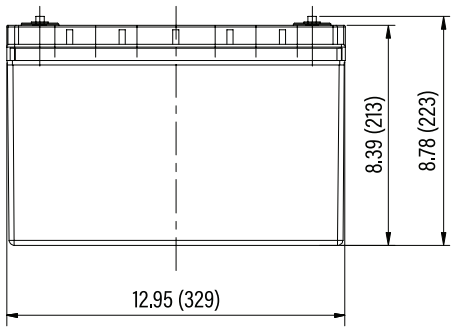
Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
Charge Temperature	-4 to 113 °F (-20 to 45 °C)
Storage Temperature	23 to 95 °F (-5 to 35 °C)
BMS High Temperature Cut-Off	176 °F (80 °C)
Reconnect Temperature	122 °F (50 °C)

COMPLIANCE SPECIFICATIONS

Certifications	CE (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS





relionbattery.com
+1.803.547.7288
844.385.9840
1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELiON®

RB24V100

Group: 8D

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS

Nominal Voltage	25.6 V
Nominal Capacity	100 Ah
Capacity @ 25A	240 min
Energy	2560 Wh
Resistance	≤30 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Modules in Series	1 (Single Use)

MECHANICAL SPECIFICATIONS

Dimensions (L x W x H)	20.5 x 10.5 x 9.0" 520 x 267 x 228 mm
Weight	61 lbs (27.7 kg)
Terminal Type	M8
Terminal Torque	80 - 100 in-lbs (9 - 11 N-m)
Case Material	ABS
Enclosure Protection	IP56
Cell Type - Chemistry	Cylindrical - $LiFePO_4$

DISCHARGE SPECIFICATIONS

Maximum Continuous Discharge Current	100 A
Peak Discharge Current	200 A (7.5 s ±2.5 s)
BMS Discharge Current Cut-Off	280 A ±50 A (9 ±4 ms)
Recommended Low Voltage Disconnect	22 V
BMS Discharge Voltage Cut-Off	16 V (2.0 ±0.08 vpc) (20 ±6 ms)
Reconnect Voltage	20 V (2.5 ±0.05 vpc)
Short Circuit Protection	200-600 µs

CHARGE SPECIFICATIONS

Recommended Charge Current	5 A - 50 A
Maximum Charge Current	100 A
Charge Current (0 to -10 °C)	≤0.1 C
Charge Current (-20 to -10 °C)	≤0.05 C
Recommended Charge Voltage	28.4 V - 29.2 V
BMS Charge Voltage Cut-Off	15.6 V (3.9 ±0.025 vpc) (1.1 ±0.4 s)
Reconnect Voltage	15.2 V (3.8 ±0.05 vpc)
Balancing Voltage	14.4 V (3.6 ±0.025 vpc)

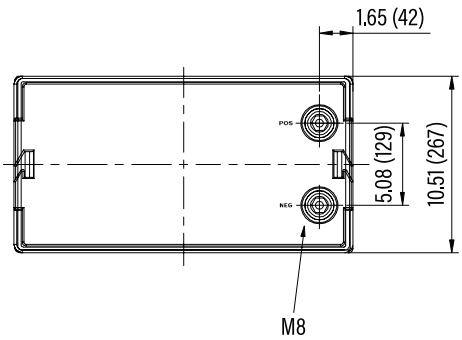
TEMPERATURE SPECIFICATIONS

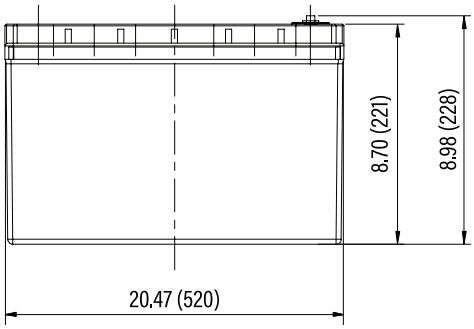
Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
Charge Temperature	-4 to 113 °F (-20 to 45 °C)
Storage Temperature	23 to 95 °F (-5 to 35 °C)
BMS High Temperature Cut-Off	176 °F (80 °C)
Reconnect Temperature	122 °F (50 °C)

COMPLIANCE SPECIFICATIONS

Certifications	CE (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS





relionbattery.com

+1.803.547.7288
844.385.9840

1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELiON®

RB24V200

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS

Nominal Voltage	25.6 V
Nominal Capacity	200 Ah
Capacity @ 25A	480 min
Energy	5120 Wh
Resistance	≤35 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Modules in Series	1 (Single Use)

MECHANICAL SPECIFICATIONS

Dimensions (L x W x H)	16.1 x 13.7 x 16.4" 410 x 349 x 417 mm
Weight	110 lbs (50 kg)
Terminal Type	M10
Terminal Torque	110 - 125 in-lbs (12.2 - 14 N-m)
Case Material	Steel Case
Enclosure Protection	IP56
Cell Type - Chemistry	Cylindrical - $LiFePO_4$

DISCHARGE SPECIFICATIONS

Maximum Continuous Discharge Current	200 A
Peak Discharge Current	250 A (≤5 s)
BMS Discharge Current Cut-Off	600 A ±60 A (6 ±3 ms)
Recommended Low Voltage Disconnect	22 V
BMS Discharge Voltage Cut-Off	20 V (2.5 ±0.1 vpc) (100 ±50 ms)
Reconnect Voltage	16 V (2.0 ±0.1 vpc)
Short Circuit Protection	200-600 µs

CHARGE SPECIFICATIONS

Recommended Charge Current	10 A - 100 A
Maximum Charge Current	200 A
Charge Current (0 to -10 °C)	≤0.1 C
Charge Current (-20 to -10 °C)	≤0.05 C
Recommended Charge Voltage	28.4 V - 29.2 V
BMS Charge Voltage Cut-Off	30.4 V (3.8 ±0.05 vpc) (1 ±0.05 s)
Reconnect Voltage	31.2 V (3.6 ±0.05 vpc)
Balancing Voltage	28.8 V (3.6 ±0.025 vpc)

