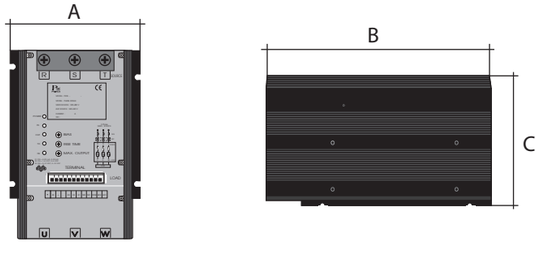
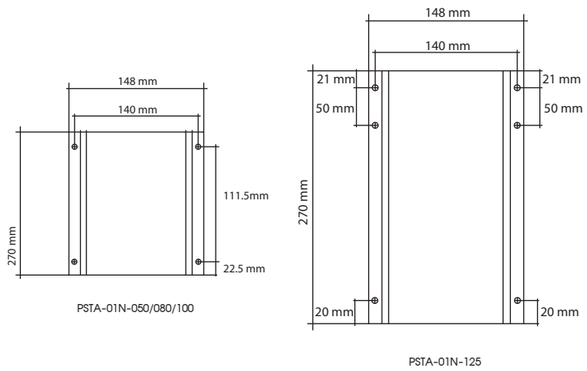
PSTA-01N-SERIES / 3-PHASE SCR POWER REGULATOR

PSTA-01N Series					
Model		PSTA-01N-050	PSTA-01N-080	PSTA-01N-100	PSTA-01N-125
Power Supply		220VAC ±15% 50/60 Hz			
Control Power consumption		2.5VA			
Main power Voltage		480 VAC 50/60 Hz			
Display		5 Led display Status			
Input	Control signal	0-20mA, 4-20mA (Input impedance 249Ω)			
		0-5 VDC,1-5 VDC, 2-10 VDC, 0-10VDC (Input Impedance 200 KΩ)			
	Adjustable Output	Potenionmeter (2~10KΩ)			
	Dry Contact	Dry Contact			
Output	Normal rated current	50A	80A	100A	125A
Ambient Operation	Temperature	-10 to 45 °C			
	Humidity	85 % RH Non-Condensing			
Ambient Storage	Temperature	-10 to 80 °C			
	Humidity	85 % RH Non-Condensing			
Protection Degree		None			
Installation		Screw			
Material		Aluminium			
Size		127 x 197 X 190 mm			127x310X190 mm
Weight		3.5 Kg.	3.5 Kg.	3.5 Kg.	6 Kg.

DIMENSION



	A	B	C
PSTA-01N-050/080/100	127 mm	197 mm	190 mm
PSTA-01N-125	127 mm	310 mm	190 mm

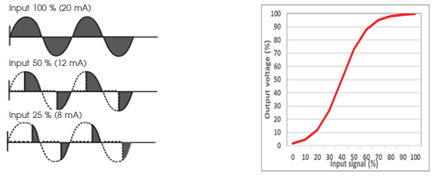


DESCRIPTION

- o device control 3 Phase Resistive Load such as Heater by Phase angle control.
- o Can adjust Output Voltage setting Max and minimum Control signals value will start drive Output Voltage (BIAS) isolate from each other.
- o Can set Rising time 1-22 seconds.
- o Can use with Main Power 480 VACat frequency 50/60 Hz.
- o Receive Auxiliary power (AC1, AC2) isolate SCR Module.
- o Receive Input 4-20 mA, 0-20mA, 0-5 VDC, 1-5 VDC, 2-10 VDC, 0-10VDC, Potentiometer 2-10k ohm, dry contact.
- o LED show operation status of Power, Input, Output, TH Err, Fuse/Source Err.
- o Can detect Power out-of-phase , SCR Overheating and Fuse burn-down then show LED with notice by alarm dry contact output and stop drive Output suddenly when electrical back to normal device will start drive Output to protect Fuse burn-down.
- o Heat sink for cooling.

OPERATION

PSTA-01N-Series is device which control the operation 3 Phase Resistive load such as Heater by Phase angle control from control signal 0-20mA, 4-20mA, 0-5Vdc, 1-5Vdc, 0-10Vdc, 2-10 Vdc, Potentiometer 2-10K ohm it made user can control electrical power that supply to Resistive load follow % of control signal as Output signal picture.

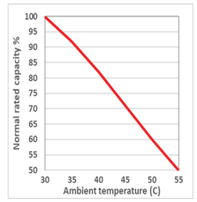


Picture show % Output Voltage

working principle of Phase angle control is Output will be controlled % in every half wave as picture. It made device can control load power but it will create harmonic wave. Device can use with fixed resistance loading, variable resistance loading, inductive, IR light bulb.

