1000W Intelligent Single Output Battery Charger

PB-1000 series



■ Features :

- Charger for lead-acid batteries (flooded, Gel and AGM) and Li-ion batteries (lithium iron and lithium manganese) (Note.1)
- 2/3/8 stage charging selectable on output panel (Note 5)
- Built-in battery rescue function
- Universal AC input / Full range
- Controlled by microprocessor
- Built-in active PFC function PF>0.95
- Protection: Reverse Polarity / Short circuit / Over voltage / Over temperature
- 3 color LED loading indicator
- Built-in remote ON-OFF control
- 2-Bank charger
- Temperature compensation function
- FAN on/off control (depends on charging current)
- 3 years warranty

User's Manual

■ GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

UL62368-1 BS EN/EN62368-1 TPTC004 IEC62368-1

SPECIFICATION

MODEL		PB-1000-12	PB-1000-24	PB-1000-48
OUTPUT	BOOST CHARGE VOLTAGE Vboost	14.4V	28.8V	57.6V
	FLOAT CHARGE VOLTAGE Vfloat	13.8V	27.6V	55.2V
	OUTPUT CURRENT	60A	34.7A	17.4A
	RECOMMENDED BATTERY CAPACITY(AMP HOURS)(Note 4)	200 ~ 600Ah	120 ~ 350Ah	60 ~ 175Ah
	BATTERY TYPE	Open & Sealed Lead Acid		
	LEAKAGE CURRENT FROM BATTERY (Typ.)	<1mA		
INPUT	VOLTAGE RANGE	90 ~ 264VAC 127 ~ 370VDC		
	FREQUENCY RANGE	47 ~ 63Hz		
	POWER FACTOR (Typ.)	0.95/230VAC 0.98/115VAC at full load		
	EFFICIENCY (Typ.)	85%	88%	89%
	AC CURRENT (Typ.)	12A/115VAC 5.2A/230VAC		
	INRUSH CURRENT (Typ.)	25A/115VAC 50A/230VAC		
	LEAKAGE CURRENT	<3.5mA / 240VAC		
PROTECTION	OVER VOLTAGE	16 ~ 18V	32 ~ 35V	64.5 ~ 69.5V
		Protection type : Shut down o/p voltage, re-power on to recover		
	OVER TEMPERATURE	Shut down o/p voltage, recovers automatically after temperature goes down		
	SHORT CIRCUIT	YES, protected by internal circuit		
	REVERSE POLARITY	YES, protected by internal circuit		
FUNCTION	REMOTE CONTROL	Open: Normal work Short: Stop Charging		
	BATTER BANKS	2 banks (A & B)		
	FAST CHARGE	2 / 3 / 8 stage selectable		
	CHARGER OK	Relay contact rating(max.): 30V/1A resistive ; "Short" when the unit is working properly, "Open"when the unit is failure or the protection function is activating		
	OUTPUT OK	Relay contact rating(max.): 30V/1A resistive ; "Short" when the battery is full, "Open" when the battery is still charging		
	TEMPERATURE COMPENSATION	By NTC, compensate both banks at the same time		
ENVIRONMENT	WORKING TEMP.	-20 ~ +60℃ (Refer to "Derating Curve")		
	WORKING HUMIDITY	20 ~ 90% RH non-condensing		
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH non-condensing		
	TEMP. COEFFICIENT	±0.05%/℃ (0 ~ 50℃)		
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes		
SAFETY & EMC (Note 3)	SAFETY STANDARDS	UL62368-1, TUV BS EN/EN62368-1, EAC TP TC 004 approved		
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC		
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25℃/ 70% RH		
	EMC EMISSION	Compliance to BS EN/EN55032 (CISPR32), BS EN/EN61000-3-2,-3, EAC TP TC 020		
	EMC IMMUNITY	Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11, BS EN/EN55035, light industry level, EAC TP TC 020		
OTHERS	MTBF	630.9K hrs min. Telcordia SR-332 (Bellcore) ; 127.4K hrs min. MIL-HDBK-217F (25℃)		
	DIMENSION	300*184*70mm(L*W*H)		
	PACKING	3.5Kg; 4pcs/15Kg/1.83CUFT		

