1ϕ Power Regulator / Solid State Relay

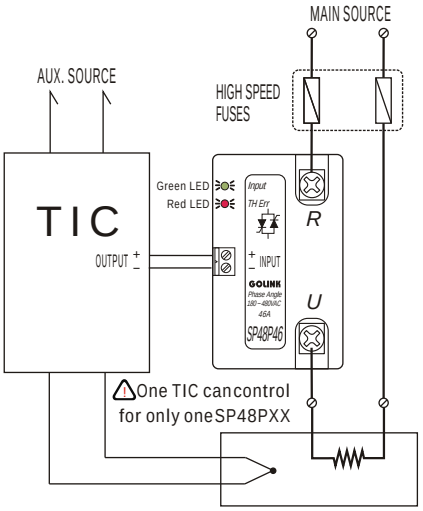
1ϕ Power Regulator (*SP48P18 / SP48P26 / SP48P36 / SP48P46*)

FEATURES

- Slim size design, no need Aux. Power, with easy wiring, control only by Input Signal 4 ~ 20mA
- DIN Rail design with easy installation/removing/moving
- By 2 Thyristor design with high voltage and current resistant
- With indication for over temperature and protection
- Excellent Heat Sink design available with high capability
- All models with wide voltage range 180 ~ 480VAC

Model No.	SP48P18	SP48P26	SP48P36	SP48P46
Rated Current	18A	26A	36A	46A
Rated Voltage	180 ~ 480VAC	180 ~ 480VAC	180 ~ 480VAC	180 ~ 480VAC
Applicable Fuse	FWC-25A10F	FWC-32A10F	45FT	63FE
Outline Dimension	90L*54W*98H	130L*54W*98H	90L*54W*98H	130L*54W*148H
Weight	0.5KG	0.6KG	0.7KG	1.0KG

* Above Fuses coded are according to the products of BUSSMANN, customers can also have them with comparable substitutes.



Input (LED): Lamp's illumination is proportional to input signal
TH Err (LED): This lamp lights when Heat Sink with temperature over 90°C, the SCR will stop output. After the temperature is cooled under 80°C, the lamp will be off and the SCR works without output. So, pls check the ambient temperature with proper cooling.

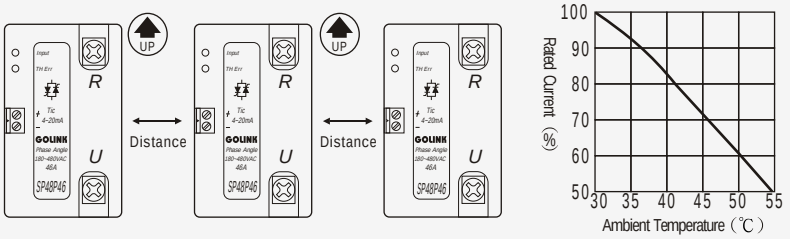
ORDER CODE

SP 48 P 18

- *Single Phase (SCR)*
- *Rated Voltage (180 ~ 480VAC)*
- *Phase control mode*
- *Rated Current*

CAUTION (For SP & SR series)

- The unit must be installed by upward ventilated for the hot air, or mounting a cooling fan for better heat sinking.
- Ambient under 30°C is available for full 100% load, if not please refer to the following table for recommended rated current.
- Please cogitate power fluctuantrate and heater error for order with +20% grade.



1ϕ Solid State Relay

ORDER CODE

SR 48 Z 46

- *Single Solid State Relay*
- *Rated Voltage (24 ~ 480VAC)*
- *Zero-Crossing mode*
- *Rated Current*

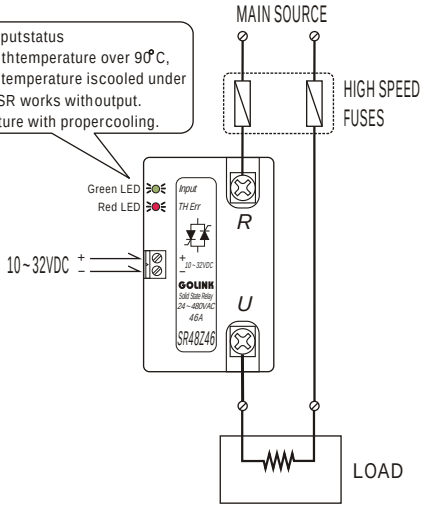
FEATURES

- Slim size design, with easy wiring
- DIN Rail design with easy installation/removing/moving
- By 2 Thyristor design with high voltage and current resistant
- With indication for over temperature and protection
- Excellent Heat Sink design available with high capability
- All models with wide voltage range 24 ~ 480VAC