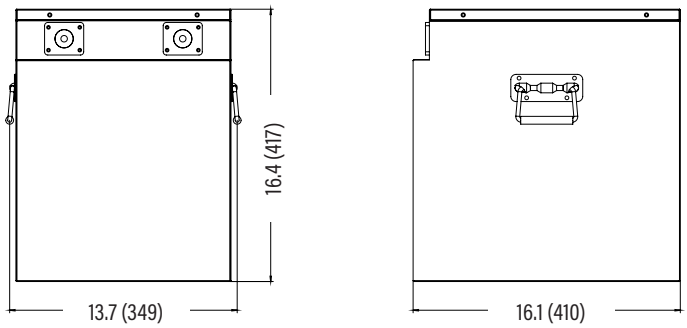
TEMPERATURE SPECIFICATIONS

Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
Charge Temperature	-4 to 113 °F (-20 to 45 °C)
Storage Temperature	23 to 95 °F (-5 to 35 °C)
BMS High Temperature Cut-Off	149 °F (65 °C)
Reconnect Temperature	122 °F (50 °C)

COMPLIANCE SPECIFICATIONS

Certifications	CE (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS



relionbattery.com

+1.803.547.7288
844.385.9840

1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELi3ON®

RB48V25

Group: 24

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS	
Nominal Voltage	51.2 V
Nominal Capacity	25 Ah
Capacity @ 5A	300 min
Energy	1280 Wh
Resistance	≤70 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Modules in Series	1 (Single Use)

MECHANICAL SPECIFICATIONS	
Dimensions (L x W x H)	10.2 x 6.6 x 8.6" 260 x 168 x 218 mm
Weight	27.6 lbs (12.5 kg)
Terminal Type	M8
Terminal Torque	80 - 100 in-lbs (9 - 11 N-m)
Case Material	ABS
Enclosure Protection	IP56
Cell Type - Chemistry	Cylindrical - $LiFePO_4$

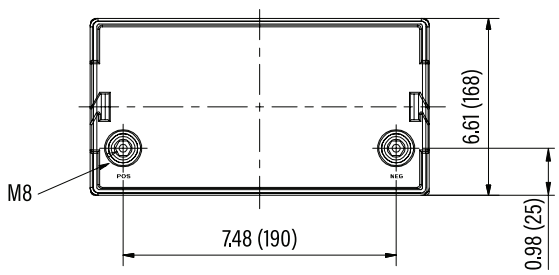
DISCHARGE SPECIFICATIONS	
Maximum Continuous Discharge Current	20 A
Peak Discharge Current	25 A (4 ±1 s)
BMS Discharge Current Cut-Off	60 A ±10 A (6 ±3 ms)
Recommended Low Voltage Disconnect	44 V
BMS Discharge Voltage Cut-Off	40 V (2.5 ±0.1 vpc) (100 ±50 ms)
Reconnect Voltage	32 V (2.0 ±0.1 vpc)
Short Circuit Protection	400-600 µs

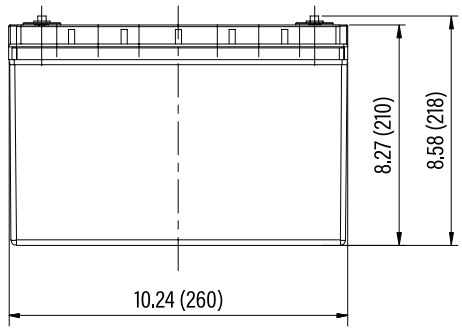
CHARGE SPECIFICATIONS	
Recommended Charge Current	1.25 A - 12.5 A
Maximum Charge Current	20 A
Charge Current (0 to -10 °C)	≤0.1 C
Charge Current (-20 to -10 °C)	≤0.05 C
Recommended Charge Voltage	56.0 V - 58.4 V
BMS Charge Voltage Cut-Off	60.8 V (3.8 ±0.05 vpc) (1.0 ±0.5 s)
Reconnect Voltage	57.6 V (3.6 ±0.05 vpc)
Balancing Voltage	57.6 V (3.6 ±0.025 vpc)

TEMPERATURE SPECIFICATIONS	
Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
Charge Temperature	-4 to 113 °F (-20 to 45 °C)
Storage Temperature	23 to 95 °F (-5 to 35 °C)
BMS High Temperature Cut-Off	149 °F (65 °C)
Reconnect Temperature	122 °F (50 °C)

COMPLIANCE SPECIFICATIONS	
Certifications	CE (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS





relionbattery.com
+1.803.547.7288
844.385.9840
1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELION®

RB48V100

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS	
Nominal Voltage	51.2 V
Nominal Capacity	100 Ah
Capacity @ 25A	240 min
Energy	5120 Wh
Resistance	50 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Modules in Series	1 (Single Use)

MECHANICAL SPECIFICATIONS	
Dimensions (L x W x H)	22.8 x 16.1 x 8.3" 578 x 410 x 210 mm
Weight	159 lbs (72 kg)
Terminal Type	M10
Terminal Torque	110 - 125 in-lbs (12.2 - 14 N-m)
Case Material	Steel Case
Enclosure Protection	IP56
Cell Type - Chemistry	Cylindrical - $LiFePO_4$

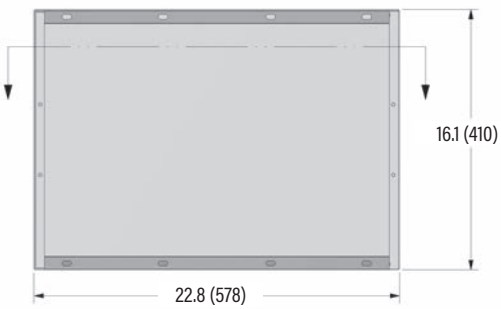
DISCHARGE SPECIFICATIONS	
Maximum Continuous Discharge Current	200 A
Peak Discharge Current	250 A (4 s ±1 s)
BMS Discharge Current Cut-Off	450 A ±80 A (100 ±20 ms)
Recommended Low Voltage Disconnect	44 V
BMS Discharge Voltage Cut-Off	32 V (2.0 ±0.08 vpc) (100 ±20 ms)
Reconnect Voltage	40 V (2.5 ±0.1 vpc)
Short Circuit Protection	200-600 µs

