



DE-Series Lithium Battery

“Demanding Environments”



USER MANUAL

DE24105

DE36105

DE48105

DE72105

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TABLE OF CONTENTS

Product Overview	3
Key Features	
Safety Features	
Contents	
Specifications	4
Operation	5
Operation	
Important Notes	
Storage	
Bluetooth and App	
Configuration	6
Parallel	
Series	
Safety Information	7
Warranty	8

PRODUCT OVERVIEW

Our DE-Series batteries are steel encased, Lifepo4 batteries with integrated advanced battery management systems designed to work safely in a high performance environment.

Key Features

- A stable Lithium Iron Phosphate (LifePo4) Chemistry with high cycle count and maintenance free.
- High power to weight ratio. About 3x higher than a traditional Lead-Acid battery
- Bluetooth communications & app to monitor battery performance in real-time and view historical data.
- RS485 and CANBus digital communications

Safety Features

- Onboard Battery Management System (BMS), high/low voltage protection, high/low current protection, high/low temperature protection, short circuit protection, and more.
- Impact, Shock and Vibration resistance protection
- Dust, Dirt and Water resistance
- Pressure vent to release pressure accumulated during high current usage.

Contents

- Battery
- Interactive Battery Display
- RS485 Cable (2 Meters, 6'6")
- Manual (PDF)

SPECIFICATIONS

	DE24105	DE36105	DE48105	DE72105
Nominal Voltage	24V (25.6V)	36V (38.4V)	48V (51.2V)	72V (76.8V)
Voltage Range	20.0 – 29.2V	30.0 – 43.8V	40.0 – 58.4V	60.0 – 87.6V
Capacity	210Ah	105Ah	105Ah	105Ah
Energy	5,376Wh	4,032Wh	5,376Wh	8,064Wh
Dimensions	46cm L x 32cm W x 25cm H			59cm L x 32cm W x 25cm H
Weight	43.5 Kg (96 lbs)	35.5 Kg (78 lbs)	43.5 Kg (96 lbs)	65.0 Kg (143 lbs)
Life Cycles	3,500+			
Continuous Charge Current	105A	50A		
Max Charge Current	200A	105A		
Continuous Discharge	200A	105A		
Max Discharge	200A	200A (Pulse 30sec)		
Self Discharge	~3% per Month			
Case Material	Steel			
Chemistry	Lithium Iron Phosphate (LifePo4)			
Charge Temperature	0C to +55C (32F to 131F)			
Discharge Temperature	-20C to + 55C (-4F to 131F)			
Storage Temperature (1m)	-20C to +45C (-4F to 113F)			
Storage Temperature (1y)	0C to +35C (32F to 95F)			

OPERATION

- Turn battery ON by pressing the Power button, light will illuminate. Battery does not have to be turned OFF after usage. The OFF state is intended for prolonged non usage.
- For charging purposes, use only designated LifePo4 chargers. Using incorrect charger may cause damage to the battery and void your warranty.

Important Notes

1. For those equipped with regenerative braking. Before taking your cart downhill, please reduce the charge down to 95%, either by leaving the key on for a period of time, or driving around a flat area.
2. Battery may shut off abruptly If the State of Charge falls below 20% (This can occur during hard acceleration), over voltage, over current, under voltage. The onboard Battery Management System (BMS) does this to protect the battery. This can cause the vehicle to suddenly stop. If the State of Charge falls below 20%, stop driving and recharge the battery. We are not responsible for any loss caused by the sudden stop of driving by this case.

This will allow a sufficient buffer in the charge level to top up the battery as you drive downhill. If this is not done, due to the regenerative braking charge generated driving down hill, the battery system will shut off to protect the electrical system from overcharging, suddenly stalling the cart on the hill.

Storage

For long term storage, keep the battery in a dry room that is 0C to +35C (32F to 95F) away from corrosive materials and heat sources. Keep the battery state of charge at 60% or above.

Bluetooth and App

1. Ensure Bluetooth is enabled on your mobile device.
2. Android devices running Android 10+ will need to have location services enabled for fine Bluetooth scanning.
3. Download our app from the QR Code shown [At The End of this document](#)
4. Once installed, launch the app and grant permission to access Bluetooth if prompted.
5. Select battery from list of Bluetooth devices

CONFIGURATION

Batteries need to be fully charged and powered off before establishing any of the connections listed below.

Parallel

When connecting batteries in parallel, it is highly recommended to connect the batteries via busbar and behind a fuse.

1. Ensure each battery is fully charged and powered off prior to establishing busbar connections.
2. Connect positive terminals to positive busbar.
3. Connect negative terminals to negative busbar.

Series

Only the DE24105 can be connected in Series and only 2 of them. Do not connect any other DE battery in Series.

When connecting in series:

1. Ensure each battery is fully charged and powered off prior to establishing connections.
2. Connect the positive terminal of one battery to the negative terminal of another.

SAFETY INFORMATION

Please read this manual carefully before installation and keep available for future reference:

Failure to follow these instructions / guidelines can result in property damage, personal injury, or worse.

1. Do not use if any components are damaged. If damaged upon arrival, please contact vendor.
2. Mishandling and/or misuse of the products may void warranty.
3. Buyer is responsible for any damages resulting from the mishandling or misuse of our products, and/or failure to follow the safety guidelines.
4. Do not attempt to use the battery in climates exceeding battery specifications.
5. Do not connect the battery to any batteries with different specifications or chemistry.
6. Do not disassemble or modify the battery.
7. Do not operate the battery near fire or flammable / explosive or any other hazardous materials.
8. Do not place conductive materials near battery terminals or connections.
9. Do not float / trickle charge the battery.

WARRANTY

Warranty information is provided on our website or through contacting us directly.

Warranty Exclusions

- Any short circuit caused by accidental, intentional, or inadvertent connection of the positive and negative terminals
- Battery that has been opened, modified or tampered with in any way.
- Under/over charging the Battery as defined in its respective Battery Owner's Manual
- Battery that was used for applications other than which it was designed and intended for or drawing more amps than the battery is rated to continually discharge in its respective specifications
- Reverse polarity connections
- Improper installation, use, maintenance, or service
- Damage caused by impact, accident, collision, or drop
- Battery that has been used in a commercial application where it is cycled to more than 80% depth of discharge repeatedly within 24 hour periods.
- Battery that has not been charged for over 1 year (batteries need to be cycled periodically to maintain health)
- Inappropriate storage conditions as defined by Battery Owner's Manual including but not limited to, exposure to extreme ambient temperatures above 140°F or below -40°F, fire, or water submersion, and/or storing Battery in a completely discharged state
- High resistance as a result of insufficient cable size, corroded terminals, poor crimps etc.
- Battery that fails as a result of a faulty electrical system
- Damage due to being unsecured or insufficiently secured
- Loose battery terminal connections



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