

MOBATT

Battery Charger



varixx

MOBATT - Battery Charger

Mobatt Fail Safe Intelligent Battery Charger is the result of Varixx's extensive experience with the analog Mobatt, as well as more than 40 years of experience in manufacturing power electronics devices and other high-tech digital equipment.

Mobatt Digital has a robust and reliable power section, making it ideal for use in harsh environments. Its Digital Controller offers a high degree of adaptability to the battery bank used, allowing every important parameter of the system to be adjusted.

The charging algorithm consists of 4 stages, which makes it possible to recover 100% of the charge used in the shortest possible time, without compromising the lifetime of the battery bank.

> Benefits



4 load shapes, optimizing it's return.



Fully parameterizable.



Built-in protections and alarms.



Built-in measurements and curves.



Predictive battery health monitoring.



High switching frequency in the Low Ripple converter.



Fail Safe Operation.



Robust and reliable.

> Application

Charging of industrial battery banks up to 300 Vdc, used in electromagnet systems in overhead cranes, DC motors, AC motors with No-Break, computer systems with No-Break, UPS auxiliary service, etc.

- UPS systems.
- Industrial electromagnet systems.
- DC motor systems.
- Emergency direct current systems.
- AC systems with No-Break.

> Main Features

- Operates in 4 charging modes automatically: (Trickle, Bulk, Conditioning and Float)
- Operates autonomously, without supervision.
- Various built-in protections.
- Real-time graphical record (trend).
- History of faults and status.
- Continuous readings.
- Monitors battery temperature.
- Low ripple.
- Predictive monitoring.
- Up to 25 Amps of load.
- Up to 300 VDC on the battery bank
- Buck converter up to 16 KHz for lower ripple in charging currents.
- Optional Modbus RTU or Profibus DP communication or via CanOpen network

> Typical Load Values

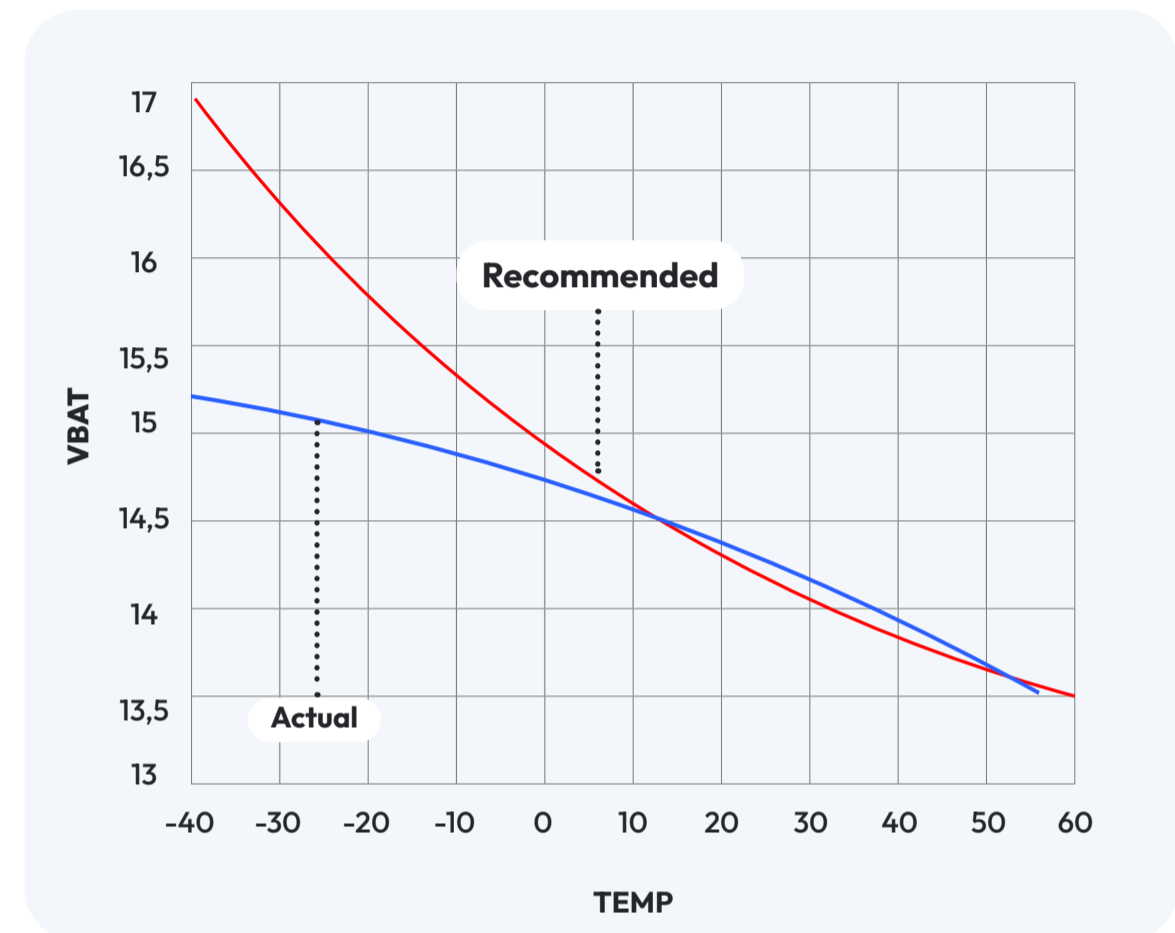
The table below shows typical charging characteristics for various types of batteries, including SLA - Sealed Lead Acid or Lead-Acid battery that apply to this equipment. The definition of the loading parameters can be completely defined by the Mobatt user.