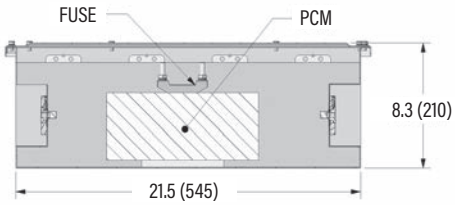
CHARGE SPECIFICATIONS	
Recommended Charge Current	5 A - 50 A
Maximum Charge Current	100 A
Charge Current (0 to -10 °C)	≤0.1 C
Charge Current (-20 to -10 °C)	≤0.05 C
Recommended Charge Voltage	56.8 V - 58.4 V
BMS Charge Voltage Cut-Off	60.8 V (3.8 ±0.025 vpc) (1.0 ±0.3 s)
Reconnect Voltage	57.6 V (3.6 ±0.05 vpc)
Balancing Voltage	57.6 V (3.6 ±0.025 vpc)

TEMPERATURE SPECIFICATIONS	
Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
Charge Temperature	-4 to 113 °F (-20 to 45 °C)
Storage Temperature	23 to 95 °F (-5 to 35 °C)
BMS High Temperature Cut-Off	176 °F (80 °C)
Reconnect Temperature	140 °F (60 °C)

COMPLIANCE SPECIFICATIONS	
Certifications	CE (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS





relionbattery.com

+1.803.547.7288
844.385.9840

1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELION®

RB48V150

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS

Nominal Voltage	51.2 V
Nominal Capacity	150 Ah
Capacity @ 25A	360 min
Energy	7680 Wh
Resistance	≤50 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Modules in Series	1 (Single Use)

MECHANICAL SPECIFICATIONS

Dimensions (L x W x H)	23.6 x 12.1 x 12.6" 600 x 308 x 320 mm
Weight	179 lbs (81 kg)
Terminal Type	M10
Terminal Torque	110 - 125 in-lbs (12.2 - 14 N-m)
Case Material	Steel Case
Enclosure Protection	IP56
Cell Type - Chemistry	Cylindrical - $LiFePO_4$

DISCHARGE SPECIFICATIONS

Maximum Continuous Discharge Current	100 A
Peak Discharge Current	350 A (30 s)
BMS Discharge Current Cut-Off	500 A ±50 A (1000 ±500 ms)
Recommended Low Voltage Disconnect	44 V
BMS Discharge Voltage Cut-Off	36.8 V (2.3 ±0.05 vpc)
Reconnect Voltage	40 V (2.5 ±0.05 vpc)
Short Circuit Protection	200-600 µs

CHARGE SPECIFICATIONS

Recommended Charge Current	7.5 A - 50 A
Maximum Charge Current	100 A
Charge Current (0 to -10 °C)	≤0.1 C
Charge Current (-20 to -10 °C)	≤0.05 C
Recommended Charge Voltage	56 V - 58.4 V
BMS Charge Voltage Cut-Off	61.6 V (3.85 ±0.05 vpc)
Reconnect Voltage	58.4 V (3.65 ±0.05 vpc)
Balancing Voltage	57.6 V (3.6 vpc)

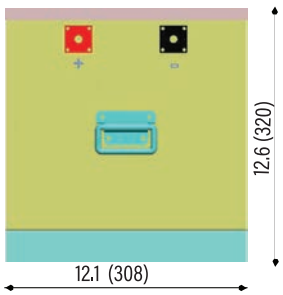
TEMPERATURE SPECIFICATIONS

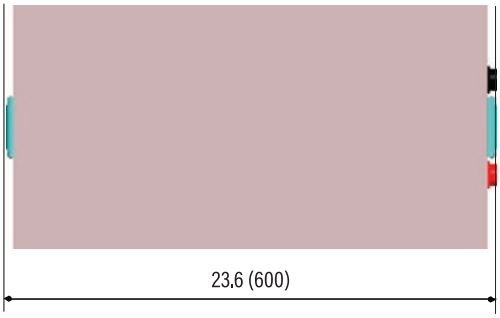
Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
Charge Temperature	-4 to 113 °F (-20 to 45 °C)
Storage Temperature	14 to 95 °F (-10 to 35 °C)
BMS High Temperature Cut-Off	167 °F ±41 °F (75 °C ±5 °C)
Reconnect Temperature	122 °F (50 °C)

COMPLIANCE SPECIFICATIONS

Certifications	CE (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS





relionbattery.com

+1.803.547.7288
844.385.9840

1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELION®

RB48V200

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS	
Nominal Voltage	51.2 V
Nominal Capacity	200 Ah
Capacity @ 25A	480 min
Energy	10.24 kWh
Resistance	50 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Modules in Series	1 (Single Use)

MECHANICAL SPECIFICATIONS	
Dimensions (L x W x H)	34.1 x 14.1 x 15.5" 867 x 358 x 393 mm
Weight	302 lbs (137 kg)
Terminal Type	M10
Terminal Torque	110 - 125 in-lbs (12.2 - 14 N-m)
Case Material	Steel Case
Enclosure Protection	IP56
Cell Type - Chemistry	Cylindrical - $LiFePO_4$