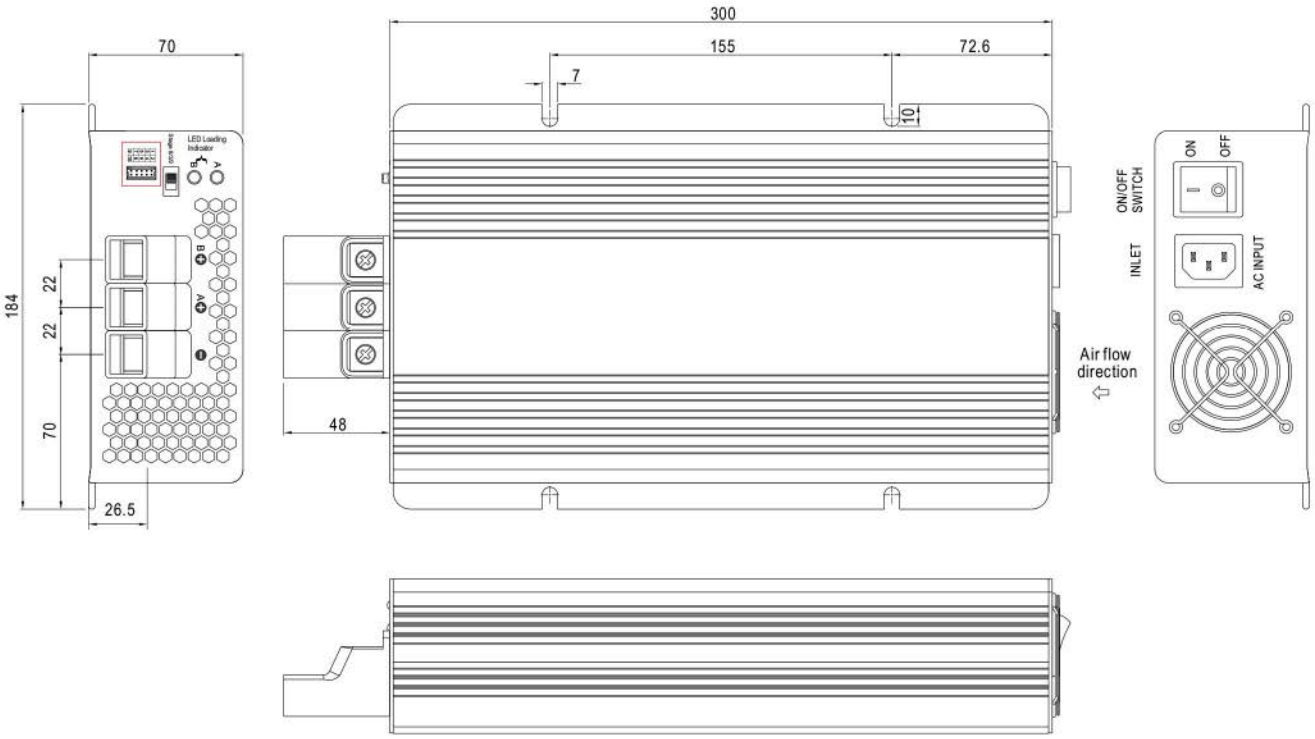
NOTE

1. Modification for charger specification may be required for different battery specification. Please contact battery vendor and MEAN WELL for details.
2. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
3. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.
4. This is Mean Well's suggested range. Please consult your battery manufacturer for their suggestions about maximum charging current limitation.
5. Please choose the "3 stage" selection when the charger is used to charge the batteries and power the loads in the same time.
6. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).

