FLEXCHAR SERIES

INDUSTRIAL BATTERY CHARGER

USER MANUAL

www.vertech-power.com

VerTech

FlexChar User Manual

Before using the FlexChar series battery charger, read all instructions operation and safety in this manual, For more information and technical support, please visit: www.vertech-power.com

WARNING

- **TO REDUCE THE RISK OF FIRE, INSTALL THIS BATTERY CHARGER ON A SURFACE OF NON-COMBUSTIBLE MATERIAL SUCH AS BRICK, CONCRETE, OR METAL.**
- **TO REDUCE THE RISK OF ELECTRIC SHOCK DISCONNECT CHARGER FROM AC POWER AFTER USING.**
- **RISK OF ELECTRIC SHOCK. DO NOT TOUCH UNINSULATED PORTION OF AC OR DC CONNECTORS OR UNINSULATED BATTERY TERMINAL.**
- **VENTILATE THE AREA WHEN THE BATTERY IS CHARGING IN AN ENCLOSED PLACE, NEVER SMOKE, USE AN OPEN FLAME, OR CREATE SPARKS NEAR THE BATTERY.**
- **THE SURFACE TEMPERATURE IS HIGH DURING CHARGING, PLEASE DO NOT TOUCH IT**
- **ONLY A QUALIFIED SERVICE TECHNICIAN SHOULD PROGRAM OR MAINTAIN THE CHARGERS**

DANGER

- **A GROUNDED OUTLET IS REQUIRED TO REDUCE RISK OF ELECTIRC SHOCK.**
- **CHARGE ONLY BATTERIES OF THE SAME TYPE, VOLTAGE, CELL NUMBER, AND AMP-HOUR CAPACITIES AS SHOWN ON THE LABEL. OTHER TYPES OF BATTERIES MAY BURST CAUSING PERSONAL INJURY AND DAMAGE.**
- **DO NOT OPERATE THIS CHARGER IF AC SUPPLY CORD IS DAMAGED OR IF THE**

CHARGER HAS RECEIVED A SHARP BLOW OR IS DAMAGED IN ANY WAY

Operating and Maintenance

1. **The enclosure of the charger meets IP66, making it dust-tight and protected against powerful water jets. The AC connection is rated to IP20, which is not protected against water. Protect the AC connection if used in wet or dusty environments.**
2. **Always connect the charger to a grounded outlet. AC supply cord should be no longer than 10m**
3. **The customer's replacement of the DC wire may result in a deviation of the power display during the charging process**

LED indicators Instructions

FlexChar has two kinds of LEDs to indicate charge status and charge profiles:

- Status and Fault: Indicate charging status
- SOC and Charge profile: Indicate state of charge and current charge profile

COM(Green) – Indicates the charger communication status;
CHARGER STATUS(Yellow) – Indicates the charger in a special state;
FAULT(Red) – Indicates when a charger or battery fault has occurred;

SOC(Green) – Five LEDs indicates the state of charge;
Charge profiles(Green) – When self-test,these five LEDs indicates current default Charge profile

Status and Fault

Status & Faults			
Red LED	Yellow LED	Green LED	DESCRIPTION
Solid on	Solid on	Solid on	Initialization LED check
Off	Slow Blink	N/A	Temperature derating(＞90℃)
Off	Fast Blink	N/A	AC power derating
Off	Solid on	N/A	Temperature & AC power derating
N/A	N/A	Fast Blink	CAN communication
Slow Blink	Off	Off	High temperature protection(＞95℃)
Slow Blink	Off	Slow Blink	Low temperature protection(＜-20℃)
Slow Blink	Fast Blink	Off	AC Power Abnormal
Solid on	Off	Off	Battery disconnect/Battery voltage is too low to start charger
Solid on	Off	Slow Blink	DC Output over voltage
Others			Please contact supplier

Charge SOC

State Of Charge					
LED1	LED2	LED3	LED4	LED5	DESCRIPTION
Solid on	Solid on	Solid on	Solid on	Solid on	Initialization LED check/Charged
Slow Blink	Off	Off	Off	Off	SOC＜20%
Solid on	Slow Blink	Off	Off	Off	20%＜SOC＜40%
Solid on	Solid on	Slow Blink	Off	Off	40%＜SOC＜60%
Solid on	Solid on	Solid on	Slow Blink	Off	60%＜SOC＜80%
Solid on	Solid on	Solid on	Solid on	Slow Blink	80%＜SOC＜90%
Solid on	Solid on	Solid on	Solid on	Fast Blink	90%＜SOC＜100%
Fast Flashing By Sequence					CLOSE/LOCK status

Charge Profiles

Model	FlexChar 650/380A-1
No.	Battery Type
1	Trojan Wet Flooded
2	Leoch AGM
3	Discover/MOVE AGM
4	MOVE GEL
5	TOPBAND Li-ION

Note: The Charge Profiles may increase or update, please refer to the latest profiles.