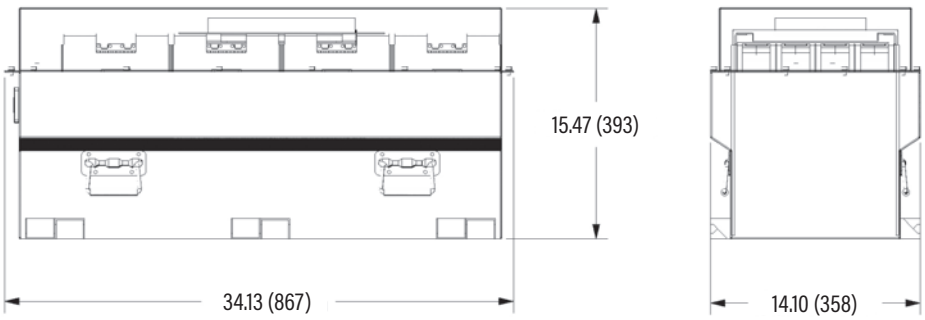
DISCHARGE SPECIFICATIONS	
Maximum Continuous Discharge Current	200 A
Peak Discharge Current	250 A (4 s ±1 s)
BMS Discharge Current Cut-Off	450 A ±80 A (100 ±20 ms)
Recommended Low Voltage Disconnect	44 V
BMS Discharge Voltage Cut-Off	32 V (2.0 ±0.08 vpc) (100 ±20 ms)
Reconnect Voltage	40 V (2.5 ±0.1 vpc)
Short Circuit Protection	200-600 µs

CHARGE SPECIFICATIONS	
Recommended Charge Current	10 A - 100 A
Maximum Charge Current	200 A
Charge Current (0 to -10 °C)	≤0.1 C
Charge Current (-20 to -10 °C)	≤0.05 C
Recommended Charge Voltage	56.0 V - 58.4 V
BMS Charge Voltage Cut-Off	60.8 V (3.8 ±0.025 vpc) (1.0 ±0.3 s)
Reconnect Voltage	57.6 V (3.6 ±0.05 vpc)
Balancing Voltage	57.6 V (3.6 ±0.025 vpc)

TEMPERATURE SPECIFICATIONS	
Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
Charge Temperature	-4 to 113 °F (-20 to 45 °C)
Storage Temperature	23 to 95 °F (-5 to 35 °C)
BMS High Temperature Cut-Off - Discharge	176 °F (80 °C)
Reconnect Temperature	140 °F (60 °C)

COMPLIANCE SPECIFICATIONS	
Certifications	CE (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS



relionbattery.com

+1.803.547.7288
844.385.9840

1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELION®

RB48V300

LITHIUM IRON PHOSPHATE BATTERY

ELECTRICAL SPECIFICATIONS	
Nominal Voltage	51.2 V
Nominal Capacity	300 Ah
Capacity @ 25A	720 min
Energy	15.36 kWh
Resistance	50 mΩ @ 50% SOC
Efficiency	99%
Self Discharge	<3% per Month
Maximum Modules in Series	1 (Single Use)

MECHANICAL SPECIFICATIONS	
Dimensions (L x W x H)	29.1 x 19.9 x 16.1" 740 x 506 x 408 mm
Weight	388 lbs (176 kg)
Terminal Type	M10
Terminal Torque	110 - 125 in-lbs (12.2 - 14 N-m)
Case Material	Steel Case
Enclosure Protection	IP56
Cell Type - Chemistry	Cylindrical - $LiFePO_4$

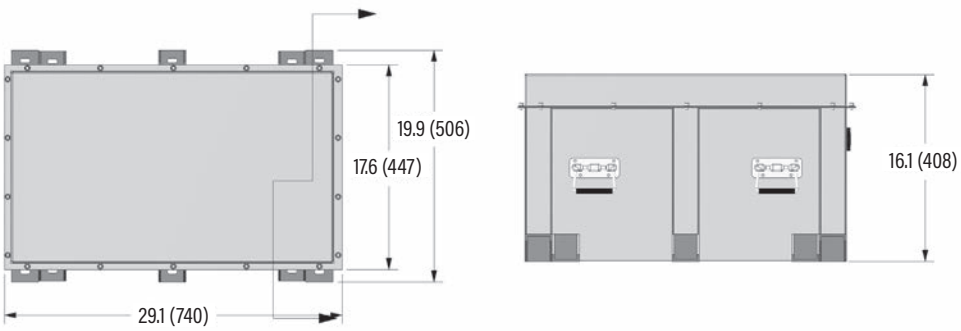
DISCHARGE SPECIFICATIONS	
Maximum Continuous Discharge Current	200 A
Peak Discharge Current	250 A (4 s ±1 s)
BMS Discharge Current Cut-Off	450 A ±80 A (100 ±20 ms)
Recommended Low Voltage Disconnect	44 V
BMS Discharge Voltage Cut-Off	32 V (2.0 ±0.08 vpc) (100 ±20 ms)
Reconnect Voltage	40 V (2.5 ±0.1 vpc)
Short Circuit Protection	200-600 µs

CHARGE SPECIFICATIONS	
Recommended Charge Current	15 A - 100 A
Maximum Charge Current	100 A
Charge Current (0 to -10 °C)	≤0.1 C
Charge Current (-20 to -10 °C)	≤0.05 C
Recommended Charge Voltage	56.0 V - 58.4 V
BMS Charge Voltage Cut-Off	60.8 V (3.8 ±0.025 vpc) (1.0 ±0.3 s)
Reconnect Voltage	57.6 V (3.6 ±0.05 vpc)
Balancing Voltage	57.6 V (3.6 ±0.025 vpc)

TEMPERATURE SPECIFICATIONS	
Discharge Temperature	-4 to 140 °F (-20 to 60 °C)
Charge Temperature	-4 to 113 °F (-20 to 45 °C)
Storage Temperature	23 to 95 °F (-5 to 35 °C)
BMS High Temperature Cut-Off - Discharge	176 °F (80 °C)
Reconnect Temperature	140 °F (60 °C)

COMPLIANCE SPECIFICATIONS	
Certifications	CE (battery) UL1642 & IEC62133 (cells)
Shipping Classification	UN 3480, CLASS 9

DIMENSIONAL SPECIFICATIONS



relionbattery.com

+1.803.547.7288
844.385.9840

1433 Dave Lyle Blvd
Rock Hill, SC 29730, US

RELiON

INTRODUCING THE INSIGHT SERIES!