※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

■ Mechanical Specification

Case No. 804B Unit:mm



※ LED Loading Indicator Status Table

Color \ Status	Steady	Flashing
Red	Abnormal status	
Orange		Charging
Green	Full	Charging

※ Control Pin No. Assignment(CN100) : HRS DF11-10DP-2DS or equivalent

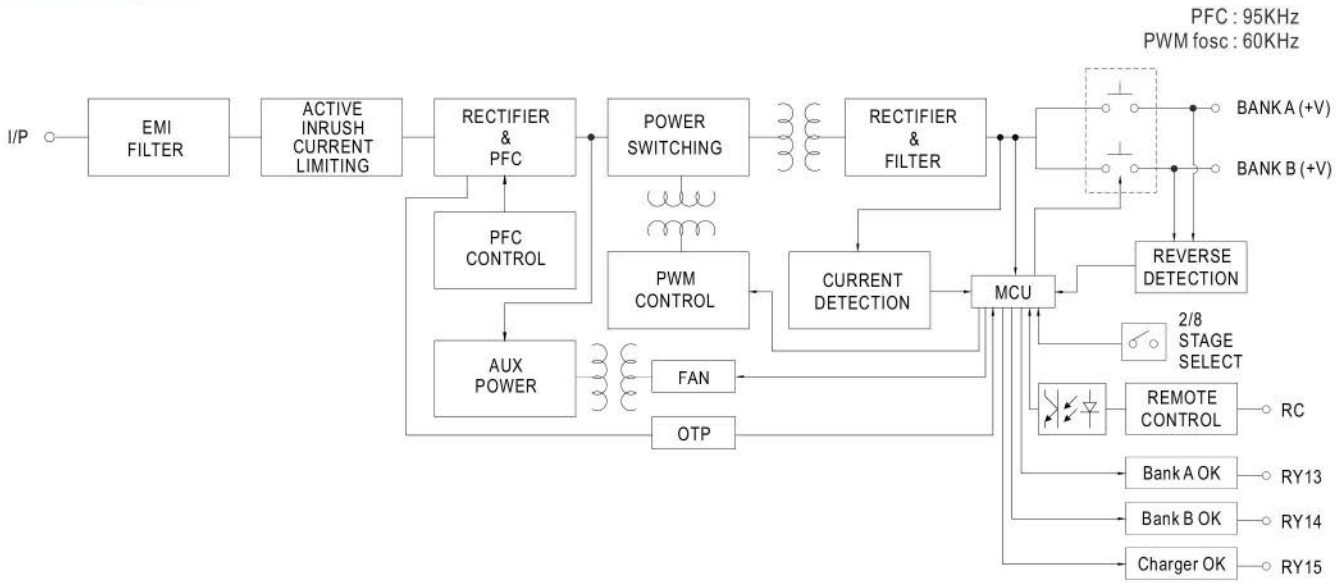


CN100

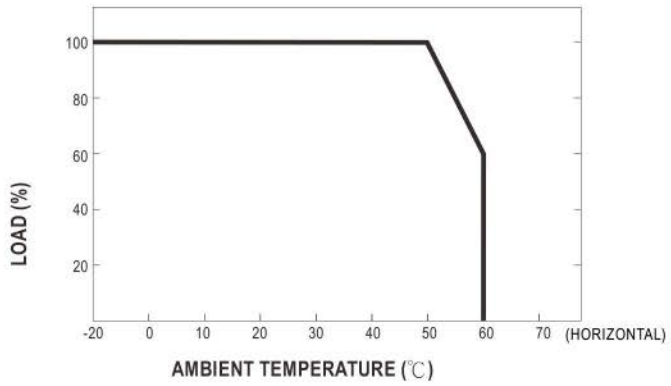
Mating Housing	HRS DF11-10DS or equivalent
Terminal	HRS DF11-**SC or equivalent

Pin No.	Function	Description
1,2	RY13	RY13 : Battery Bank A OK relay. Relay contact rating(max.) : 30V/1A resistive. ; "Short" when the battery A is full, "Open" when the battery A is still charging.
3,4	RY14	RY14 : Battery Bank B OK relay. Relay contact rating(max.) : 30V/1A resistive. ; "Short" when the battery B is full, "Open" when the battery B is still charging.
5,6	RY15	RY15 : Charger OK relay. Relay contact rating(max.) : 30V/1A resistive. ; "Short" when the unit is working properly, "Open" when the unit is failure or the protection function is activating.
7	GND	NTC / GND : Temperature sense Temperature sensor comes along with the charger can be connected to the unit to allow temperature compensation of the charging voltage. **If the temperature sensor is not used, the charger still works normally.**
8	NTC(5KΩ) RTH	
9,10	RC- / RC+	Remote ON/OFF function. Turn the output on and off by electrical or dry contact between pin 10 (RC+) and pin 9(RC-). "Open" : Normal work ; "Short" : Stop charging

