

# 3 Phase Power Regulator User Manual

(PEACO-TR Series)



Dear customer,

Thanks for purchasing Peaco Support SCR Power regulator. Please read the user manual before using so that you could make a full acknowledge of our product and operate it correctly. We will not inform you especially if there is any modification made.

### ◆ 3 Phase SCR Power Regulator Features

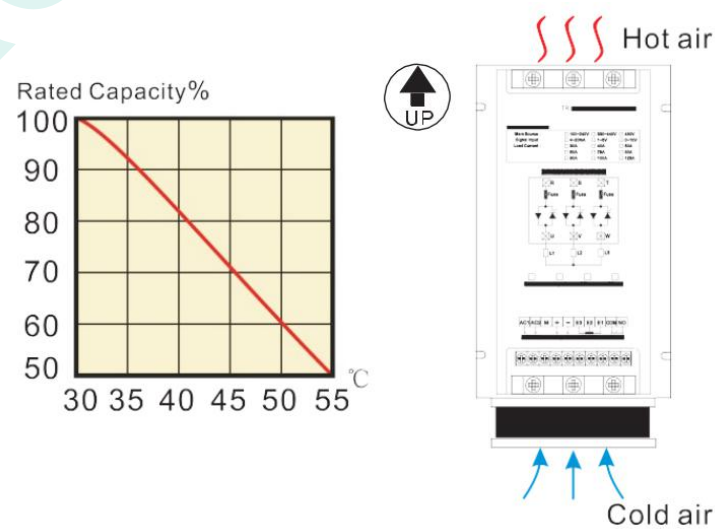
1. The 3 phase SCR power regulator comes with indicator light for load output state, which shows the current, whether the three phases are balanced and there is phase loss or not.
2. Provides power under-phase alarm, SCR over-temperature alarm, fuse indication and a set of alarm contacts output.
3. The standard SCR power regulator is equipped with the best buffer time of 5 seconds soft start time and 5 seconds soft stop time to protect the SCR module and load.
4. The power regulator comes with three-phase control output and the load current can vary linearly from 0A to the rated current.

### ◆ Warming and Precautions

5. Main circuit: Power line- Air circuit breaker- Contactor- Load.
6. All connecting nuts must be locking to avoid arcing burned connector.
7. Air Switch can cut off the power to protect the power regulator and personal safety during repair and maintenance.
8. Contactor can cut off power supply automatically to protect the regulator and avoid accidents when it fails.
9. Power regulator will produce internal heat during operation. Please install it vertically and both sides of the gap to be set aside to avoid the rapid aging and damage of power module caused by adverse thermal.
10. Air flow vents are required to control cabinet. Please follow the principle of hot air from bottom to top to install exhaust vents or install convection fan. Cabinet air-conditioning cooling can be considered if conditions allow.
11. Do not install it in high-temperature environments and poorly ventilated situations, otherwise use it less than 70% of rated capacity.
12. Avoid installing it in the steam or acid, alkali, corrosive gases situations.
13. Humidity: 90% RH or less (No condensation).
14. Ambient temperature: 0°C-+40°C.

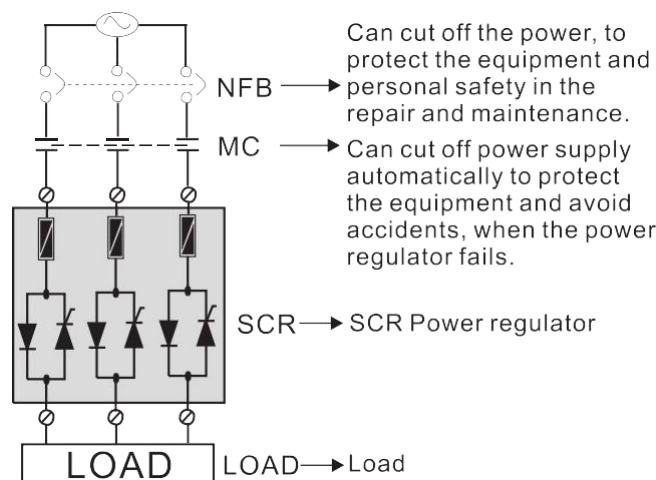
### ◆ Installation

SCR Power regulator will produce internal heat during operation. Please install it vertically and both sides of the gap to be set aside to avoid the rapid aging and damage of power module caused by adverse thermal.