The Next Generation of Lithium Batteries

Game Changing Technology

RELiON's InSight Series is the first scalable LiFePO4 drop-in replacement battery, that comes in industry-standard sizes, with no extra hardware needed when connected in parallel!

SuperSmart BMS

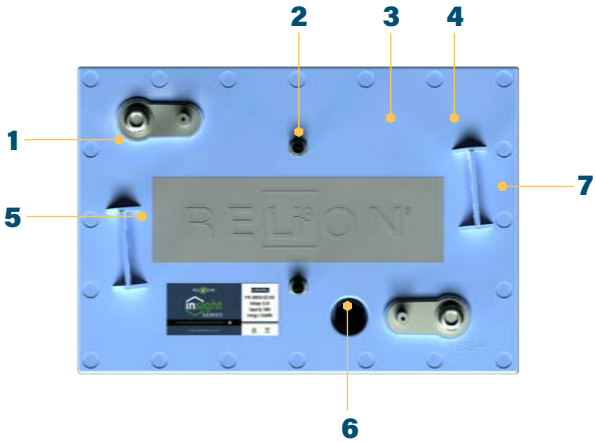
RELiON InSight Series SuperSmart BMS, the most critical component in the battery, maximizes performance, even when connected in parallel, eliminating the need for an external master BMS, or any additional hardware.

Bullseye Balancing

The innovative algorithms in the SuperSmart BMS ensures precise balancing. This optimizes performance in each battery when multiple batteries are connected in parallel, providing maximum capacity and life.

Intelligent Cooling

Unlike other lithium batteries that can trap heat, InSight uses a carefully engineered passive heat management system to quickly remove heat from inside the battery during conditions of high discharge and recharge currents.



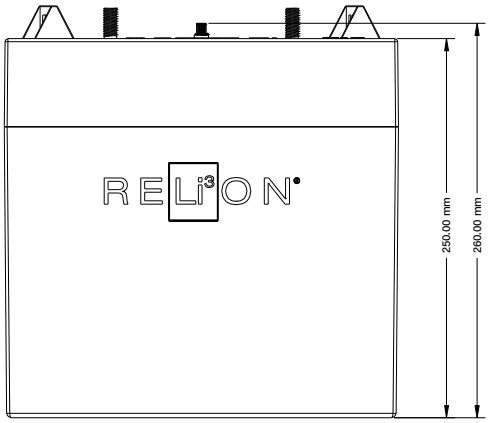
1. Dual M8 Terminals (insert & stud)
2. CANbus Input/Output
3. Wake-Up Button
4. SOC/Status LEDs
5. Heatsink
6. Vent
7. Lifting Brackets

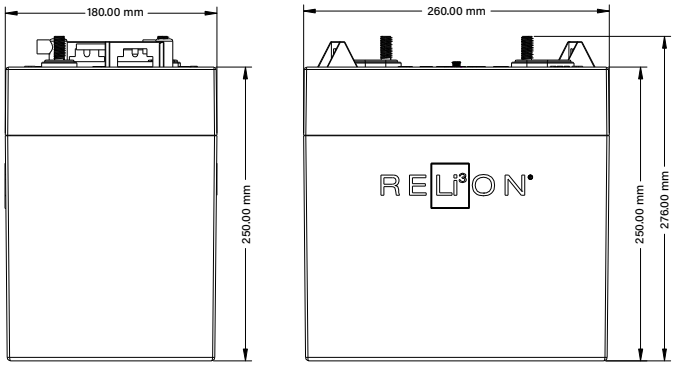
ENVIRONMENTAL SPECIFICATIONS	
Charge Temperature	32°F to 155°F (0°C to 55°C)
Discharge Temperature	-4°F to 149°F (-20°C to 65°C)
Operating Humidity	<90% RH
Storage Temperature	-4°F to 95°F (20°C to 35°C)
Storage Humidity	25 to 85% RH

CERTIFICATIONS PENDING
UL2580 (Cell)
UL2271 (Battery Pack)
CE (Battery Pack)
IEC 62133 (Battery Pack)
UN 38.3 (Battery Pack)

SHIPPING CLASSIFICATION
UN 3480, Class 9

APPLICATIONS
Traction and Stationary Including: Golf & Utility Vehicles Floor Machines AWP Marine Back-Up





+1.803.547.7288 • 844.385.9840 | 1433 Dave Lyle Blvd • Rock Hill, SC 29730

RELi3ON®

insight SERIES

LiFePO4

INTELLIGENT FEATURES

Up to 128 Parallel Connections
- Intelligent battery-to-battery balancing
- Additive continuous and peak currents
- No additional hardware needed

Heatsink Design
- Strategically located
- Unique passive cooling
- Prevents over-heating of critical components

Dual M8 Terminals (insert and Stud)
- Ample space for connections

LED Indicator
- Provides State of Charge (SOC)

Unique BMS Design
- Microcontroller-based design
- Innovative protection algorithms
- MOSFET-based for ultra-fast response times
- High-resolution internal measurements
- Ultra-low self-consumption
- Non-volatile historical data
- CANbus communication

MODEL	
Part Number	12V120-GC2-001

FUNCTIONAL SPECIFICATIONS	
Nominal Voltage	12.8V
Cell Chemistry	LiFePO4
Cell Type	Prismatic
Ampere-hour Capacity	120Ah
Watthour Capacity	1.536kWh
Specific Energy	128Wh/kg
Charge Efficiency	99%
Impedance (50% SOC, 1kHz)	<100mΩ
Cycles @ 80% DOD	>6000

MECHANICAL SPECIFICATIONS	
BCI Size	GC2
Dimensions (LxWxH)	260 x 180 x 276 mm
Weight	26.4 lbs (12 kg)
Case Material	ABS
Stud Terminal	M8 X 1.25 - 20
Insert Terminal	M8 X 1.25 - 20
Handles	Molded
Ingress Protection Marking	IP67
Case Flame Rating	UL94 V-0