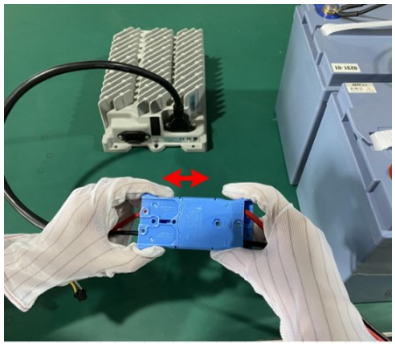
Select a Charge Profile

The pure software control solution provides FlexChar series chargers great flexibility, All charging Profiles and charging logic can be customized according to customer requirement. This section shows how to identify the default charge profile and select a new charge profile using the “Touch method”.

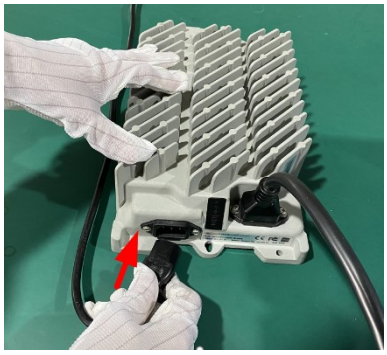
If the customer needs to customize a new charging profile for the purchased FlexChar, please visit: www.vertech-power.com, We will provide free software upgrade services.

Identify the current profile

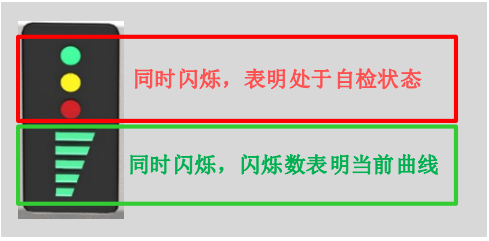
1. Please wear goggles and gloves before operation.
2. Disconnect DC power from the battery.



3. Connect the AC power source to the charger



4. Charger will conduct a self-test of its LED indicators
5. During the 12 seconds of self-test, the charger will display its default charge profile. Profiles are indicated by the number of consecutive flashes followed by a pause



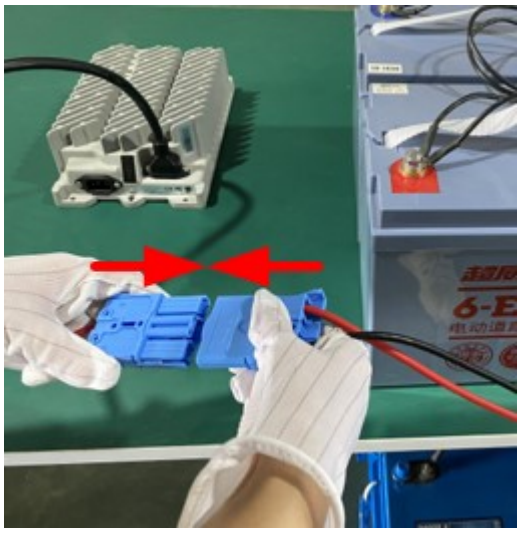
（e.g. #2 = ●●●+ ○○○●● ⏸ ●●●+○○○●● ⏸ ）

6. After 12 seconds the the red fault light will then be solid on.

Selecting A Charge Profile

7. Disconnect AC Power

8. Make sure DC power is disconnected, then reconnect AC power
9. Connect DC power for three to five seconds, then disconnect. The Charge profile will changed to next ID(e.g. ID= #2before operation, after this operation ID changed to #3), Repeat this step until you reach the desired charge profile.



10. When the charger displays the desired charge profile, connect DC power for at least 10 seconds. When the charge profile is locked, you will hear a click from the charger.

11. Disconnect AC Power

12. Disconnect the charger from AC power and wait for the LED indicator display to turn off. then disconnect DC power

13. Reconnect AC power and observe the LED flashing sequence to verify the desired charge profile is obtained.