

FBP2 Series Motive Power Lithium Batteries

Overview

With an enhanced feature set developed based on 10 years of experience with the ground breaking Lithium SAFEflex product line, Lithium SAFEflex Plus is a comprehensive battery solution designed to meet the cost, performance, efficiency and durability requirements of the rugged warehouse environment. It includes application-specific cell chemistry and intelligent battery management electronics. FBP2 series Lithium SAFEflex battery systems are high cycle life, low maintenance solutions for industrial vehicles with a broad specification range to fulfill the most demanding requirements. The drop in replacement batteries make upgrading from Lead Acid to Lithium simple. The batteries are sized to fit the standard material handling lead acid battery compartment, along with meeting the truck battery weight requirements.

Features

Improved Robustness, Reliability and Serviceability

- Modular design with individual cell monitoring
- Distributed BMS intelligence and datalogging
- Galvanic isolation of signal interfaces
- Advanced WiFi connectivity & Network Security Protocols
- Resilient FW Bootload and OTA FW Upgrades
- Charge ports or single point battery connection replicates today's lead acid without special truck or charger modifications

Flexible Design for Optimized Truck Applications

- Green Cubes custom Battery Management System (BMS) can be adjusted for different performance based upon the application
- High current trucks with accessories
- Extreme low temperature cold storage operations
- Fast Opportunity Charging without effecting cycle life
- Fully ballasted battery for heavy counterbalance trucks or non-ballasted batteries for light application

Safety & Protection

- Higher safety Lithium Iron Phosphate chemistry cells utilized in the battery systems
- Voltage, Current, and Temperatures are continuously monitored by Green Cubes Technology's custom Battery Management System (BMS) which controls the internal safety contactors or disconnect fuse
- Constructed with UL recognized modules for family UL 2580 approvals

Benefits: Low Total Cost of Ownership

- High cycle life
- True fast charge/ Opportunity Charge
- Low Maintenance
- Drop in Lead Acid replacement
- No watering
- No equalization charging
- No battery watering or washing

Energy Savings

- Recharge efficiency of 98% or higher helps save electricity and also reduce damaging effects of heating the batteries
- Improvements in runtime capacity efficiency of 10% or higher



Specifications

SAFEFlex Plus		
Voltage class	48V	36V
Nominal Capacity	525 - 840 Ah 26 - 43 kWh	630 - 840 Ah 24 - 32 kWh
Nominal Voltage	51.2 V	38.4 V
Operating Voltage	49.6 - 56.8 V	37.2 - 42.6 V
Operating Temperature	-4°F - 122°F	
Charge Current continuous (max)	320 A	
Discharge Current continuous (max)	320 A	
Discharge Current peak	636A/30s, 1200A/7s	
Protections	Over and Under Voltage Protection	
	Over and Under Temperature Protection	
	Over Current Protection	
Communication	CANBus	
	USB	
	Ethernet	
	Wi-Fi	
Storage Temperature	-4°F - 113°F (One Month)	
	32°F - 95°F (One Year)	
Storage Humidity	≤ 70% RH	
Ingress Protection	IP 2X	
Agency Approvals	UL 2580 (pending)	
	ISO 13849	
	UN 38.3	
Battery Modes	Active, Sleep, Ship/Storage	
Chemistry	Lithium Iron Phosphate	

Applications

Fork Lifts/ PalletTrucks ▪ AGV (Automated Guided Vehicle)
Ground Support Equipment ▪ Industrial Electric Vehicles

Lithium SAFEFlex+ Motive Power Batteries Popular Models

SAFEFlex Plus Models				
Model	Voltage	Lithium Capacity	Battery Weight	Battery Dimensions LxWxH inches)
FBP2-048-005-01	51.2 V	525	2,300 LBS	38.25 x 24.44 x 22.5
FBP2-048-008-02	51.2 V	840	3,500 LBS	39 x 38.5 x 22.18
FBP2-048-007-03	51.2 V	735	3,300 LBS	38.25 x 32.25 x 22.5
FBP2-048-007-04	51.2 V	735	4,100 LBS	39 x 39.25 x 22.5
FBP2-048-006-05	51.2 V	630	2,800 LBS	38 x 30.32 x 22.5
FBP2-048-007-06	51.2 V	735	4,000 LBS	45 x 45 x 22.5
FBP2-036-007-07	38.4 V	735	2,600 LBS	38.25 x 20 x 29
FBP2-036-006-08	38.4 V	630	2,500 LBS	c
FBP2-036-008-07	51.2 V	840	2,600 LBS	38.25 x 20 x 29
FBP2-036-006-08	51.2 V	630	2,500 LBS	38 x 17.75 x 28
FBP2-036-007-07	51.2 V	735	2,800 LBS	38.25 x 20 x 29
FBP2-036-008-09	51.2 V	840	3,000 LBS	38.25 x 22.5 x 22.5
FBP2-036-006-10	51.2 V	630	2,250 LBS	38.25 x 24.5 x 22.5

ABOUT GREEN CUBES TECHNOLOGY

Green Cubes Technology harnesses over 30 years of industry experience to ensure we design, develop and deliver solutions for the most challenging energy needs. We offer battery technology innovation, application design and performance management to drive productivity, scalability and sustainability.

For more information, email info@greencubes.com
or visit greencubes.com