DISCHARGE SPECIFICATIONS	
Continuous Discharge Current	200A
Discharge Current (30-sec)	300A
Max Discharge Current (10-sec)	350A
Short Circuit Protection	1000A
Low Voltage Disconnect	10V (5s)
Low Voltage Reconnect	Reset & Charge
Self-Discharge per Month @ 25°C	Idle 1.2%, Sleep 0.12%

CHARGE SPECIFICATIONS	
Continuous Charge Current	120A
Max Charge Voltage	14.6V
Recommended Charge Voltage	14V
Float Voltage	13.8V
High Voltage Disconnect	15.2V (4s)
High Voltage Reconnect	Automatic
Temperature Compensation	None

RELi3ON®

insight SERIES

LiFePO4

INTELLIGENT FEATURES

Up to 128 Parallel Connections
- Intelligent battery-to-battery balancing
- Additive continuous and peak currents
- No additional hardware needed

Heatsink Design
- Strategically located
- Unique passive cooling
- Prevents over-heating of critical components

Dual M8 Terminals (insert and Stud)
- Ample space for connections

LED Indicator
- Provides State of Charge (SOC)

Unique BMS Design
- Microcontroller-based design
- Innovative protection algorithms
- MOSFET-based for ultra-fast response times
- High-resolution internal measurements
- Ultra-low self-consumption
- Non-volatile historical data
- CANbus communication

MODEL	
Part Number	24V060-GC2-001

FUNCTIONAL SPECIFICATIONS	
Nominal Voltage	25.6V
Cell Chemistry	LiFePO4
Cell Type	Prismatic
Ampere-hour Capacity	60Ah
Watthour Capacity	1.536kWh
Specific Energy	128Wh/kg
Charge Efficiency	99%
Impedance (50% SOC, 1kHz)	<100mΩ
Cycles @ 80% DOD	>6000

MECHANICAL SPECIFICATIONS	
BCI Size	GC2
Dimmensions (LxWxH)	260 x 180 x 276 mm
Weight	34.4 lbs (15.6kg)
Case Material	ABS
Stud Terminal	M8 X 1.25 - 20
Insert Terminal	M8 X 1.25 - 20
Handles	Molded
Ingress Protection Marking	IP67
Case Flame Rating	UL94 V-0

DISCHARGE SPECIFICATIONS	
Continuous Discharge Current	150A
Discharge Current (30-sec)	275A
Max Discharge Current (10-sec)	300A
Short Circuit Protection	1000A
Low Voltage Disconnect	20V (5s)
Low Voltage Reconnect	Reset & Charge
Self-Discharge per Month @ 25°C	Idle 1.2%, Sleep 0.12%

CHARGE SPECIFICATIONS	
Continuous Charge Current	50A
Max Charge Voltage	29.2V
Recommended Charge Voltage	28V
Float Voltage	27.6V
High Voltage Disconnect	30.4V (4s)
High Voltage Reconnect	Automatic
Temperature Compensation	None

RELi3ON®

insight SERIES

LiFePO4

INTELLIGENT FEATURES

Up to 128 Parallel Connections
- Intelligent battery-to-battery balancing
- Additive continuous and peak currents
- No additional hardware needed

Heatsink Design
- Strategically located
- Unique passive cooling
- Prevents over-heating of critical components

Dual M8 Terminals (insert and Stud)
- Ample space for connections

LED Indicator
- Provides State of Charge (SOC)

Unique BMS Design
- Microcontroller-based design
- Innovative protection algorithms
- MOSFET-based for ultra-fast response times
- High-resolution internal measurements
- Ultra-low self-consumption
- Non-volatile historical data
- CANbus communication

MODEL	
Part Number	36V030-GC2-001

FUNCTIONAL SPECIFICATIONS	
Nominal Voltage	38.4V
Cell Chemistry	LiFePO4
Cell Type	Prismatic
Ampere-hour Capacity	30Ah
Watthour Capacity	1.152kWh
Specific Energy	115.2Wh/kg
Charge Efficiency	99%
Impedance (50% SOC, 1kHz)	<100mΩ
Cycles @ 80% DOD	>6000

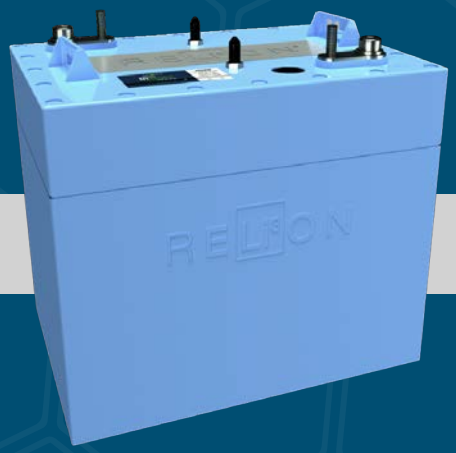
MECHANICAL SPECIFICATIONS	
BCI Size	GC2
Dimmensions (LxWxH)	260 x 180 x 276 mm
Weight	22 lbs (10 kg)
Case Material	ABS
Stud Terminal	M8 X 1.25 - 20
Insert Terminal	M8 X 1.25 - 20
Handles	Molded
Ingress Protection Marking	IP67
Case Flame Rating	UL94 V-0

DISCHARGE SPECIFICATIONS	
Continuous Discharge Current	100A
Discharge Current (30-sec)	125A
Max Discharge Current (10-sec)	150A
Short Circuit Protection	500A
Low Voltage Disconnect	30V (5s)
Low Voltage Reconnect	Reset & Charge
Self-Discharge per Month @ 25°C	Idle 1.2%, Sleep 0.12%

CHARGE SPECIFICATIONS	
Continuous Charge Current	50A
Max Charge Voltage	43.8V
Recommended Charge Voltage	42V
Float Voltage	41.4V
High Voltage Disconnect	45.6V (4s)
High Voltage Reconnect	Automatic
Temperature Compensation	None

