

RELi³ON[®]

Superior Li³thium Golf Cart Batteries



DESIGNED TO FIT. ENGINEERED TO PERFORM.

Designed and engineered from the ground up by a team of battery experts, RELiON's InSight Series™ is the only lithium battery built to meet the power and energy requirements in golf carts, utility vehicles, AGVs and LSVs. InSight features all the benefits of lithium batteries – longer life, no maintenance, faster charging – with even more intelligent features built-in. From its superior battery design to its one-of-a-kind BMS and intuitive software, InSight batteries offer exclusive advantages you won't find in competitive products, making it an exceptional return on investment for years to come.



Premium RELiON LiFePO4 batteries are all equipped with a built-in battery management system (BMS). A well-designed battery management system can help maximize lifetime and ensure safe operation over a wide range of conditions.

INTELLIGENT DESIGN



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

Li³THIUM ADVANTAGES FOR GOLF CARTS

It's hard to beat a RELiON lithium iron phosphate (LiFePO₄) battery when they deliver everything you need to support life on the course or in the neighborhood. Inherently safe and lightweight, you'll not only travel further more efficiently, you'll do it with less of a footprint without sacrificing power, performance and reliability.

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 lead-acid batteries with full power available throughout discharge.



LIGHTER WEIGHT

Lithium batteries are typically half the weight of 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.



PARTIAL STATE OF CHARGE (PSOC) TOLERANT

If operated in PSOC there is no damage. This is one of the leading causes of early failure in lead-acid batteries.



SAFETY

Inherently safe chemistry. BMS provides extra protection.



LOWER TOTAL COST OF OWNERSHIP

Changing batteries less often means fewer replacement and labor costs.



LONGER LIFE

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

OUR PRODUCTS

SUPERIOR GOLF CART BATTERIES

Our InSight 24 and 48V batteries are the first drop-in replacement lithium batteries built to meet the power and energy requirements in golf cars, utility vehicles, AGVs, and LSVs. They come in a standard GC2/GC8 size case so there are no tray modifications needed, or complicated connections.



Easy Installation with No Maintenance



Full Power Throughout Discharge



Up to 25% More Range



Faster & Smoother Ride



Parallel Connections to Scale Capacity

LITHIUM BATTERIES FOR GOLF CARTS

INSIGHT SERIES 48V-030	BCI SIZE	VOLTAGE (V)	CAPACITY (AH)	ENERGY (W)	CONTINUOUS CURRENT (A)	WEIGHT (LBS (KG))	DIMENSIONS
	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)

INSIGHT SERIES 24V-060	BCI SIZE	VOLTAGE (V)	CAPACITY (AH)	ENERGY (W)	CONTINUOUS CURRENT (A)	WEIGHT (LBS (KG))	DIMENSIONS
	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)

INDUSTRY CERTIFICATIONS

UL2580 (Cell)
File Number: MH63797

UL2271 (Battery Pack)
File Number: MH64262

CE (Battery Pack)
IEC 62133-2:2017 (Battery Pack)
UN38.3 (Battery Pack)

UN38.3



QUALITY YOU CAN RELY ON

You can customize a lot about your equipment, but you can't customize your battery. That's for us to do, and you can trust that we did it right. Not only are InSight batteries built smarter, but they're also built to the highest quality standards.

CONSTRUCTIONAL DIFFERENCES WITH INSIGHT SERIES

DIFFERENTIATOR	BENEFIT
Each Cell is Encased in Aluminum	Provides dimensional stability
Steel Battery Bracket	Provides vibration and shock resistance
External Heat Sink	Keeps BMS cool by providing heat dissipation to outside
BMS Bolted to Heat Sink	Reduces vibration and prevents accidental faults due to vibration and it extends battery life
Bolted Connections to BMS	Provides stable mechanical and electrical connections
Positive and Negative BusBar	Creates an exceptional current collector
IP67 Rated Casing	Ensures water, dust and splash-resistance
UL2271 Certified	Tested to the highest standards

GOLF CART RANGE BY MILES

	Standard 48V Lead Acid (Six at 8V or four at 12V)	One InSight 48V Battery	Two InSight 48V Battery	Three InSight 48V Battery	Four InSight 48V Battery	Five InSight 48V Battery	Six InSight 48V Battery
Miles	15-25	12-17	24-34	36-51	48-70	60-85	72-102

WE STAND BEHIND OUR PRODUCT!
10 YEAR WARRANTY



LEAD IS DEAD

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

LITHIUM VS. LEAD-ACID COMPARISON FOR GOLF CARTS

	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



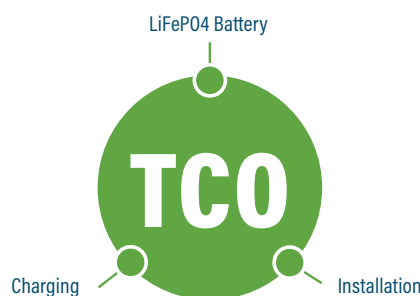
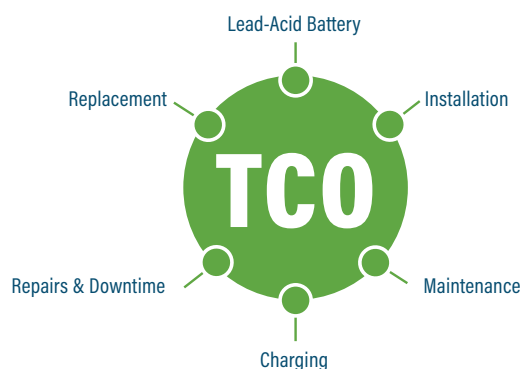
WHY PAY MORE FOR LiFePO4?

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	\$1,050
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	\$4,435	\$1,925
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.



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.



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.



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



QUALITY



SOURCING



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 **Li³**imits[®]

relionbattery.com

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



UN38.3



UL2271 & UL2580 (cells)

ISO 9001:2015

ISO/TS 16949:2009

ISO 14001:2004

OHSAS 18001:2007

Quality Management System

Quality Management System

Environmental Management System

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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GOLF BROCHURE
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