

# TC20NB-2T2

## PV Array Combiner Box

User manual

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# Item



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## 1、 IDENTIFICATION AND DESCRIPTION

1.1、 In order to better use product, please read the following instructions symbol.

	<p><b>WARNING!</b></p> <p>This symbol identification for informal operation might be in the safety of users dangerous or may cause significant hardware damage.</p>
	<p><b>INDICATE!</b></p> <p>This symbol identification for good system required for the operation of the matters needing attention.</p>

1.2、 Installation before use, please read this manual.

	<p><b>WARNING!</b></p> <p>All the operation and line connection ask professional personage to operation.</p>
	<p><b>WARNING!</b></p> <p>Please note that photovoltaic array input of positive and negative polarity and the total output of the positive and negative polarity.</p>

	<p><b>WARNING!</b></p> <p><b>Installation or connection PV modules, please note PV modules produce high voltage, avoid shock hazard.</b></p>
	<p><b>WARNING!</b></p> <p><b>Ensure that the connection of fastening, for the user to use improper or cable wiring the loss caused by unstable, the company does not undertake any responsibility.</b></p>

## 2、 PRODUCT INTRODUCTION

Photovoltaic power generation system, in order to reduce the photovoltaic module and inverter between the connecting cables, convenient maintenance, reduce the loss and improve the safety and reliability of the product, generally require in the photovoltaic module and inverter added between confluence device.

Photovoltaic junction box besides having the function of PV bus outside, and at the same time, should also have a current counter-attack, over current protection, over-voltage protection, lightning protection and a series of perfect protection function.

This company produces the photovoltaic junction box with the above various functional requirements, and photovoltaic (PV) grid, from network type inverter supporting the use can form a complete set of photovoltaic power generation system solutions.

Select photovoltaic junction box, the user can according to the back end inverter input voltage range, output power size, a certain number of specifications of the same PV module series, parallel composition PV module series coordinate access photovoltaic junction box (see Figure1) bus, and then after circuit breaker control and lightning protection device protection after output for level inverter use.