Model No.	SR48Z18	SR48Z26	SR48Z36	SR48Z46
Rated Current	18A	26A	36A	46A
Rated Voltage	24 ~480VAC	24~480VAC	24 ~480VAC	24 ~480VAC
Applicable Fuse	FWC-25A10F	FWC-32A10F	45FT	63FE
Outline Dimension	90L*54W*98H	130L*54W*98H	90L*54W*98H	130L*54W*148H
Weight	0.5KG	0.6KG	0.7KG	1.0KG

* Above Fuses coded are according to the products of BUSSMANN, customers can also have them with comparable substitutes.

Input (LED): Green Lamp light ON means with Input status
TH Err (LED): This lamp lights when Heat Sink with temperature over 90°C, the SCR will stop output. After the temperature is cooled under 80°C, the lamp will be off and the SSR works without output. So, pls check the ambient temperature with proper cooling.



- ✓ ***Design*** attached with protecting cover, Securities accession.
- ✓ Use the Europeanism separable signal terminal, no need remove signal line to make a replacement.
- ✓ Design for Trigger board by separated, avoid the danger of high voltage or harm to the master board.
- ✓ With Fuse Break / Main Power Error / SCR over temperature / Alarm contact output.
- ✓ High quality and technical productions with no electrical interference.

❑ Dimension

30A

DIMENSION: 215mm(L) x 140(W) x 136(H)
WEIGHT: 3.20kg

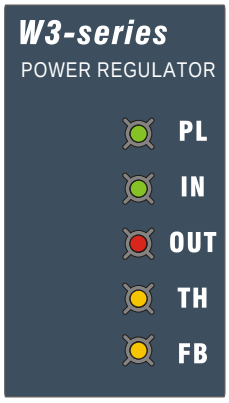
50A
75A
100A

DIMENSION: 255mm(L) x 140(W) x 187(H)
WEIGHT: 4.20kg

125A
150A

DIMENSION: 345mm(L) x 140(W) x 187(H)
WEIGHT: 5.40kg

❑ Panel Description



(Lamp Indication)

- ⇒ **Indication of Power Supply** (Lighting when Aux. Power switched ON)
- ⇒ **Input signal indication from TIC** Lamp illuminating according to the TIC's output.
- ⇒ **Output signal transfering** Lamp illuminating acc. To the output.
- ⇒ **Over temperature indication** (Lamp lighting in case of SCR over temperature)
- ⇒ **Fuse break / Main source Error** (Lamp lighting when Fuse break or Main source error)

❑ Adjustable Function

BIAS VR (Output adjustment of basic voltage) 6mA
MAX. VR (Max. Output adjustment) ..... 0~100%

❑ Selectable for Input signal

① 4~20mA ⇒ Put the (P1) jumper to the (S1) location.
(Input Impedance: 249Ω)

② 1~5VDC / MANUAL ⇒ Put the (P1) jumper to the (S2) location.
(Input Impedance: 30KΩ)

③ 2~10VDC / 0~10VDC ⇒ Put the (P1) jumper to the (S3) location.
(Input Impedance: 12KΩ)

❑ Ordering Guide

Please cogitate power fluctuant rate and heater error, or order aggrandize a grade when make choice of purchase

Model No.

