Application Note:

Trouble-shooting guide for EP Solar Charge Controllers

This document is a compilation of trouble-shooting suggestions to assist with fault-finding on EP Solar charge controllers. This document is merely a guide and does not replace the user manual of each respective product.

ETracer BND Series

Faults	Possible reasons	Troubleshooting
Charging LED indicator off during daytime when sunshine falls on solar modules properly	PV array disconnection	Confirm that PV and battery wire connections are correct and tight
Battery LED indicator green fast blink and LCD displaying 'OVD'	Battery voltage is larger than over voltage disconnect voltage (OVD)	Check if battery voltage too high, and disconnect solar modules
Fault LED indicator blink, LCD displaying 'Over Volt '	Solar modular output is too high	Check solar component parameters matching; the controller will disconnect the input if the voltage is over 150V and will Recovery below 145V
Fault LED indicator blink, LCD displaying 'Over Temp '	Heat sinks operational temperature is quite high to 85 ºC or above	The controller will automatically stop working. When the temperature is below 75 ºC, the controller will resume to work
Cannot connect to the controller via RS-485 or RS-232	RS-485 serial baud rate setting error or serial-USB adapter incorrect configuration	Check serial baud rate is set to 115200bps or not and choose the right COM port; If using a serial-USB adapter, 30 verify that the adapter software is installed and a serial COM port has been mapped

Tracer BN Series

Faults	Possible reasons	Troubleshooting
Charging LED indicator off during daytime when sunshine falls on PV modules properly	PV array disconnection	Confirm that PV and battery wire connections are correct and tight
Wire connection is correct, LED indicator off	1. Battery voltage is lower than 9V 2. PV voltage is less than battery voltage	1. Please check the voltage of battery. At least 9V voltage to activate the controller 2.Check the PV input voltage which should be higher than that of the battery
Battery LED indicator green fast blink	Battery voltage higher than over voltage disconnect voltage(OVD)	Check if the battery voltage is too high, and disconnect the solar module
Battery LED indicator orange	Battery under voltage	Load output is normal, charging LED indicator will return to green automatically when fully charged
Battery LED indicator red color	Battery low voltage disconnect	The controller will cut off the output automatically, LED indicator will return to green automatically when fully charged
All the LED indicators blink. (battery indicator orange blink)	Too high temperature of controller	When heat sink of the controller exceeds 85℃, the controller will automatically cut input and output circuit. When the temperature below 75℃, the controller will resume to work
All the LED indicators blink. (battery indicator red blink)	System voltage error	Check whether the battery voltage match with the controller working voltage. Please change to a suitable battery or reset the working voltage. Remove all faults and click the button to resume to work
Load terminals no output	Over load or Short circuit	Remove or reduce the load and press the button, the controller will resume to work after 3 seconds

Tracer ViewStar Series

Faults	Possible reasons	Troubleshooting
Charging LED indicator is off during daytime and the monitor shows Disconnect.	PV array disconnection	Check that PV and battery wire connections are correct and tight
monitor shows Measure Err、MOS-I Short、MOS-C Short、MOS Break	MOS-I or MOS-C are damaged	Please restart controller; if the fault still exists, switch off controller immediately and contact the supplier to make maintenance
Loads do not work and monitor shows LVD	Battery is over discharged	The controller cut off the output automatically and recover when fully charged
Charging and discharging circuit is off and monitor shows OVD	Battery is over voltage	switch off the wiring of solar array and measure the voltage of battery whether is too high
Charging and discharging circuit is off and the BATT of monitoring interface shows Over Temp	Operating ambient temperature (local temperature sensor) or battery temperature (remote temperature sensor) over temperature	When operating ambient temperature or battery temperature reaches exceeds 65ºC controller will cut off input and output circuit automatically. When the temperature is below 55℃, controller will automatically reconnect input and output circuit
Charging and discharging circuit is off and monitor shows Error	Battery voltage sensor is abnormal	Please restart controller, if the fault still exists, cut off charging and discharging circuit immediately and contact the supplier to make maintenance
Discharging circuit is off and monitor shows Over Load	Load power surpasses nominal power	Please reduce the number of electric equipment's. When load power reaches 1.05-1.25 times, 1.25-1.5 times and 1.5 times more than nominal value, controller will automatically close loads in 60 seconds, 5 seconds and 1 second, respectively. It is reactivated after delayed 5 seconds for the first time, 10 seconds for the second time, 15 seconds for the third time, 20 seconds for the fourth time and 25 seconds for the fifth

