

# The **POWER** Behind the Li<sup>3</sup> ft



### INCREASE PRODUCTVITY WITHOUT INCREASING COSTS

By upgrading your equipment to reliable, high performing RELiON lithium batteries, you can expect some fantastic changes that will simplify your operations.

- S Lower total cost of ownership of MH equipment in most operations
- Single-battery operation through multiple shifts, no need for a battery room
- Increased uptime with opportunity charging

- Safe and clean technology that satisfies the top hygiene standards
- Versatile drop-in solutions for the vast variety of equipment and applications
- 😪 Cutting-edge data capabilities

### Li<sup>3</sup> THIUM ADVANTAGES MATERIAL HANDLING EQUIPMENT

Compared to lead-acid and other lithium batteries, lithium iron phosphate batteries offer significant advantages, making them a worthwhile investment and a smart long-term solution.

### **FEATURES AND BENEFITS**



#### **HIGHLY EFFICIENT**

Fast recharge time and a 99% efficient recharge process, which means less wasted electricity.



#### MORE USEABLE CAPACITY

A 25-50% higher capacity than leadacid batteries with full power available throughout discharge.



#### ROBUST

If they are under-charged or left in a partial state of charge, they will not be damaged. This is aleading cause of early failure in lead-acid batteries.

#### **ECO-FRIENDLY**

No gassing, no fumes and no pollution. Protect the environment, using these non-hazardous batteries.

### MAINTENANCE-FREE

RELiON lithium batteries are maintenance free - no watering; no corrosion.

#### **TEMPERATURE TOLERANT**

2.5X more efficient operation at low temperatures. Safely operational up to 149°F (65°C).

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#### SAFETY

Inherently safe chemistry. BMS provides extra protection.

### LONGER LIFE

Up to 10X longer life span compared to lead-acid batteries.



# LEAD IS DEAD

Check out the chart below to compare the performance advantages of advanced lithium technology versus traditional lead-acid batteries.

	FLA	AGM	LiFePO4				
FEATURE							
Maintenance	High	Low	Zero				
Life	2-4x	-	10-20x				
Cost	0.5x	1x	4x				
Sizes	Standard	Standard	Standard				
Safe	Yes	Yes	Yes				
Power	Declining	Declining	High & Constant				
CHARGE							
Capacity	Partial	Partial	Full Rated				
Charge Rate	Slow (10%)	Slow (20%)	Fast (100%)				
Charge Time	Long	Long	Moderate (50%)				
Charge Level	Full	Full	Partial/Full				
Charge Frequency	Every Cycle	Every Cycle	Whenever				
Partial State of Charge Tolerant	No	No	Yes				

# **OUR PRODUCTS**



It's time to **reduce labor costs** and **increase operational efficiency!** RELION'S UN and UL-certified batteries were built specifically to meet the power requirements in material handling equipment with both 12V, 24V and 48V batteries in a variety of BCI standard sizes for easy drop-in replacement.

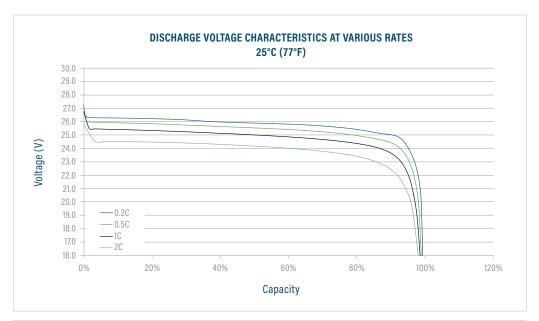
### LITHIUM BATTERIES FOR MATERIAL HANDLING

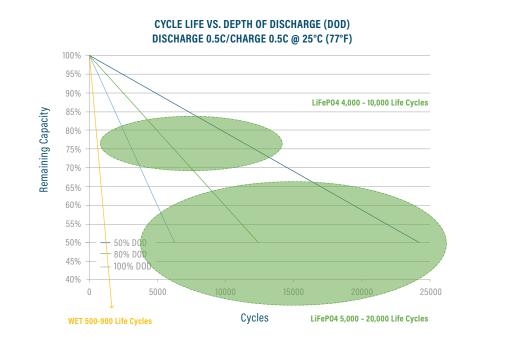
BATTERY	BCI SIZE	VOLTAGE (V)	CAPACITY (AH)	ENERGY (W)	CONTINUOUS CURRENT (A)	WEIGHT (LBS (KG))	DIMENSIONS
RB100	31	12.8	100	1280	100	26.4 (11.9)	13.0 X 6.8 X 8.8 IN (329 X 172 X 223 MM)
INSIGHT 24V	GC2/ GC8	25.6	60	1536	100	34.4 (15.6)	10.2 X 7.1 X 10.9 IN (260 X 180 X 276 MM)
INSIGHT 48V	GC2/ GC8	51.2	30	1536	100	34.4 (15.6)	10.2 X 7.1 X 10.9 IN (260 X 180 X 276 MM)



### INCREASED RUNTIME. INCREASED PRODUCTIVITY.

Lithium batteries charge quickly and can be opportunity charged without damaging the battery. This can significantly extend the range of your LiFePO4 battery per shift.