W3	TP	4V	050	-	2	4	C
SERIES							

Control Mode	
TP	3ϕ , Phase Control
TZ	3ϕ , Zero Control

Main Source 50/60Hz	
2V	3ϕ 200~240VAC
4V	3ϕ 340~480VAC

Current	
030	30A
050	50A
075	75A
100	100A
125	125A
150	150A

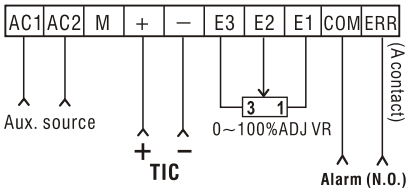
Aux. Source	
1	1ϕ 110Vac
2	1ϕ 220Vac

Input Signal	
0	0~5Vdc
1	1~5Vdc
2	2~10Vdc
3	0~10Vdc
4	4~20mA
M	Manual

Soft Start Time	
C	About 2 sec.(Factory setting)
S	About 30 sec.
N	No soft start

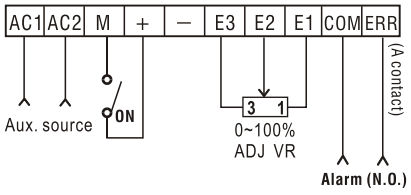
Wiring Examples

(1) Analog voltage, current input with external adjustable VR



※ (Please short by jumper for E3 and E2 when external VR not be used)

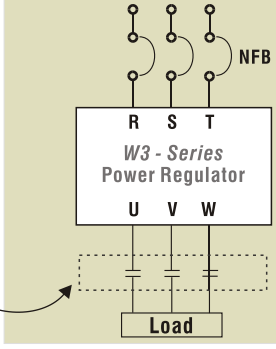
(2) Contact input with external adjustable VR



※ The magnetic switch must be installed for Load output

Main Circuit

3Phase Main Source



W2-series THYRISTOR POWER REGULATOR

Features

- The SCR unit attached with high speed Fuse in order to prevent the damage of SCR deu to the shortage current (di/dt).
- Patented efficient Heat Sink design with less dimension, easy for installation and wiring.
- The causes of malfunction can be indicated by individual LED lamp, easy for trouble shooting.
- Less non-linearity output provides accurate control of Temperature.
- High quality and technical productions with no electrical interference.
- Option Constant Current Control is available for variable resistance load.

Control Mode & Output Wave

Control Mode	Output Wave		
	10% Output	50% Output	90% Output
Phase Angle Control			
Zero Crossing Control	 1 cycle ON & 9 cycles OFF	 1 cycle ON & 1 cycle OFF	 9 cycles ON & 1 cycle OFF

Panel Description

MODE: ☐ PHASE ANGLE ☐ ZERO CROSSING
MAIN SOURCE: ☐ 200V ~ 240V ☐ 340V ~ 480V
AUX. SOURCE : ☐ 220V ☐
INPUT: ☐ 4 ~ 20mA ☐ 1 ~ 5V DC ☐ MANUAL ☐
CURRENT: ☐ 30A ☐ 50A ☐ 75A ☐ 100A ☐ 125A ☐ 150A ☐ 225A ☐ 300A

(Lamp Indication)

- PL (Green) ⇒ Control circuit power lamp.
- IN (Green) ⇒ Input signal indicator lamp. LED operation frequency is proportional to input signal.
- OUT (Red) ⇒ Output signal indicator lamp, LED operation frequency is proportional to output signal.
- ERROR (Yellow) ⇒ Malfunction or over temperature indication.

Note) There is two adjustable VRs (BIAS & MAX) on left of Lamps.
Our original setting for the BIAS VR & MAX VR as below:
BIAS (Output adjustment of basic voltage)..... 6mA
MAX (Max. Output adjustment) ..... 0~100%

Ordering Guide

Please cogitate power fluctuant rate and heater error, or order aggrandize a grade when make choice of purchase

Model No.

W2	T	P	4V	050	N	2	4	C	

SERIES

Phase No.

S	Single Phase
T	Three Phase

Control Mode

P	Phase Control
Z	Zero Control

Main Source 50/60Hz

1V	110V (for 1f only)
2V	200~240V
4V	340~480V
22V	220V
38V	380V
41V	415V
44V	440V
48V	480V

Rated Current

030	30A
050	50A
075	75A
100	100A
125	125A
150	150A
225	225A
300	300A
400	400A
500	500A

Control Type

N	Standard
F	Additional Fuse (For 3f - Zerocrossing model only)
TF	TF Phase-angle Control (For transformer resistance Load)
IR	For IR Quartz Heater Load Control
CT	CT Control c/w over-current Tripping protection & Alarm contact. (For constant current control Load)
CTL	CTL Control c/w over-current Tripping protection & Alarm contact. (For limit current control Load)
CTO	CTO Control c/w none-current Detecting contact (no tripping). (For constant current control Load)
CTA	CTA Control C/w over-current Detecting contact (no tripping). (For none-limit current control Load)

Standard is for general constant resistance load

Aux. Source

1	1f 110Vac
2	1f 220Vac
3	1f 380Vac
4	1f 415Vac
5	1f 440Vac
6	1f 480Vac
*	Special source

Standard is 220Vac

Input Signal

0	0~5VDC
1	1~5VDC
2	2~10VDC
3	0~10VDC
4	4~20mA
M	Manual

Soft Start Time

C	About 2 sec.(Factory setting)
S	About 30 seconds
T	About 12 seconds

Standard is 2sec.