### ◆ Terminal Wiring

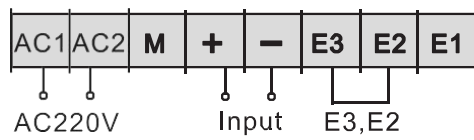
Three-phase main source



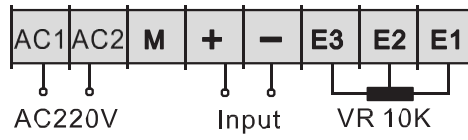
## ◆ Terminal Wiring

### ● 30A-40A Terminal Wiring

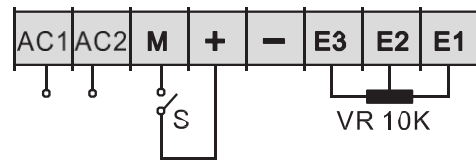
Analog voltage current input.



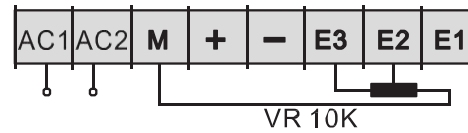
Analog voltage current input with adjustable external VR.



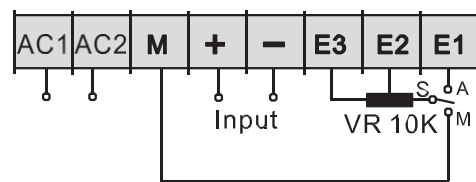
Contact input.



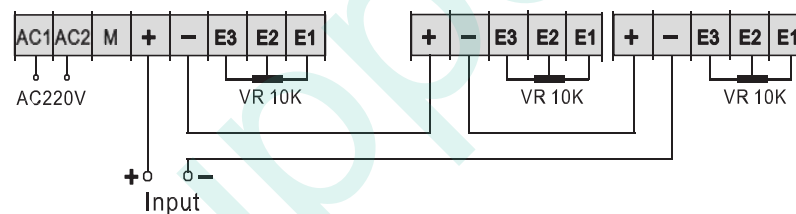
Manual input with adjustable external VR.



Manual and automatic input. M-manual, A-automatic.

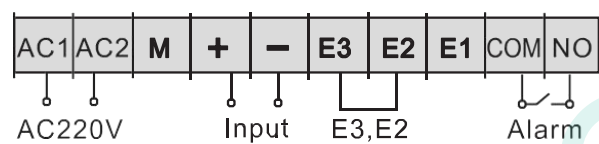


Multiple unit connecting.

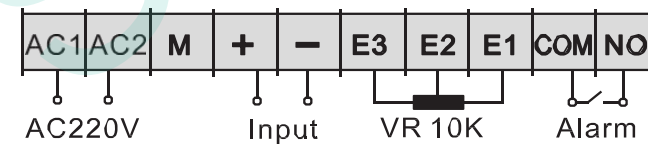


### ● 50A-400A Terminal Wiring

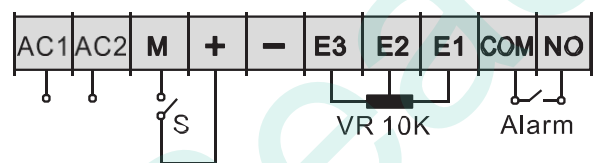
Analog voltage current input.



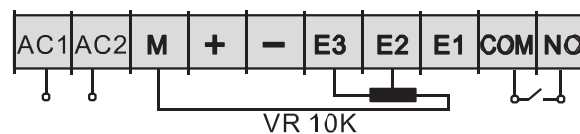
Analog voltage current input with adjustable external VR.



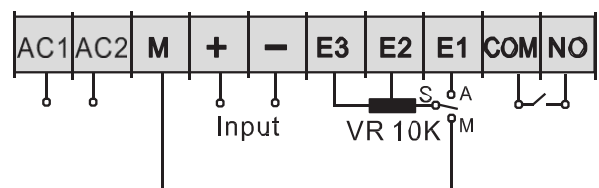
Contact input.



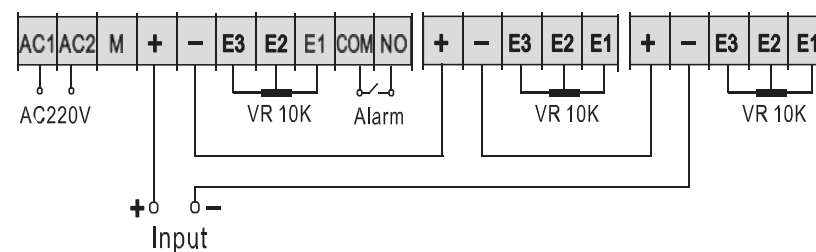
Manual input with adjustable external VR.



