

OB Series

On-Board battery Chargers

USER MANUAL

Important Notes: Failure to follow these maintenance procedures may compromise safety and void the product warranty.

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DISCLAIMER

This manual provides an overview of the functional features, technical parameters, operating procedures, definitions and usage of indicator lights, as well as safety precautions for the series of vehicle-mounted battery chargers.

Before using this product, read this user manual carefully to ensure correct operation. Once read, retain the manual for future reference. Failure to operate the product in accordance with this document, may result in serious personal injury, damage to the product, or property loss. The user assumes full responsibility for their actions and any consequences arising therefrom. Our company shall not be liable for any losses resulting from the user's failure to comply with this manual, in accordance with applicable laws and regulations, our company reserves the right of final interpretation regarding this document and all related product documentation.



Warning

This charger must be used with a charging algorithm appropriate for the specific battery type. Incorrect use may result in personal injury, battery damage, or equipment failure.

Ensure the charging area is free from sparks, flames, or smoking materials to prevent ignition.

For lithium-ion batteries, an integrated Battery Management System (BMS) is mandatory. The BMS must continuously monitor and protect all cells from over-voltage, current, temperature, and state of charge levels under normal operating conditions.

Operate the charger in a well-ventilated area and never in an enclosed space. Do not attempt to charge frozen, damaged, or non-rechargeable batteries under any circumstances.

Always follow the battery manufacturer's instructions, including adherence to specified maximum charge rates and any special precautions (such as removing cell caps during charging, where applicable).

SAFETY

This charger must be connected to a properly installed and grounded AC outlet that complies with local electrical codes. A correctly grounded outlet is essential to minimize the risk electric shock. Under no circumstances should you use ground adaptors or modify the plug.

Never touch uninsulated portions of the output connector or exposed battery

terminals. Always ensure the AC power supply is disconnected before making or breaking connections to the battery. The charger must not be opened or disassembled for any reason.

Cease use immediately and do not operate the charger if the AC supply cord or DC cord shows any signs of damage, or if the unit has sustained physical impact (Including being dropped or struck). Any such incidents may comprise safety and require professional inspection. All maintenance and repairs must be conducted exclusively by the manufacturer or quality service personnel.

This charger is not intended for use by individuals (including children) with reduced physical, sensory or mental capabilities, or those lacking adequate experience and knowledge of electrical systems, unless they are under direct supervised by a competent person responsible for their safety. Children must be properly supervised at all times to prevent any interaction with the charger.

Important: Failure to comply with these safety instructions may result in serious injury, electrical shock, or damage to equipment. The manufacturer accepts no liability for consequences arising from improper use or failure to observe these warnings.

SAFETY SIGNS

	It is prohibited to disassemble or replace parts privately. Please use components or accessories that are not officially provided with caution.
	It is prohibited to place this product near heat sources, such as fire sources or flammable substances.
	It is prohibited to use this product in an environment with strong static electricity or a strong magnetic field.
	It is prohibited to disassemble this product in any way or pierce it with sharp objects.
	It is prohibited to directly connect the input and output terminals of the charger simultaneously with a metal wire or any metal object.
	It is prohibited to keep this product in an unventilated or dusty space.
	It is prohibited to let this product come into contact with any liquid. Do not immerse this product in water or get it wet. Do not use this battery in the rain or in a humid environment.
	When handling the charger, please pay attention to securing it. Keep the product in an upright and stable position, and handle it with care.
	Use the appropriate battery type.
	The socket to which the input wire of the regulated power supply is connected must be a socket with a grounding wire installed in accordance with local safety regulations. A well-grounded socket reduces the risk of electric shock.
	Do not connect an adapter or a modified plug. Do not touch the non-insulated parts of the output terminal of the regulated power supply and the non-insulated parts of the battery terminal with your hands.
	If the outer casing is damaged or the internal parts are exposed, do not attempt to operate it by yourself. Please have a professional inspect and repair it.

Connecting the Charger Extension Cord

1. Plug the extension cord into the cart first, then into the wall outlet.
2. Use the provided recommended MODZ extension cord.

CAUTION: Do not exceed 20 ft in total cord length or use cable thinner than 14 AWG (gauge).