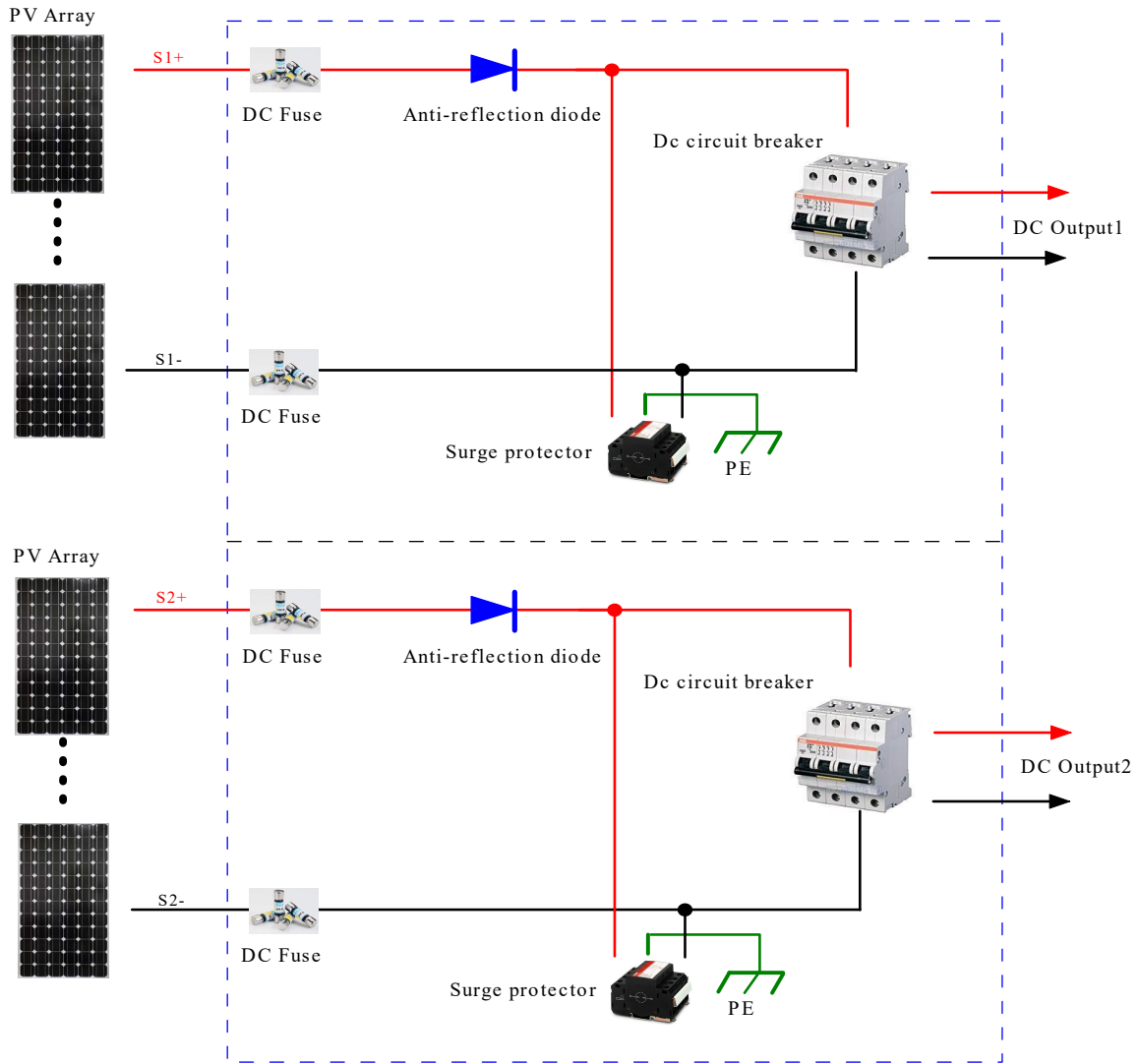


Figure 1 System connected graph

Main features:

- The most can access 2 road PV array, single road input array maximum current for 12A;
- Output 2 road, the maximum current for 2\*15A, the highest open circuit voltage for 1000Vdc;
- Single way photovoltaic array to join high voltage fuse protection, counter-attack protection ;
- Photovoltaic special high pressure lightning protection device protection;
- Photovoltaic special high voltage circuit breaker control output;
- Meet outdoor installation requirements, protection class IP65;
- RS485 remote monitoring function (optional).

3、 STRUCTURE

3.1、 Components list

Numbers	Function declaration
1	Photovoltaic array input plus (fuse)

2	Photovoltaic array input minus (fuse)
3	DC circuit breaker
4	Photovoltaic array input counter-attack
5	output plus and minus
6	SPD
7	Ground