Manual and automatic input. M-manual, A-automatic.

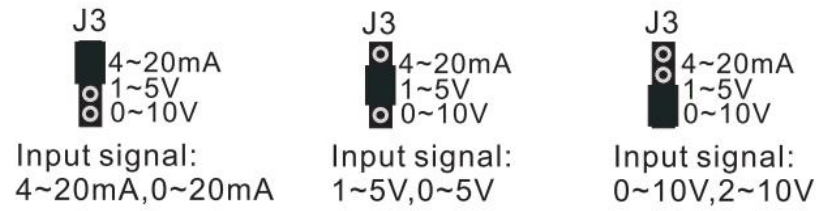


Multiple unit connecting.





## ◆ Input Mode and Adjustable Functions

### • Three Input Modes



### • Adjustable Functions

MAX VR and BIAS VR can adjust the max output and basic output.

-  MAX: max output adjustable
-  BIAS: output adjustable of basic voltage

## ◆ Panel Indicators and Fault Description

Name	Color	Function	Description	Troubleshooting
Power Indicator	Red	PCB power supply indicating lamp	1. Indicator on: working status. 2. Indicator off: error.	1. Make sure AC1 and AC2 PCB power sources have power output. 2. Make sure the OT-err lamp is off. 3. Control board is faulty and replace a new one or repair.
Input Indicator	Green	Input signal indicating lamp	1. Indicator light varies from the size of the control signal: Normal working status. 2. Indicator off: an input fault occurs.	1. The control signal is not input. Please check whether the signal input to the SCR is received or disconnected. 2. Check whether the positive and negative pole of control signal is connected reversely. Please identify the correct wiring according to the label. 3. The control board is faulty. Replace the control board with the same specification or repair.
OT-err Indicator	Red	Over-temperature alarm indicator	1. Indicator off: Normal working status. 2. Indicator on: An over-temp fault occurs.	1. Check whether the cooling fan is faulty or stuck. 2. Check whether the ambient temperature is too high or the ventilation is poor. Change the installation location or improve the ventilation conditions.
FB-err (Phase loss Indicator)	Red	Phase loss of main power supply alarm indicator	1. Indicator off: Normal working status. 2. Indicator on: Phase loss fault occurs.	1. Check whether the load power supply is not delivered or there is phase loss. 2. Check whether the L1, L2, L3 lights are on or not, check whether the fast-acting of the corresponding phase is fused. Replace it. 3. Check whether the load is short-circuited or grounded to avoid the same failure when it is powered on again.
L1, L2, L3	Yellow	R, S, T phase load analog indicator	1. The light changes with the size of the output current: normal working state. 2. Light off: phase loss.	1. Check whether the R, S, T phase power supply has phase loss or whether the fast-fuse wire is fused.



◆ **Model Selection**

**Current computing mode**

$$\text{Uses SCR ampere(A)} = 1.2 * \frac{\text{load(KW)} \times 1000}{\text{voltage(V)} \times \sqrt{3}}$$

Power Regulator Model		TR30	TR40	TR50	TR60	TR75	TR80	TR90	TR100	TR150	TR175	TR200	TR250	TR300	TR400
Rated Current (A)*		30	40	50	60	75	80	90	100	150	175A	200	250A	300A	400
Load Power (kW)	220V	9.5	12.5	15.5	19.0	23.5	25.5	28.5	32.0	45.0	53.0	60.0	80.0	89.0	120.0
	380V	16.5	20.0	27.0	33.0	41.0	44.0	49.0	55.0	75.0	88.0	100.0	130.0	160.0	220.0
Outline Dimension (mm)	L	160	200	250	250	250	250	250	250	340	340	250	290	290	330
	W	110	110	140	140	140	140	140	140	140	140	440	440	440	440
	H	155	155	185	185	185	185	185	185	185	185	225	225	225	225
Installation Dimension (mm)	L	130	130	162	162	162	162	162	162	252	252	225	225	225	225
	W	105	105	135	135	135	135	135	135	135	135	225	225	225	225
Gross Weight (kg)		1.8	2.3	3.5	3.5	3.9	3.9	3.9	3.9	5.7	5.7	13.0	15.0	18.0	22.0
Screw & Locking Torque (kgfcm)		M6	M6	M6	M6	M6	M6	M6	M6	M8	M8	M10	M10	M10	M12
		40	40	50	50	70	75	85	85	170	200	220	250	250	250
Type of Cooling		natural cooling			forced cooling										