PARAMETER	SLA	NICD	NIMH	li-ion
Standard Charge				
Current (C rate)	0.25	0.1	0.1	0.1
Voltage per cell (V)	2.27	1.5	1.5	4.1 ± 50 mV
Time (Hours)	24	16	16	16
Temperature Range (°C)	0-45	5-40	5-40	5-40
Termination	None	None	Timer	None
Fast Charge				
Current (C rate)	1.5	1	1	1
Voltage per cell (V)	2.45	1.5	1.5	4.1 ± 50 mV
Time (Hours)	1.5	3	3	2.5
Temperature Range (°C)	0-30	15-40	15-40	10-40
Primary termination method	I_{\min}^1 ΔTCO Timer ΔTCO	dT/dt $-\Delta v$ Timer ΔTCO	Zero dv/dt $-\Delta v$, d^2V/dt^2 , ΔTCO TCO, TIMER	$I_{\min}^1 + \text{timer}, dT/dt$ dT/dt TCO, TIMER

¹Minimum current termination threshold.
Adapted from Israelsohn, 2001.

> Typical current compensation curve as a function of battery temperature

Below is a typical graph for compensating charging current as a function of battery temperature in order to optimize charging and increase battery life.



Battery Voltage vs Temperature for a 6-cell, sealed, Lead-Acid Battery

> Main Features

- Applicable to stationary lead-acid battery banks.
- RS485 serial network (Modbus optional, Profibus optional).
- Up to 25 Amps of load.
- 4 charging modes automatically: Trickle, Bulk, Conditioning e Float.
- Continuous readings.

Discover our complete solution

> Allbat Stationary Battery Systems with Charger

Designed to operate in challenging and aggressive environments, these systems feature a compact battery module, complemented by a forced ventilation system to optimize thermal efficiency.

Integrated with a MOBATT 200 digital charger to ensure effective load management, with the advantage of customizable capacity, current and voltages to meet specific needs, could be combined with rectifier system.

By using valve-type stationary batteries, we ensure reliability and durability. In addition, we incorporate a dedicated ventilation system and ultra-fast fuses to guarantee operational safety in all conditions.

DC switching is implemented efficiently, offering flexible options such as bar contacts or static contacts without interruption, providing continuous and reliable operation.

These enhancements guarantee exceptional performance, adapting to the diverse demands of challenging environments.



Learn more about this and other solutions on our website.


> Benefits


- Operate in dirty and aggressive environments.
- Compact battery module with forced ventilation.
- Incorporates MOBATT 200 analog or digital charger.
- Customizable capacity, current and voltages.
- Valve-type stationary batteries.
- Incorporates ventilation system.
- Incorporates ultra-fast fuses.



Explore the technical details of Mobatt, our online Battery Bank charger, a product dedicated to high-capacity industrial applications.

In addition, discover and explore all our solutions for AC/DC Converters and Rectifiers, feeding and driving motors, resistive loads, inductive loads, electromagnets and capacitor banks. All these solutions have been designed to meet a wide range of applications, offering durability and a long lifetime.

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