### WHY PAY MORE FOR LIFEP04?

RELION's long-lived LiFePO4 batteries reduce the inconvenience and expense of replacement and service calls, and they lend peace of mind to many users when it comes to demanding applications.

Our calculation compares the total cost of ownership of RELiON's RB100, a 12V 100 Ah LiFePO4 battery, to three equivalent size (BCI Group 31) off-the-shelf lead-acid battery technologies. Using measured lifetimes taken from the manufacturer's published specifications of each battery, our analysis shows that the RB100 costs at least 51% less over life than even the most cost-effective lead-acid battery.

### **TOTAL COST OVER LIFE COMPARISON**

COST FACTOR	FLA	AGM	GEL	RELION RB100
PURCHASE COST	\$185	\$270	\$400	\$999.95
INSTALLATION COST	\$25	\$25	\$25	\$25
MAINTENANCE COST	\$525	\$40	\$40	\$0
CHARGING COST	\$970	\$970	\$970	\$850
REPLACEMENT COST	\$2,600	\$5,450	\$3,000	\$0
REPLACEMENT LABOR	\$700	\$1,000	\$375	\$0
# OF REPLACEMENTS	(14)	(20)	(7)	(0)
# OF CYCLES OF LIFE	(500)	(400)	(1,000)	(7,100)
TOTAL COST OVER LIFE	\$5,005	\$7,775	\$4,810	\$1,874.95
COST PER CYCLE	\$0.67	\$0.92	\$0.55	\$0.27





### CUSTOM BUILT TO YOUR STANDARDS

#### **OEM Solutions**

Our passion for quality, innovation, and changing the lithium battery market is a mission that starts at the top and permeates everything we do. At RELiON, our turnkey power solutions are perfect for high volume projects, optimized to your product, and come with dedicated engineering support. We also invest considerable effort and resources in new product development, to help our OEM partners meet their long-term energy goals no matter what the application.

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### WORK WITH THE LEADERS IN LITHIUM

#### **Distributor & Dealer Network**

We approach every partnership with openness: so we can understand your needs and you can understand our competencies, standards and commitment to delivery. Our resellers make all the difference and enjoy unparalleled support from our team of accomplished industry leaders. As a partner, we strive to understand everything about your needs today to help you anticipate tomorrow. And we invest heavily in continuous training to ensure your business's growth and success.

We help businesses like Hyster-Yale Group, realize the many efficiency gains from incorporating lithium batteries into their equipment.

"Hyster-Yale Group is proud of the aftersales supplier partnership we have formed with an innovative partner such as RELION. We see the advantages of lithium iron phosphate motive power and the high-quality products they produce. We look forward to helping our customers increase uptime and lower total cost of ownership of their materials handling equipment through the availability of RELION products in our aftersales program."

#### - CHAD SHIRLEY, AFTERSALES PRODUCT MANAGER



### WHO IS RELION?

Our Mission: To power the world's transition to Lithium energy storage, ethically.

We've been in the battery business over 25 years and have learned how to build on success. Partner with RELiON and we'll work closely with you to build on yours. Not just by supplying batteries, but also with unmatched service, training and on-going support. Our product is batteries, but our business is relationships and helping yours succeed.



# **Limitless** Blue

Blue Battery. Blue Sky. Blue Ocean.

## PARTNER WITH A GLOBAL LEADER

Add the RELiON team and you'll add critical capacity, experience, and engineering talent across the entire development cycle. Leverage our expertise to innovate faster, shorten time to revenue growth, and minimize costly delays across planning, design, prototyping, proof-of-concept, and testing.

As a brand under **Advanced Systems Group**, our combined focus is on the success of our customers, our partners, our employees and our future. This partnership strengthens our ability to provide the best products and services to our customers.



### WITH GLOBAL SKILL AND SCOPE IN:

#### ENGINEERING

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QUALITY

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#### LOGISTICS

#### WE USE OUR BUSINESS FOR GOOD

RELION is more than a manufacturer of lithium batteries. We are stewards of our environment and use our business as a force for good in everything we do. We call this Limitless Blue. We challenge ourselves to improve our planet and, hopefully, inspire others to do the same.

As 1% for the Planet members, we donate 1% of our revenue each year to non-profits solving the most pressing environmental challenges of our time.



# Challenge Your **T**<sup>3</sup>mits

### relionbattery.com

### CALL TOLL FREE: (855) 931-2466 • ALL INTERNATIONAL CALLS: +1 (803) 547-7288





UL1642 & UL2580 (cells)

ISO 9001:2015 CE ISO 14001:2004

**Quality Management System** ISO/TS 16949:2009 **Quality Management System Environmental Management System** OHSAS 18001:2007 Occupational Health and Safety Management System Certifications Applicable to the Design and Manufacture of Lithium Iron Phosphate Batteries



RELION Battery provides our customers with the highest quality and safest lithium products, in compliance with all regulatory standards.

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