Installation and ambient conditions

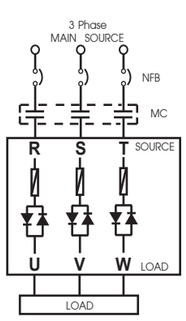
- o While Power regulator is operating. It will made the heat so user needs to install in vertical and leave the space for both side of Terminal Main Power to cooling.
- o Install device with Metal mounting plates to increase the efficiency of internal cooling.
- o Control box must have ventilation holes if it installs in the difficult ventilation place need to install Ventilation holes or extra cooling fans more
- o Avoid to install device in high temperature place, no ventilation or use device is not over 70% of Normal rated capacity of device.
- o Avoid to install device in stream, acid vapors, alkaline or corrosive vapors area.
- o Operate in humidity lower than 90% RH and no condensation.
- o Operate in temperature in range -10ºC to 45ºC.



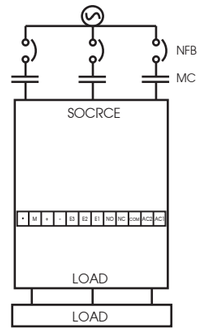
Graph show the relation of usage area temperature by the device has no corrosion, no greasy dirt and no cover block heat sink.

Wiring Diagram and Setup notices

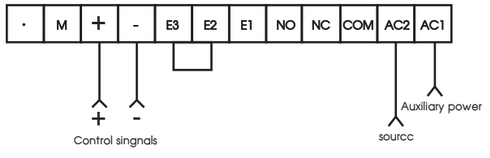
NFB (No Fuse Breaker) cut power for safety from electric shock during maintain MC (Magnetic Contactor) cut power that supply to load when Power regulator has malfunctions or temperature over 85ºC to prevent damage from Overheating or serious damage.



*Main circuit wiring diagram
*When electro-magnetic switch install it on the power source side.

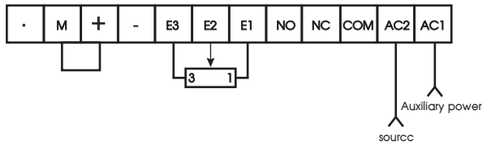


1. Control signal input



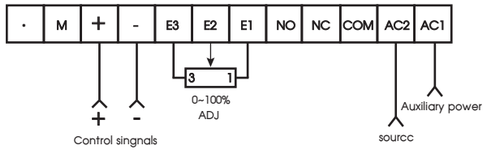
Wiring 1 Output control by Control signals

2. Manual control



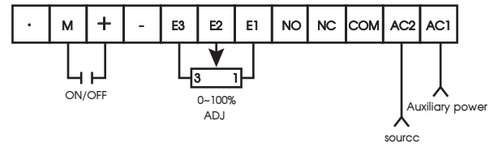
Wiring 2 Output Control by external VR ADJ

3.Limited adjustment for control signal input, output



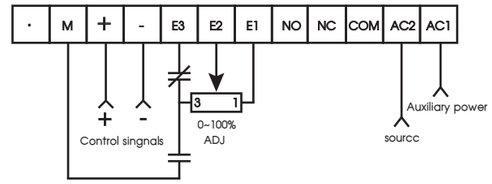
Wiring 3. Control Output by Control signals and VR ADJ for setting limited output maximum.

4. Drycontact singnal input oustside VR adjustment



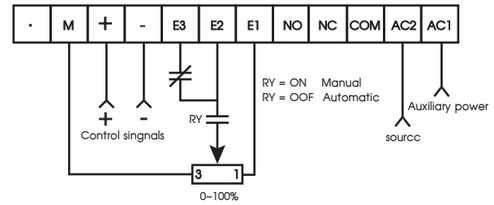
Wiring 4. VR ADJ control Output and dry contact ON/OFF command to supply Output or stop supply Output

5. Manual-automatic relay switch, outside VR adjustment



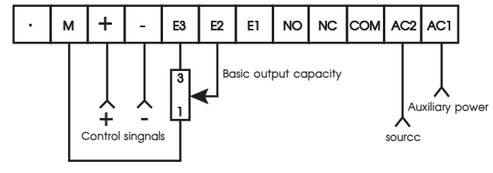
Wiring 5. can operate in Manual/Automatic RY = ON operate in Mode Manual made it control Output by VR RY = OFF operate in Mode Automatic it made control Output by Control signals and adjust limited Output Maximum by VR