PRODUCT INFORMATION

OB series industrial battery chargers are designed for charging golf cars. The charger incorporates advanced software and hardware control technologies, enabling automatic detection of charging parameters and compatibility with multiple battery types.

Technical Features

Control Technology

- Advanced software and hardware control systems
- Full soft-switching, full-bridge LLC adaptive power conversion technology

Construction & Safety

- Fully sealed aluminum die-cast housing with electrical isolated design
- IP67-rated protection for durability in diverse environments
- Vehicle-grade electronic components compliant with international standards

Protection Features

- Overcurrent Protection (OCP)
- Overtemperature Protection (OTP)
- Short-Circuit Protection (SCP)
- Reverse Current Protection (RCP)
- Undervoltage Protection (UVP)
- Overvoltage Protection (OVP)

Protection Features

- CANbus communication interface
- LED status indicators

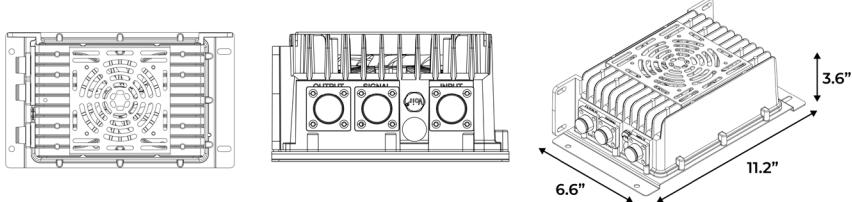
GENERAL PARAMETERS

Items	Value
Power Factor	0.99
Conversion Efficiency	≥ 92%
CAN-BUS	Standard
Auxi. 12Vdc	optional / without default
Charge lock switch	optional / without default
Protocol	Customized
Battery Type	Lithium / Lead-Acid
Cooling Mode	Air cooling
Ambient Temperature	-20° C ~ 65° C
Working Humidity	0% ~ 95%
IP Rating	IP67
Noise	<65dB
Altitude	<2000m

SAFETY RATINGS

UL1564:2024, EN60335-1:2012+A11:2014+A13:2017+A1:2019+A14:2019+A2:2019+A15:2021,
EN 60335-2-29:2021+A1:2021, EN IEC 55014-1:2021, EN IEC 55014-2:2021,
EN IEC 61000-3-2:2019+A1:2021, EN 61000-3-3:2013+A1:2019+A2:2021

OBF48V20A



Model: OBF48V20A

AC Voltage	110V - 120V	Dimensions (Inches)	11.2" X 6.6" X 3.6"
AC Phase	Single Phase 50/60Hz	Weight (Lbs)	8.8 Lbs
DC Voltage	36V - 57.6V		
DC Current	< 20A		

INDICATOR STATUS

- Red light on : Fault
- Green light on : Charging complete
- Yellow light on : Stand by
- Green light flashing : Charging
- Yellow light flashing : Pause



MAINTENANCE INSTRUCTIONS

Warehouse Storage Requirements

The charger must be stored in a dry, well-ventilated environment.

The recommended storage temperature **-4°F (-20°C)** to **131°F (+55°C)**

Ensure the unit is kept away from: Water sources / Heat sources / Conductive metal objects

Regular Inspection

To maintain safe operation:

- Periodically inspect all components (connecting wires, plugs, etc) for damage.
- Replace any faulty parts immediately using manufacturer-approved replacements.

Cleaning Procedure

- Wipe the exterior surfaces with a dry or anti-static cloth.
- Regularly remove accumulated dusty/dirt to maintain proper heat dissipation.

Operational Guidelines

- Schedule charging cycles appropriately to avoid continuous extended operation.
- Excessive uninterrupted use may accelerate component wear.

Important Notes: Failure to follow these maintenance procedures may compromise safety and void the product warranty

ABBREVIATIONS

The following table provides abbreviations definitions used with in this manual

Term	Definition	KW	Kilowatt
AC	Alternating Current	LED	Light Emitting Diode
AWG	American Wire Gauge	LV	Low Voltage
BMS	Battery Management System	SW	Software
DC	Direct Current	USB	Universal Serial Bus
EMC	Electromagnetic Compliance	V	Volt
HV	High Voltage	VAC	Volts Alternating Current

CUSTOMER SERVICE

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