### 3.2、 Model shows

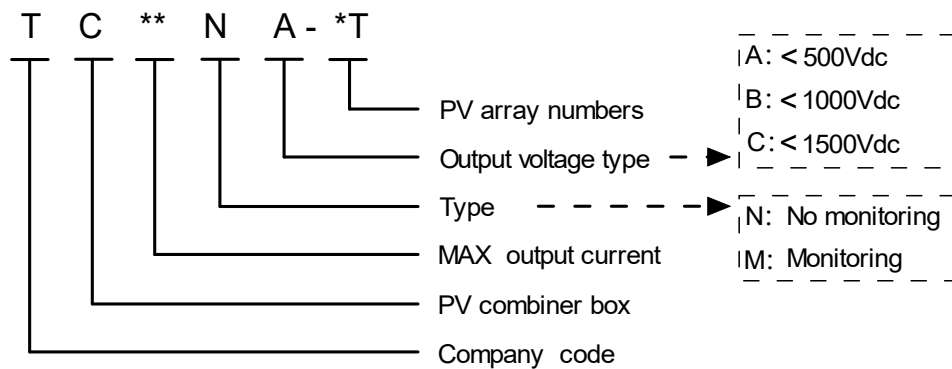


Figure 2 Model shows

## 4、 TECHNICAL DATA

Model	TC20NB-2T2
<b>Input data</b>	
PV array input numbers	2
Rated single PV array current	12A
Single PV array fuse	15A
Single PV array wire size	PG9、 4mm <sup>2</sup>
<b>Output data</b>	
Output numbers	2
MAX output current	2 * 15A
MAX output voltage	<1000Vdc
DC output circuit breaker	yes
Output1 wire size	6mm <sup>2</sup>
Output2 wire size	6mm <sup>2</sup>
<b>Others data</b>	
Protection	IP65
Temperature range	-30℃ ~ +60℃
Reference weight	9Kg
Size (D X W X H)	340mm X 450mm X 160mm

Cooling way	Natural cooling
SPD protection	yes
Ground wire size	$\geq 6\text{mm}^2$

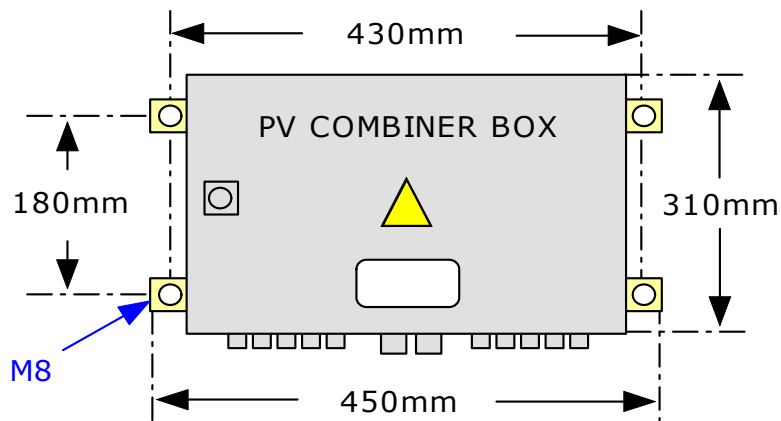
## 5、INSTALLATION AND USE

### 5.1、 Device check

The customer received the goods please check the packing list, if any discrepancy please immediately contact with the company!

- |                    |   |
|--------------------|---|
| 1、 PV combiner box | 1 |
| 2、 key             | 1 |
| 3、 User manual     | 1 |

### 5.2、 Installation size



**Figure 3 Installation size**

Please arrange professionals and strictly in accordance with the above dimensions for operation.

### 5.3、 Fast connection

In order to improve the connection of rapidity and convenience, the chassis allow flip door, with key can be easily open and shut case for line connection. Photovoltaic input connections and output connecting line in case two side, users in the connection when please ensure that all the connecting line and equipment are reliable connection.

### 5.4、 Over-current protection

When the PV module input current is too large, the fuse will break for protection; In addition, miniature circuit breaker also can prevent the system from current is too large, have over-current protection function.

**WARNING!**

It is strictly prohibited to work in touch fuse, inspection or replacement is required before the fuse will dc circuit breaker off; Must be replaced with the original model of the same magnitude fuse.

**5.5、 Over-voltage protection**

When the PV module input voltage is high, the miniature circuit breaker will automatically disconnect, have overvoltage protection function.

**6、 APPENDIX****6.1、 Quality assurance**

This product quality assurance period 1 year, otherwise stipulated in the contract period of the contract shall prevail.

**6.2、 Evidence**

Products in the quality assurance period require customers to buy the products show the invoice and date. At the same time the product of the trademark shall be clearly visible, or shall have the right to not be quality assurance.

**The following situation, this company has the right to not to quality assurance:**

- 1、 Man-made damage to the equipment;
- 2、 Wrong installation and use;
- 3、 When using the maximum limit parameters beyond equipment requirements;
- 4、 Abnormal natural environment damage caused;
- 5、 Beyond that in this manual are very bad environment operation;
- 6、 Beyond the relevant international standards specified in the installation and use of range.

**6.3、 Contact us**

Do you have any questions about our product welcome to contact us and we will gladly for you to answer!