■ Block Diagram

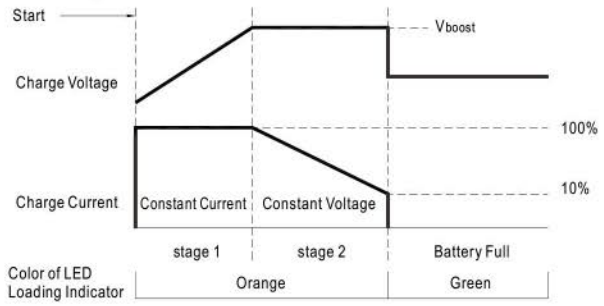


■ Derating Curve



■ Charging Curve

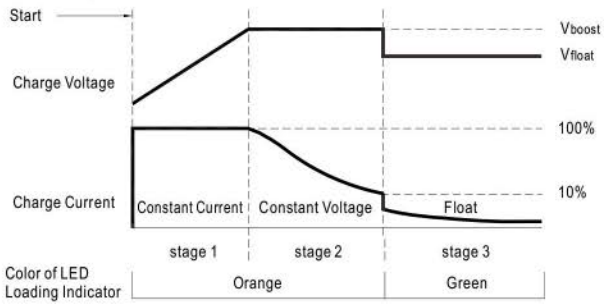
※ 2 Stage



State	PB-1000-12	PB-1000-24	PB-1000-48
Constant Current	60A	34.7A	17.4A
Vboost	14.4V	28.8V	57.6V

◎ Suitable for lead-acid batteries (flooded, Gel and AGM) and Li-ion batteries (lithium iron and lithium manganese).