6. Manual-automatic relay switch



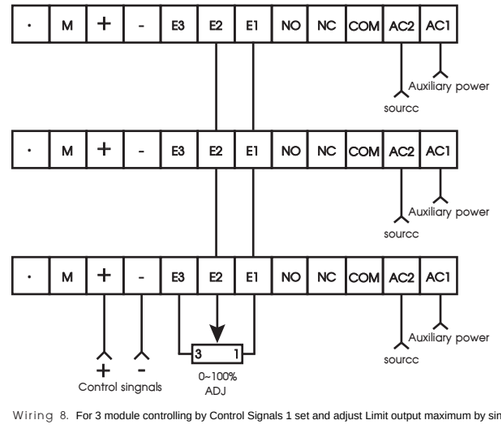
Wiring 6. Operate in both Manual/Automatic RY = ON operate in Mode Manual made control Output by VR RY=OFF operate in Automatic mode made Output control by Control signals

7. Control signal input, basic output setting



Wiring 7. is control by Control Signals or VR together by drive output minimum will be controlled by signal lowest set

8. Multiple connection, only one for outside VR setting



Wiring 8. For 3 module controlling by Control Signals 1 set and adjust Limit output maximum by single set VR.

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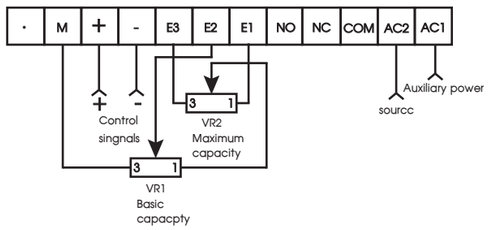
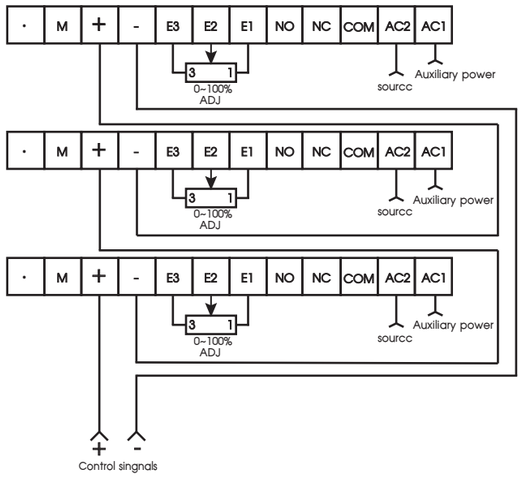
9. Basic and maximum output setting



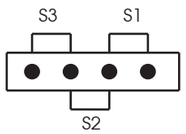
Wiring 9. for control by Control Signals can adjust value Limitoutput minimum by VR1 and adjust value Limit output maximum by VR2.

10. Three set connection, independent outside VR setting (limited for sets cascades only)



Wiring 10. For Input 4-20mA only by supply this way will can control all 3 Module by same Control Signals but can adjust Limit output maximum to be difference in each device.

■ Setting control input signal



S1 ON = 4~20 mA, 0~20 mA
S2 ON = 1~5 VDC, 0~5 VDC
S3 ON = 2~10 VDC, 0~10 VDC

o Selection S1 for setting Control Signals to be 4~20 mA, 0~20 mA

o Selection S2 for setting Control Signals to be 1~5 VDC, 0~5 VDC

o Selection S3 for setting Control Signals to be 2~10 VDC, 0~10 VDC

In case needs Input signal start drive Output at 0 mA or 0 VDC have to adjust setting at VR-BIAS.

■ Functional adjustment

o VR1 BIAS: Set Control signal input minimum at PSTA-01N still drive Output.

o VR2 Rising Time: set time 1~22 second for rising time for % Output

o VR3 Max: Set Maximum output Voltage at PSTA-01N will drive maximum 100%

■ Description for LED and troubleshooting

List	Status	Description
Led POWER	ON	Supply Auxiliary power
	OFF	1. No Auxiliary supply 2. Control Board เสียหาย (malfunction) ให้ทำการเปลี่ยนหรือซ่อม
Led IN	ON	No supply Control signal to PSTA-01N
	OFF	1. No supply Control signals to PSTA-01N 2. Check circuit wiring Input to Control Board incorrect 3. Set Biase qual to Maximum 4. Control Board เสียหาย (malfunction) ให้ทำการเปลี่ยนหรือซ่อม
Led OUT	ON	Supply Output
	OFF	1. If LED FB is ON status fix the problem from cause LED FB 2. If LED TH is ON status fix the problem from cause LED TH 3. If LED OUT is OFF status fix the problem from cause LED OUT 4. If LED OUT is ON status show Control Board has damage (malfunction) to change or fix.
Led TH	ON	1. PSTA-01N has Over heating check ventilation system, fan malfunction or break. 2. Ventilation system is not enough or high temperature in install please. User should change install area or adjust ventilation system.
	OFF	Normal
Led FB	ON	1. Main Power no supply check electrical supply 2. Fuse burn down change Fuse
	OFF	Normal

■ ORDERING CODE

PSTA - 01N - [ ]

050	50 Amp
080	80 Amp
100	100 Amp
125	125 Amp

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