		time. If over 5 times, push the key ENTER and controller recover output after 10 seconds. In the process of 5-time reactivation, if it is recovered manually, the 5-time reactivation will be circulated again. When there is any change from night to daytime, restart the self-recovery process. Namely, 5-time circular reactivation can be operated again
Discharging circuit is off and the LOAD monitor shows Short.	Load circuit is short	Please check carefully loads connection; It is reactivated after delayed 5 seconds for the first time, 10 seconds for the second time, 15 seconds for the third time, 20 seconds for the fourth time and 25 seconds for the fifth time. If over 5 times, push the ENTER key and controller recover output after 10 seconds. In the process of 5-time reactivation, if it is recovered manually, the 5-time reactivation will be circulated again. When there is any change from night to daytime, restart the self-recovery process. Namely, 5-time circular reactivation can be operated again
Charging and discharging circuit is off and the LOAD of monitoring interface shows MOS-I Short, Error	Electronical component damaged	Please restart controller, if the fault still exists, cut off charging and discharging circuit immediately and contact the supplier to make maintenance
Charging and discharging circuit is off and the LOAD monitor shows Over Temp	controller is over temperature	When the temperature of controller exceeds 85℃, the controller will cut input and output circuit. when it is below 75℃, the controller will automatically reconnect input and output circuit.

LandStar EU

Faults	Possible reasons	Troubleshooting
LED Charging indicator turn off during daytime when sunshine falls on PV modules properly	PV array disconnection	Confirm that PV and battery wire connections are correct and tight
No LED indicator	Battery voltage maybe less than 8V	Measure battery voltage with the multi-meter. Min.8V can start up the controller
Charging status LED indicator Fast flashing	Battery Over Voltage	Check if battery voltage is higher than OVD, and disconnect the PV
LED1 Fast flashing	Battery over discharged	When the battery voltage is restored to or above LVR point (low voltage reconnect voltage), the load will recover
Load status LED indicator slowly flashing	Load over load①	①Please reduce the number of electric equipment's. ②Press the button or repower the controller
Load status LED indicator fast flashing	Load short circuit	①Check carefully loads connection, clear the fault. ②Press the button or repower the controller
①When load current reaches1.25 times 1.5 times and 2 times more than nominal value, the controller will automatically turn off loads in 60s, 5s and 1s respectively		

Tracer AN

Possible reasons	Faults	Troubleshooting
PV array disconnection	Charging LED indicator off during daytime when sunshine falls on PV modules properly	Confirm that PV and battery wire connections are correct and tight
Battery voltage is lower than 8V	Wire connection is correct, the controller is not working	Please check the voltage of battery. At least 8V voltage to activate the controller
Battery over voltage	Battery level shows full, battery frame blink, fault icon blink	Check if battery voltage is higher than OVD(over voltage disconnect voltage), and disconnect the PV
Battery over discharged	Battery level shows empty, battery frame blink, fault icon blink	When the battery voltage is restored to or above LVR(low voltage reconnect voltage), the load will recover
Battery Overheating	Battery level shows empty, battery frame blink, fault icon blink	The controller will automatically turn the system off. But while the temperature decline to be below 55 ºC, the controller will resume
Load Overload	1. Load Overload 2. Load and fault icon blink	①Please reduce the number of electronic equipment. ②Restart the controller. ③wait for one night-day cycle (night time>3 hours).
Load Short Circuit		①Check carefully loads connection, clear the fault. ②Restart the controller. ③wait for one night-day cycle (night time>3 hours).