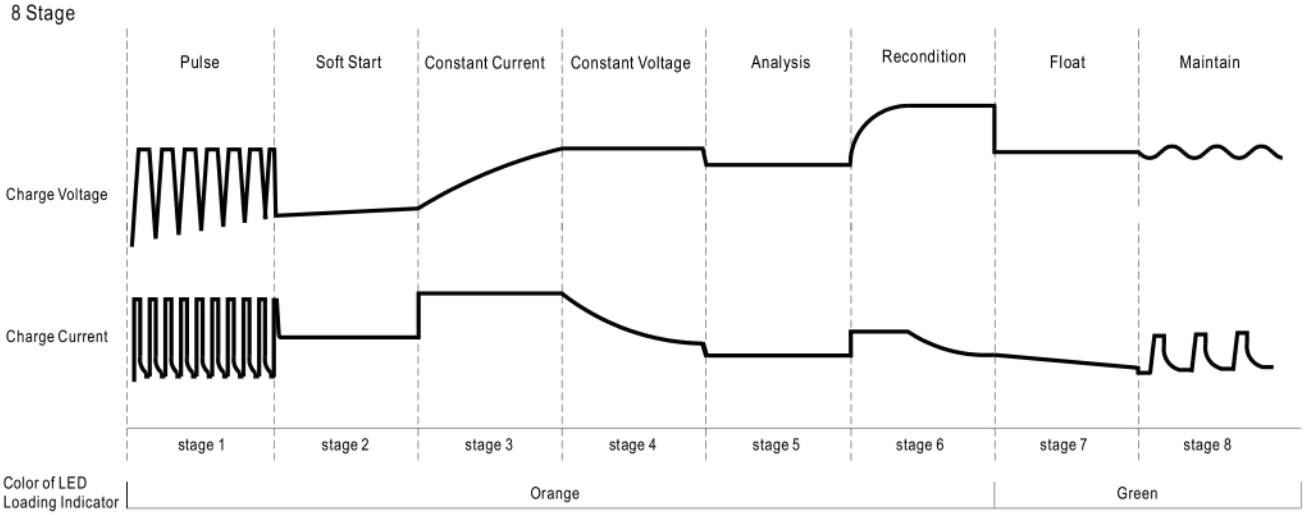
※ 3 Stage



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8 Stage



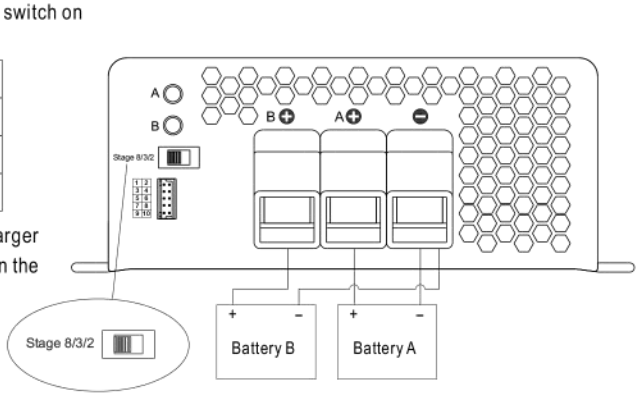
◎ Suitable for lead-acid batteries (flooded, Gel and AGM).
◎ "stage 1"(Pulse) and "stage 2"(Soft Start) provide battery rescue function.

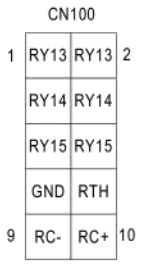
2,3, or 8 Stage Charging Select

(1)The charger features user selectable 2,3, or 8 stage charging. The charging profile is selected by moving the slide switch on the back panel.

Switch	Charging mode
Right	2 stage charging
Middle	3 stage charging
Left	8 stage charging

(2)Please choose the "3 stage" selection when the charger is used to charge the batteries and power the loads in the same time.



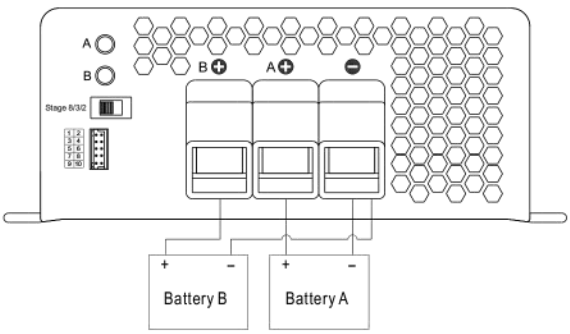


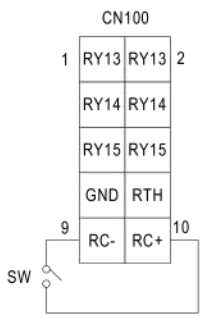
■ Function Manual

1.Remote Control

The charger can be turned ON/OFF by using the "Remote Control" function.

Between RC+(pin10) and RC-(pin9)	Charger
SW Open	ON
SW Short	OFF

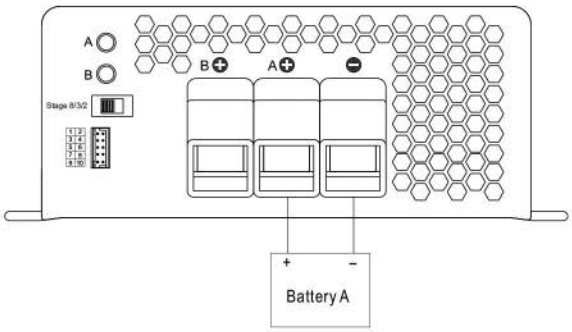


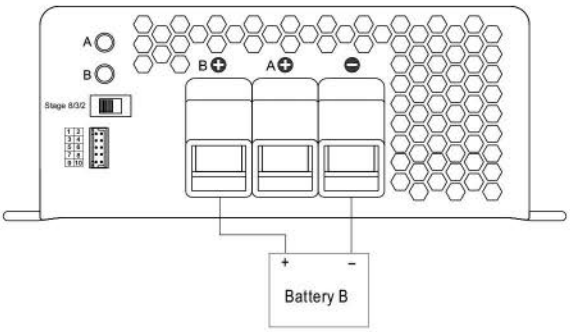


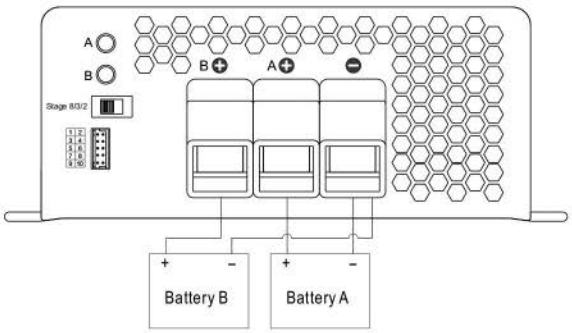
2.Two Battery Banks (2/8 stage only)

The charger may be hooked up two battery banks (A and/or B). Connect the battery bank(s) as below. If you are connecting 2 battery banks in the same time, keep in mind that they must share a common ground.

