

## **Optional functions of charger**

### **Earth fault monitoring**

The earth fault monitoring function monitors the insulation resistance of the DC-output to earth. Plus and minus are measured and monitored alternately. If the insulation resistance falls below the adjusted value (adjustable from 100 kOhm to 1 MOhm), this will be indicated by the LEDs and the common alarm.

### **Temperature compensation**

Because the internal resistance of the battery is related to the ambient temperature. The internal resistance is larger at low temperature and smaller at high temperature. The temperature compensation function is to check the ambient temperature when charging, and then adjust the charging voltage appropriately according to this temperature. This will ensure the life of the battery.

### **Parallel configurations**

There are two parallel functions, one is a standby type, when one charger fails, the other will work automatically. The other is the load-sharing type, where two chargers work at the same time and each share 50% of the load current. Customers need to choose

according to their needs.

### **Blocking diode**

The diode that uses the unidirectional conduction and reverse non-conduction function of the diode to prevent the current from flowing backward is called a blocking diode according to its function. Adding this diode can prevent the current of other devices from flowing back into the charger, which may cause damage to the charger.

### **Battery test function**

The principle of battery testing is to discharge the battery through a resistive load and observe whether the voltage of the battery changes. If the battery voltage drops quickly, the battery capacity is insufficient and the battery needs to be replaced.

### **Battery low voltage disconnect (LVD)**

When the mains power fails, the battery will be in a discharge state. The battery low-voltage disconnect function is a function to prevent the battery from over-discharging and damaging the battery. So as to extend the life of the battery

### **Dropping diodes/DC-DC converter**

The function of the step-down silicon chain is to stabilize the voltage at the load end. Since the voltage is always changing when the charger is charging the battery, the range of voltage change for each system is different. When the DC load is connected, if the input voltage range of the load cannot withstand the change range of the charging voltage of the charger, the load may be damaged. At this time, it is necessary to connect a dropping diodes to stabilize the voltage at the load end. If the load input voltage range can withstand the charging voltage variation range, there is no need to connect the dropping diode.

### **LED test function**

This function is to test whether the LED lights on the cabinet are faulty, and to prevent when the charger fails, and the LED lights are damaged and cannot indicate the fault of the charger.

### **AC high and low alarm/protection**

When the AC voltage exceeds the set range, the charger will occur alarm or trip.

### **DC high and low alarm/protection**

When the DC voltage exceeds the set range, the charger will occur

alarm or trip.

### **Front-panel analog meters/digital meters**

An electric meter indicating input voltage and current, output voltage and current. Customers can choose analog or digital meters according to their needs.

### **Modbus TCP/IP and DNP3.0 protocol**

Our default configuration is modbus RTU protocol with RS232 communication. Customers can choose DNP3.0 or modbus TCP/IP or IEC61850.

### **DC breaker and DC distribution**

These are not included by default, DC MCCB or MCB or DC power distribution can be added according to customer needs