

slim Type

Solid State Relay Heater Power Regulator

Most Exquisite/ Extra Durable/ Ultimate Safe



AC 75~530V
16、25、33、44、58A

Suitable for the applications on
injection molding machines,
baking & drying ovens, laboratory
furnaces and light control.

CE Pending EN60947-1

ZEROSPAN

Heatsoft Heater power Regulator

Features

- Selection of output modes: 1. Phase angle control 2. Phase angle soft start & zero cross working (world's leading excellent function). ■ Micro-computer digital control with extra high resolution
- Built-in overheat indicator & protection of cooling fin ■ 2 Thyristor design, high voltage-resistant and high current-resistant ■ Full heat radiating capability allowing 100% continuous output
- Built-in fuse protection ■ Super slim figure, saving body's space ■ Secure CE wiring terminal, no need of ring terminals, easy for wiring ■ Selection of 6 input signals: DC4-20mA, 0-20mA, 1-5V, 0-5V, 2-10V, 0-10V

Output Modes & Applications

- **Phase angle control** can be applied to fixed resistor heater, variable resistor heater and light control.

10%  50%  90% 

After progressive soft start under low voltage, high-speed mode automatically activates to swiftly adjust the temperature. Every half wave intriguing produces a noise of harmonics.

- **Phase angle soft start & zero cross working** can be applied to fixed resistor heater, but not suitable to heater with steep resisting fluctuation under temperature effect.

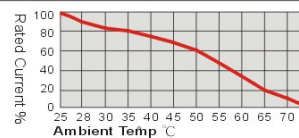


After progressive output soft start under low voltage in phase angle mode, automatically switched to the zero position output mode to swiftly adjust temperature. Zero position control is in the unit of a whole wave. Without component of half wave, highest power factor $\cos \theta$ can be reached, saving power and no noise of harmonics. Ampere meter shows shivering status when output. This control mode combines the advantages of phase angle and zero position control, enabling phase angle soft start to protect heater and also featuring low power consumption and noise free in zero position.

- ★ Control accuracies of the above two outputs are precisely calculated under CPU. Outputs are with very high linearity at $\pm 1\%$, resolution within 0.4%, output range of 0-99%.

Model Identification

SB	SLIM TYPE Heater Power Regulator Twin Functions of Zero crossing & Phase Angle			
Rated Voltage	1	AC 75-135V	800Vpk	
	2	AC 180-260V		
	3	AC 260-440V	1200Vpk	
	4	AC 330-530V	(N1) Fuses Coded below are the products of BUSSMANN from the United States. Customers can also have them with comparable substitutes.	
Rated Current	016	16A	Use FUSE (N1)	Below FWC-25A10F (25A)
	025	25A		Below FWC-32A10F (32A)
	033	33A		Below 50LET / 45ET (50A)
	044	44A		Below 63LET / 63ET (63A)
	058	58A		Below 80LET / 80ET (80A)

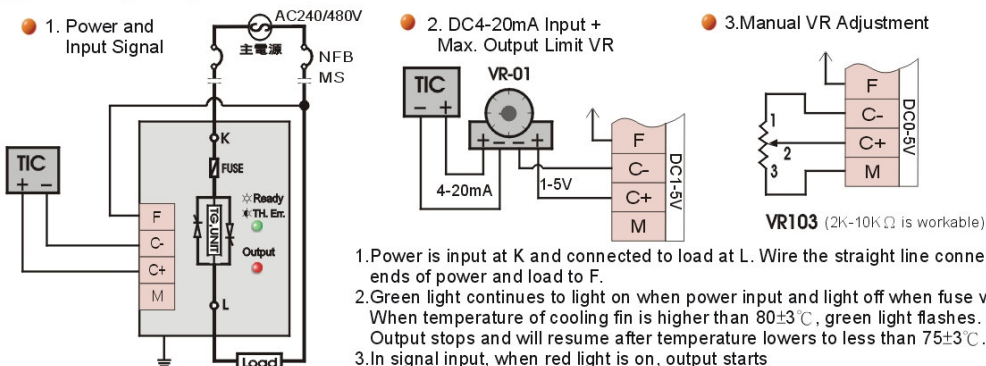


■ Above values available when the cooling fin is free from erosion, oil smudge and clad and has been installed in the direction of heat convection.

