



# User Manual

## TSUN Rapid Shutdown Control Box(DC 24V)

TSOL-PCY/PCZS-S-31  
TSOL-PCY/PCZS-S-81



# DC 24V



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## 1 Scope and General

This manual is applicable to TSOL-PCY/PCZS-S-31 and TSOL-PCY/PCZS-S-81 product only.

## 2 Important Safety Precautions

### 2.1 Disclaimer

TSUN assumes no responsibility for any loss, in particular for circuit damage, resulting from any violation of the specifications recommended and referred to in this specification. TSUN assumes no responsibility for the damage of the product caused by the maintenance, improper use, wrong installation or wrong system design of the product by non-designated personnel.

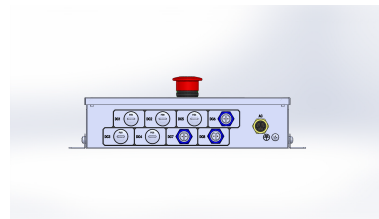
### 2.2 Safety instructions:

- 1) TSOL is an electrical product which should be installed by qualified people.
- 2) Turn OFF the DC isolator / switch when do maintenance
- 3) Incorrect wiring may cause Control Box got failed.

## 3 Introduction

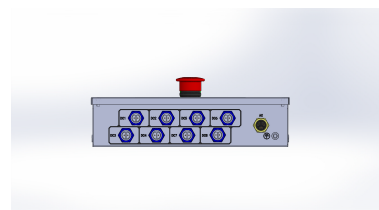
### Controller with Power Supply

TSOL-PCY/PCZS-S-31



NOTE:DC 6~8 Can be connected externally

TSOL-PCY/PCZS-S-81



NOTE:DC 1~8 Can be connected externally

## 4 Installation & Connection

- 1) Open the box, take out Control Box and parts, read this manual.

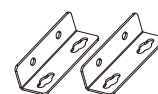


Product



AC Cable

3x18AWG-core wire  
1.8m



L-shaped Clasps



Manual

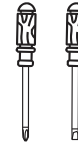
2) Prepare materials and tools.



expansion bolt



ST4.8x38

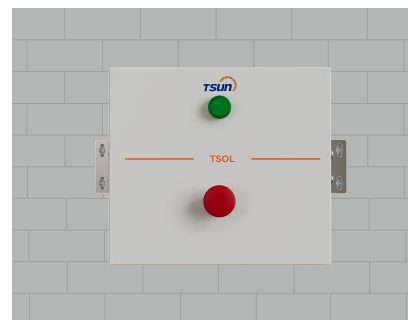


cross/straight screwdriver

3) The installation modes of Control Box are divided into the following two situations.

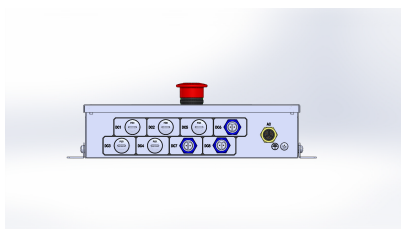
**Controller with Power Supply**

a) Mount the controller to the appropriate location through the gourd-shaped hole.

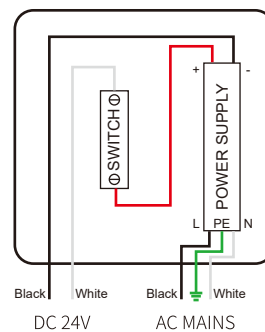


installation location(e.g. wall)

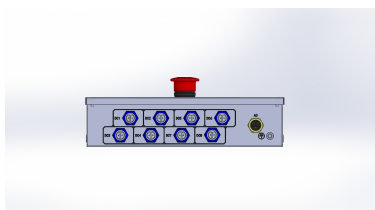
b) Wring of TSOL-PCY/PCZS-S-31  
AC100-240V Input voltage