RELi3ON®

insight™ SERIES



LiFePO4

INTELLIGENT FEATURES

Up to 10 Parallel Connections
- Intelligent battery-to-battery balancing
- Additive continuous and peak currents
- No additional hardware needed

Heatsink Design
- Strategically located
- Unique passive cooling
- Prevents over-heating of critical components

Dual M8 Terminals (insert and Stud)
- Ample space for connections

LED Indicator
- Provides State of Charge (SOC)

Unique BMS Design
- Microcontroller-based design
- Innovative protection algorithms
- MOSFET-based for ultra-fast response times
- High-resolution internal measurements
- Ultra-low self-consumption
- Non-volatile historical data
- CANbus communication

MODEL	
Part Number	48V030-GC2-001

FUNCTIONAL SPECIFICATIONS	
Nominal Voltage	51.2V
Cell Chemistry	LiFePO4
Cell Type	Prismatic
Ampere-hour Capacity	30Ah
Watthour Capacity	1.536kWh
Specific Energy	128Wh/kg
Charge Efficiency	99%
Impedance (50% SOC, 1kHz)	<150mΩ
Cycles @ 80% DOD	>6000

MECHANICAL SPECIFICATIONS	
BCI Size	GC2
Dimmensions (LxWxH)	10.2 x 7.1 x 10.9 in (260 x 180 x 276 mm)
Weight	34.4 lbs (15.6 kg)
Case Material	ABS
Stud Terminal	M8 X 1.25 - 20
Insert Terminal	M8 X 1.25 - 20
Torque	79.7-88.5 in-lbs 9-10 N-m
Handles	Molded
Ingress Protection Marking	IP67
Case Flame Rating	UL94 V-0

DISCHARGE SPECIFICATIONS	
Continuous Discharge Current	100A
Peak Discharge Current	150A - 15 sec
Short Circuit Protection	580A - 366 µsec
Low Voltage Disconnect	40V - 5 sec
Low Voltage Reconnect	Automatic
Self-Discharge per Month @ 25°C	Idle 1.2%, Sleep 0.12%

CHARGE SPECIFICATIONS	
Continuous Charge Current	50A
Max Charge Voltage	58.4V
Recommended Charge Voltage	56V
Float Voltage	55.2V
High Voltage Disconnect	59.2V
High Voltage Reconnect	Automatic
Temperature Compensation	None

CHARGING INSTRUCTIONS

RELiON LITHIUM IRON PHOSPHATE ($LiFePO_4$) BATTERIES

To ensure your Lithium Iron Phosphate ($LiFePO_4$) battery provide its maximum life, follow these Charging Instructions. When charging $LiFePO_4$ make sure that you are not using a charger meant for other lithium ion chemistries, which are typically set to a higher voltage than required by $LiFePO_4$ batteries. A lead-acid battery charger can be used if the voltage settings are within the parameters of $LiFePO_4$ batteries.

Charger Inspection

Check that your charger cables are insulated and free of breakage. Charger terminal connectors should be clean and properly mate with the battery terminals to ensure a good connection and optimum conductivity.

Charging Guidelines

When to Charge your $LiFePO_4$ Battery

If $LiFePO_4$ batteries are not fully discharged, they do not need to be charged after each use. $LiFePO_4$ batteries do not get damaged when left in a partial state of charge (PSOC). You can charge your $LiFePO_4$ batteries after each use or when they have been discharged up to 80% (20% SOC). If the Battery Management System (BMS) disconnects the battery due to low voltage, at 100% depth of discharge, remove the load to reconnect the battery circuit and charge immediately. Please note that we recommend storing batteries at 50% state of charge (SOC) to minimize irreversible capacity loss.

Charging Temperature

$LiFePO_4$ batteries can safely charge between -20°C to 55°C (-4°F to 131°F). However, at temperatures below 0°C (32°F) the charge current must be reduced, until the temperature is >0ºC (32ºF), as follows:

1. 0°C to -10°C (32°F to 14°F) charge at 0.1C (10% of the battery capacity)
2. -10°C to -20°C (14°F to -4°F) charge at 0.05C (5% of the battery capacity)

$LiFePO_4$ batteries do not require temperature compensation for voltage when charging at hot or cold temperatures.

All Relion $LiFePO_4$ come with a BMS that protects the battery from over-temperature. If the BMS disconnects due to high temperature, wait until the temperature reduces and the BMS reconnects the battery circuit before using or charging the battery. Please refer to your battery data sheet for the BMS high temperature cut-off value.

Charging with Lead-Acid Battery Chargers

Most lead-acid battery chargers can be used with $LiFePO_4$ batteries as long as they are within the appropriate voltage guidelines. AGM and Gel algorithms typically fall within the $LiFePO_4$ voltage requirements. The voltage for flooded battery charging algorithms are often higher than $LiFePO_4$ requirements, which will result in the BMS disconnecting the battery at the end of the charge cycle and possibly result in the charger displaying an error code. If this happens, it is generally a good practice to replace your charger for one with a $LiFePO_4$ charge profile. Since the BMS protects the battery, using lead-acid chargers will typically not damage the battery.

CHARGING INSTRUCTIONS

Charging Parameters

$LiFePO_4$ can be charged with either a 1-stage profile (constant current (CC) aka Bulk Stage) or a 2-stage profile (constant current, constant voltage (CC-CV) profile aka Bulk and Absorption Stages). The 1-stage profile will charge the battery ~95% and the 2-stage profile will charge the battery 100%. The 1-stage profile is sufficient, since $LiFePO_4$ batteries do not need to be fully charged; this will not reduce life as it does with lead-acid.