NOTE: The charger will charge bank A first then bank B if both channels are connected.

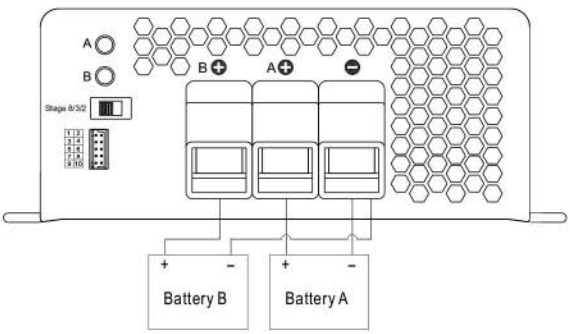


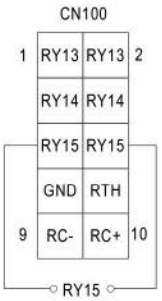




3.Charger OK Relay(RY15)

Charger	Between pin5 and pin6(RY15)
Normal work	ON (Short)
Failure or the protection function is activating	OFF (Open)





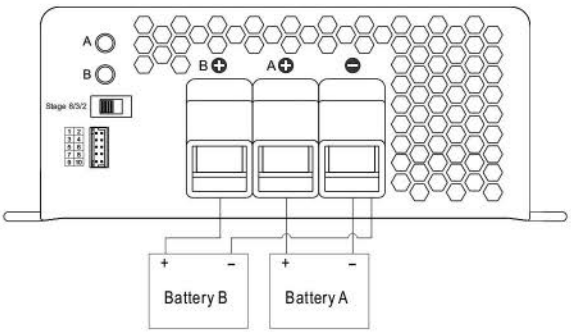
4.Output OK Relay(RY13 & RY14)

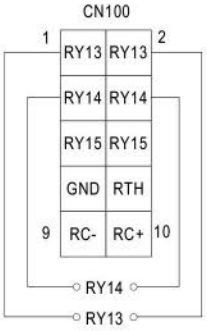
1.Bank A OK (RY13)

Bank A	Between pin1 and pin2(RY13)	Color of LED A
Battery A Full	ON (Short)	Green
Charging	OFF (Open)	Orange

2.Bank B OK (RY14)

Bank B	Between pin3 and pin4(RY14)	Color of LED B
Battery B Full	ON (Short)	Green
Charging	OFF (Open)	Orange

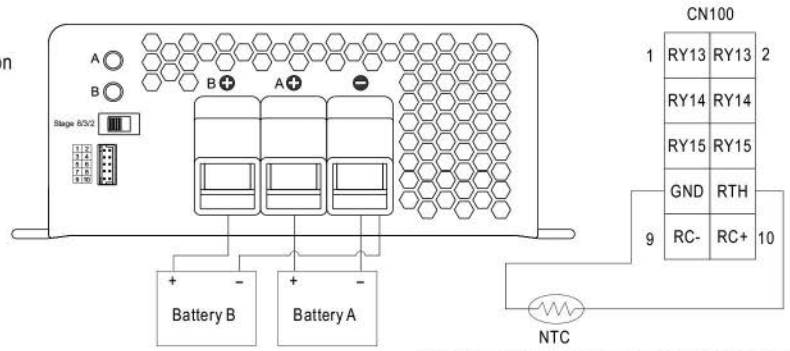




5.Temperature Compensation

Temperature sensor comes along with the charger can be connected to the unit to allow temperature compensation of the charging voltage.

If the temperature sensor is not used, the charger still works normally.



The temperature sensor can either be attached to the battery or placed in its surrounding environment.