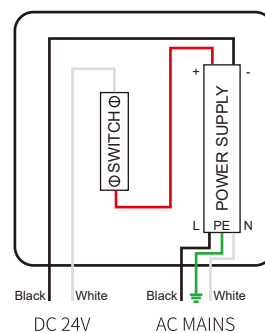
NOTE:DC 6~8 Can be connected externally



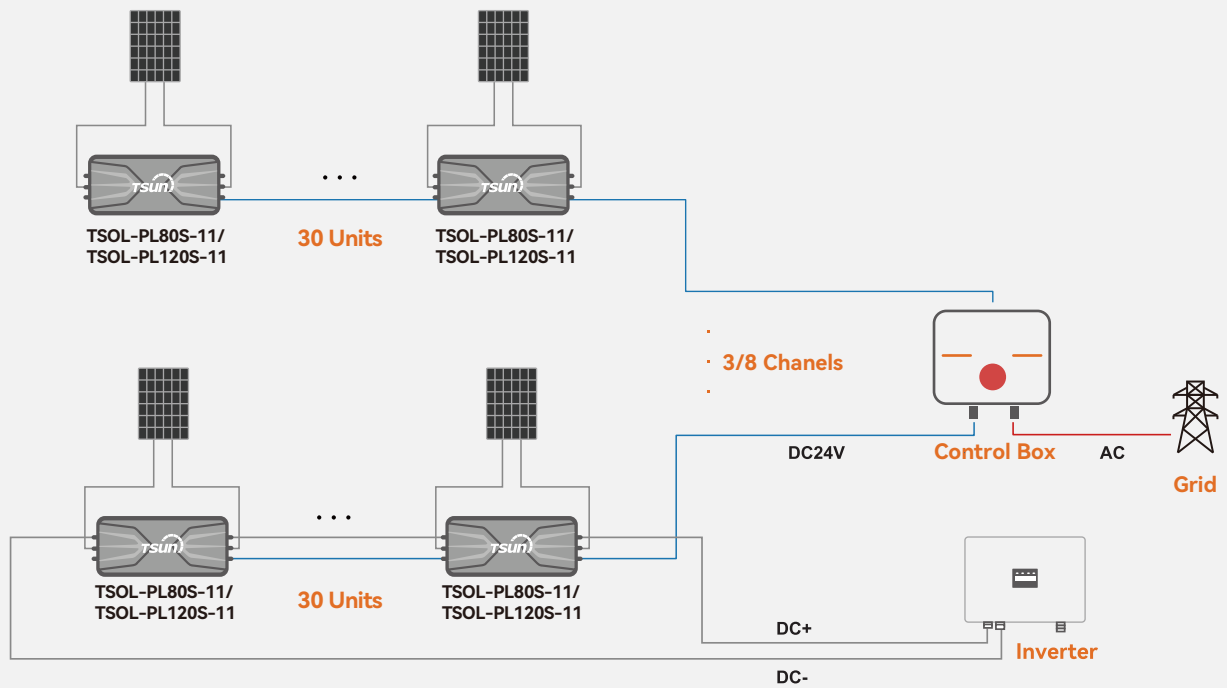
c) Wring of TSOL-PCY/PCZS-S-81  
AC100-240V Input voltage