Limited Current

025	For 30A Regulator
045	For 50A "
065	For 75A "
085	For 100A "
110	For 125A "
135	For 150A "
220	For 225A "
280	For 300A "
380	For 400A "
480	For 500A "

Note: 1) If no specified input signal, we will supply by 4~20mA Input Signal and Buffer time is 2sec.
2) User can modify the other input signal for change the jumper pin as below:
※For 4~20mA Input signal --> Put the P1 jumper pin to the S1 place. [Input Impedance: 249Ω]
※For 1~5Vdc / MANUAL --> Put the P1 jumper pin to the S2 place. [Input Impedance: 30KΩ]
※For 2~10VDC / 0~10VDC --> Put the P1 jumper pin to the S3 place. [Input Impedance: 12KΩ]
3) Please adjust the "MAX" VR for the input signal 2~10Vdc, 0~10Vdc to be about 50% output from the PCB.

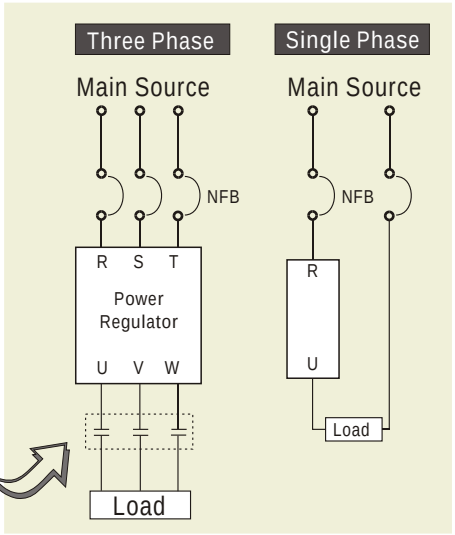
Installation

- The Power Regulator unit will produce heat itself during operation, please install it with upward erection.
- The unit must be upward ventilated for hot air. Mounting a cooling fan in the control panel are recommend.
- Don't install the unit in the space with high temperature and poor ventilating.
- Don't operate the unit exceed 70% of rated output in case of poor ambient conditions. (Ideal ambient temperature is -10~45C ånd Humidity under 90%)

Load Test

The SCR unit will not well functioned in case of less 0.6Amp of output load, please connect with the load at least 0.6Amp.

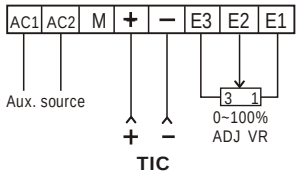
Main Circuit



The magnetic switch must be installed for load output

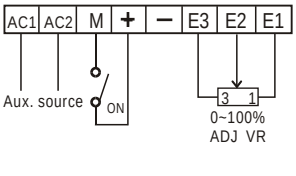
Wiring Examples

(1) Analog voltage, current input with external adjustable VR



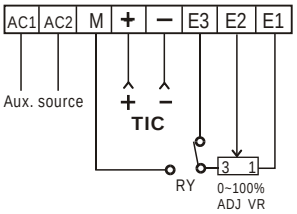
※ (Please short for E3 and E2 when external VR not be used)

(2) Contact input with external adjustable VR

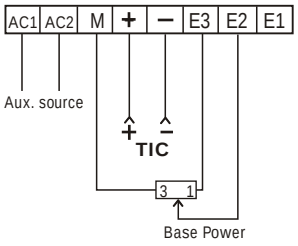


※ (The magnetic switch must be installed for Load output)

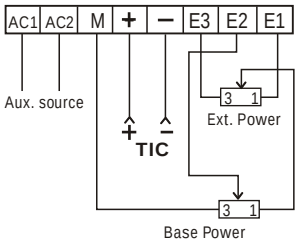
(3) Manual/Auto by RY switching.