CC Charge Profile – 1 Stage

1-STEP CHARGE DESCRIPTION	STEPS	DESCRIPTION	CHARGE PARAMETERS			
Step 1 - Charge at a constant current until the battery reaches termination voltage.	1	*Recommended Charge Current	≤0.5C			
		**Maximum Charge Current	1C or 100A (the lower of the two values)			
	SYSTEM VOLTAGE		12V	24V	36V	48V
	Stop	Termination Voltage	14.2V – 14.6V	28.4V - 29.2V	42.6V - 43.8V	56.8V - 58.4V

CC-CV Charge Profile – 2 Stage

2-STEP CHARGE DESCRIPTION	STEPS	DESCRIPTION	CHARGE PARAMETERS			
Step 1 - Charge at a constant current until the battery reaches absorption voltage.	1	*Recommended Charge Current	≤0.5C			
		**Maximum Charge Current	1C or 100A (the lower of the two values)			
	SYSTEM VOLTAGE		12V	24V	36V	48V
Step 2 - Hold absorption voltage until charge reduces to termination current.	2	Absorption Voltage	14.2V – 14.6V	28.4V - 29.2V	42.6V - 43.8V	56.8V - 58.4V
	Stop	Termination Current	≤0.05C			

* Charge current must be reduced at temperatures <0ºC (32ºF). See details in Charge Temperature section.
** For optimum life, charge at recommended rate. Some models are specially designed to allow for higher current.

CHARGING INSTRUCTIONS

Charging Series or Parallel Systems

When connecting batteries in series or parallel, please make sure each battery is within 50mV (0.05V) of each other before putting them in service. This will minimize the chance of imbalance between batteries. If your batteries get out of balance, the voltage of any battery is >50mV (0.05V) from another battery in the set, you should charge each battery individually to rebalance. You can charge each battery individually periodically to avoid imbalance. When charging $LiFePO_4$ batteries in series, it is best to use a multi-bank charger that charges each battery individually to ensure the cells remain balanced.

If you charge batteries in series or parallel with one single bank charger (1 set of charge leads) for the entire system, please follow the instructions below.

CC Charge Profile – 1 Stage

1-STEP CHARGE DESCRIPTION	STEPS	DESCRIPTION	CHARGE PARAMETERS			
Step 1 - Charge at a constant current until the battery reaches termination voltage.	1	*Recommended Charge Current	≤0.5C			
		**Maximum Charge Current	1C or 100A (the lower of the two values)			
	SYSTEM VOLTAGE		12V	24V	36V	48V
	Stop	Termination Voltage	14V	28V	42V	56V

* Charge current must be reduced at temperatures <0ºC (32ºF). See details in Charge Temperature section.
** For optimum life, charge at recommended rate. Some models are specially designed to allow for higher current.

If your charger's voltage is lower than those listed in the tables above, it will not damage your battery, however it will be under-charged, and it will not provide the full rated capacity of the battery. If your charger's voltages are higher than those listed in the tables above, the BMS will disconnect the battery circuit and you will have to remove the load to reconnect. We recommend you replace the charger to avoid this inconvenience.

Fuel Gauges

If you are using a voltage-based fuel gauge that is designed for lead-acid batteries it will not accurately provide state of charge (SOC). Please replace your fuel gauge with one that measures current rather than voltage.

CHARGING INSTRUCTIONS

Charging with an Inverter or Charge Controller Charger

Inverter and Charge Controller Charge Parameters

Below are the typical charger inputs when using an inverter or charge controller with $LiFePO_4$ batteries. $LiFePO_4$ batteries do not require equalizing. $LiFePO_4$ batteries do not require temperature compensation for voltage when charging at hot or cold temperatures.

CHARGE PARAMETER	12V SYSTEM	24V SYSTEM	48V SYSTEM
Bulk Voltage	14V – 14.6V	28V - 29.2V	56V - 58.4V
Absorption Voltage	14V – 14.6V	28V - 29.2V	56V - 58.4V
Absorption Time	0- 15 min	0- 15 min	0- 15 min
Float Voltage	13.3V - 13.8V	26.6V - 27.6V	53.2V - 55.2V

Inverter or Charge Controller Voltage Parameters

VOLTAGE CUTOFFS	12V SYSTEM	24V SYSTEM	48V SYSTEM
Low Voltage Cutoff	11V - 12V	22V - 24V	44V - 48V
High Voltage Cutoff	14.6V	29.2V	58.4V

Charging with an Alternator

Depending on the quality of the alternator it may work fine with $LiFePO_4$ batteries. However, the current and voltage spikes associated with lower quality alternators or with high loading, can cause the BMS to disconnect $LiFePO_4$ batteries. If the BMS disconnects the batteries the alternator may be damaged. To protect your $LiFePO_4$ battery and alternator please be sure to use a compatible high-quality alternator or install a voltage regulator.

If you have any technical questions, please contact RELiON Technical Support at 803-547-7288 or our toll-free number 844-385-9840.

NOTES

NOTES

A. MÜLLER GmbH

Industriebatterien
Stromversorgungssysteme

ALSO IN OUR PROGRAMM:

- Traction batteries for forklifts, Aerial work platforms, Electro vehicles, cleaning machines, golf cars, caddys, caravan, boat, renewable energys, rehab technic and for many other applications.
- Suitable charging solutions.
- 2V cells Traction batteries for industrial trucks, aerial work platforms, electric locomotives, sweeper, etc.
- Starter batteries for cars, trucks, bus, construction machines, motor-cycles, quad bikes, etc.
- Stand-by batteries for UPS systems, safety lighting or diesel engine.
- Performance test of existing installations.
- Nickel-cadmium batteries for industrial applications.
- Proper disposal of lead- and nickel cadmium batteries.

A. Müller GmbH

Tholeyer Straße 32
D-66620 Nonnweiler-Primstal

Fon: + 49 (0) 68 75 91 07 - 0
Fax: + 49 (0) 68 75 91 07 - 29

Mail: info@batterien-mueller.de
Web: www.batterien-mueller.de

OPTIMA BATTERIES THE ULTIMATE POWER SOURCE · VARTA · Rolls BATTERY ENGINEERING · TROJAN BATTERY COMPANY