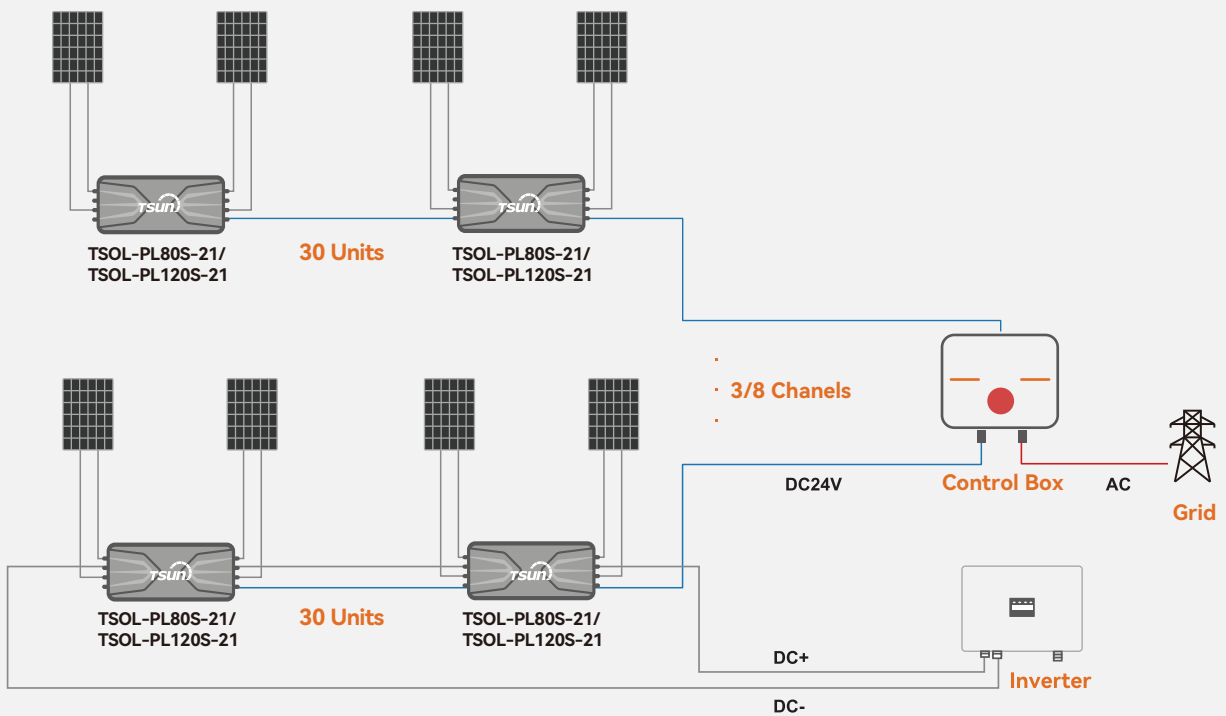
NOTE:DC 1~8 Can be connected externally



4) Parallel connection of multiple control boxes



\*TSOL-PL120S-11 can connect 1 or 2 modules



\*TSOL-PL120S-21 can connect 2 or 4 modules

## 5 Technical Specification

### Control Box with Power Supply

Model	TSOL-PCY/PCZS-S-31
Operating AC Voltage Range	180 V-264 V
Norminal Frequency	50/60 Hz
Output Voltage	24V DC
Output Current / Power	8.8A(3 Channels)
24Vdc Control Cable Size	20 AWG
24Vdc Control Cable Length With Standard Connectors (recommend)	20 m / 30 m / 100 m (Users Purchase By Themselves)
Spare Terminal Connectors	Yes
Maximum PEFS-PL80/120S-11	3*30 Units
Maximum PEFS-PL80/120S-21	3*30 Units
Dimensions (mm)	248*280*70
Lockable	Optional (IP54)
Operating Temperature Range	30°C~ +55°C (Can work for 8 hours at 70°C)
Protection Class	IP65
Mounting	Wall Mounted
Maximum Distance (From controller box to the terminal RSD)	250m

### Control Box Without Power Supply

Model	TSOL-PCY/PCZS-S-81
Operating AC Voltage Range	180 V-264 V
Norminal Frequency	50/60 Hz
Output Voltage	24V DC
Output Current	17.6A (8 Channels)
24Vdc Control Cable Size	20 AWG
24Vdc Control Cable Length With Standard Connectors (recommend)	20 m / 30 m / 100 m (Users Purchase By Themselves)
Spare Terminal Connectors	Yes
Maximum TSOL-PL80/120S-11 / Per String	8*30 Units
Maximum TSOL-PL80/120S-21 / Per String	8*30 Units
Dimensions (mm)	248*280*70
Lockable	Optional
Operating Temperature Range	30°C~ +55°C (Can work for 8 hours at 70°C)
Protection Class	IP65
Mounting	Wall Mounted
Maximum Distance (Last RSD to Controller Box)	250m

## 6 Trouble Shooting

Problem	Possible Cause	Possible Solution	
String Voltage drops to 0V	No mains supply	Check AC power	
	(LED OFF)	Check the fuse	
	power supply failure		Check mains voltage between L&N marked terminals
			Check the end RSD voltage between + & - marked terminals
	Cable disconnected	Check reliability of cable wiring	
Wrong cable wiring	Check the cable wiring correction		
String voltage drops	24V Cable disconnected somewhere	Check the cable wiring	
	DC Power drops for high temperature	DC power	

## 7 Aftersales service and warranty

### 7.1 Warranty

TSUN TSOL Series Module Level Rapid Shutdown controller: Up to 25 years lifespan design, which commencing from 3 months later of the manufacturing date. TSUN will repair or replace any fault unit which is damaged or cannot work normally due to product quality issue. However, for the faults caused by following reasons, TSUN would do service with charge even under warranty.

- 1) Inappropriate use or installation, self-modification or improper maintenance, etc.:
- 2) Beyond the prescribed scope of use;
- 3) Earthquakes, fires, lightning strikes, abnormal voltages, other natural disasters and secondary disasters, etc.
- 4) Any lost caused by any inappropriate use out of the scope defined in this manual, TSUN will not take the responsibility

### 7.2 Aftersales service

Please contact TSUN local distributors for after-sales service

1. Beyond the warranty period;
2. No valid quality assurance card and product serial number;
3. Transportation damage;
4. Improper use, operation and modification;
5. Operating in an environment beyond the specified in this manual;
6. Any installation and use beyond the scope specified in relevant international standards;
7. Damage caused by abnormal natural disasters (earthquake, fire, flood, etc.).

## 8 Contact us

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