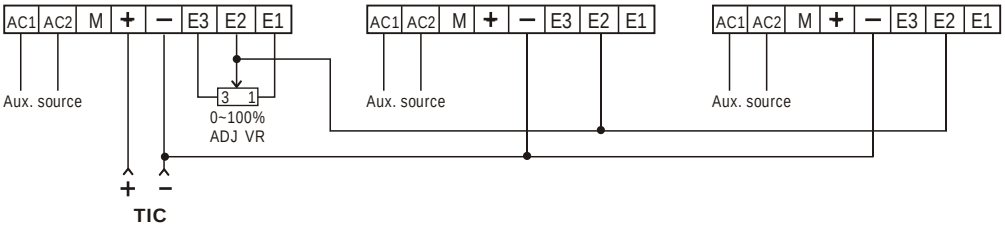
(4) Basic Load output setting.



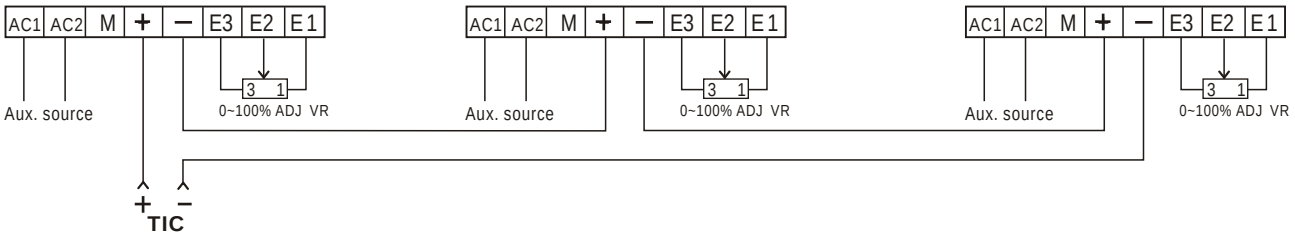
(5) Basic output & Max. Output setting.



(6) Multiple units connecting with one external VR setting.

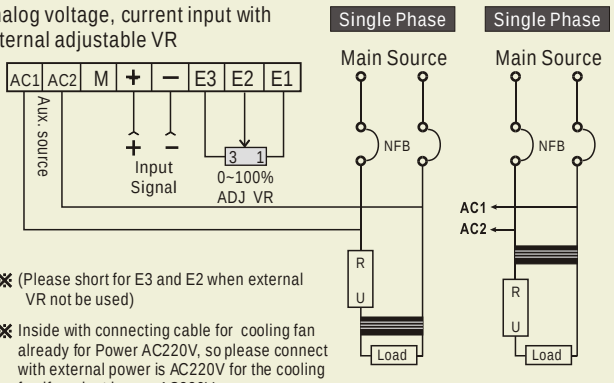


(7) Multiple units connecting with each individual external VR setting. ※ (The connecting method is only suitable with installation for Max. 3 units.)



Wiring Example for TF or CT control

Analog voltage, current input with external adjustable VR



※ (Please short for E3 and E2 when external VR not be used)

※ Inside with connecting cable for cooling fan already for Power AC220V, so please connect with external power is AC220V for the cooling fan if product is over AC220V.

Dimensions & Weight

W2 - series	Single Phase				Three Phase			
Rated Current	Length /mm	Width /mm	Height /mm	Weight /kg	Length /mm	Width /mm	Height /mm	Weight /kg
30A	160	100	120	1.35	210	140	185	3.20
50A	200	100	120	1.60	250	140	185	3.80
75A	160	108	162	1.80	250	140	185	3.80
100A	230	108	162	2.50	250	140	185	3.90
125A	230	108	162	2.50	300	140	185	4.30
150A	230	108	162	2.50	300	140	185	4.50
225A	290	108	162	3.30	340	420	195	14.20
				◉	340	280	195	11.60
300A	390	140	185	5.60	430	420	195	20.80
				◉	430	280	195	14.00
400A	390	140	185	5.60	430	420	195	20.80
				◉	430	280	195	14.00

◉ Weight and Dimension of (3 phase) Zero-crossing unit.