Codes to set input signal and output mode (Functions can be changed at JUMP point on the PC board.)

OUTPUT MODE	Code	INPUT SIGNAL	J10	J20	J30	J40	
Phase Angle Soft Start & Zero Cross working	AY	DC 4 - 20mA	●	○	○	○	OFF
	BY	DC 1 - 5V	○	○	○	○	
	CY	DC 2 - 10V	○	●	○	○	
	DY	DC 0 - 20mA	●	○	○	○	
	EY	DC 0 - 5V	○	○	○	○	
	FY	DC 0 - 10V	○	○	○	○	
Phase Angle Control	AP	DC 4 - 20mA	●	○	○	○	ON
	BP	DC 1 - 5V	○	○	○	○	
	CP	DC 2 - 10V	○	●	○	○	
	DP	DC 0 - 20mA	●	○	○	○	
	EP	DC 0 - 5V	○	○	○	○	
	FP	DC 0 - 10V	○	○	○	○	

Wiring Diagram & Operation Instruction



Slim Strong Relay

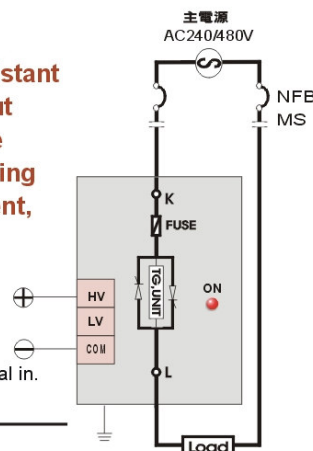
Solid State Relay

Features

- 2 Thyristor design, high pressure resistant and high current resistant
- Full heat radiating capability enabling 100% of continuous output
- Built-in FUSE protection ■ Super slim figure, saving body space
- Secure CE wiring terminal, no need of ring terminal, easy for wiring
- 2- Level of signal inputs, low input current ■ Extremely convenient, to combine with 2 or 3 sets together to use a 3-phase power.

Wiring Diagram

Choose a suitable shift (HV or LV) in according to voltage in signal source.
ON LED continues to light on when signal in.



Model Identification

SV	SLIM TYPE	Solid state relay	INPUT	DC4-8V/8-30V
SW	ZERO CROSS	TURN-ON	SIGNAL	AC70-140V/140-280V
Rated Voltage	2	AC 24-280Vrms (800Vpk)		
	4	AC 48-560Vrms (1200Vpk)		
Rated Current	016	16A	Below FWC-16A10F (16A)	
	025	25A	Below FWC-25A10F (25A)	
	033	33A	Below 35LET / 35ET (35A)	
	044	44A	Below 50LET / 45ET (50A)	
	058	58A	Below 63LET / 63ET (63A)	

■ Above values available when the cooling fin is free from erosion, oil smudge and clad and has been installed in the direction of heat convection.

(N1) Fuses Coded below are the products of BUSSMANN from the United States. Customers can also have them with comparable substitutes.

Signal Input Norms

Model	Level	Voltage Range	Must Release Voltage	Input current	Input Impedance
SV	LV	DC4~8V	< 1V	4.5~35mA	220 Ω (AC280V) / 120 Ω (AC560V)
	HV	DC8~30V	< 2V	4.5~28mA	1.2KΩ
SW	LV	AC70~140V	<10V	4.8~12mA	10 KΩ
	HV	AC140~280V	< 20V	4.8~12mA	20 KΩ

● 2-Level signal inputs design can reduce current of input signal.

Common Norms



- ① Wiring in power terminal, lead wire hasn't to be pressed on terminal. Insert it into the iron clip and lock tight.
- ② Wiring in control terminal, push down by a slot screwdriver to insert the wire.
- ③ Changing FUSE in model 16-25A, push it outward by a slot screwdriver and take it out.
- ④ Changing Fuse in model 33-58A, push the upper cover inward and pull it up.

Dimensions & Install Ways

Current	Length /mm	Width /mm	Height /mm	Weight /Kg	Wire Dia. & Locking Torque In Power terminal	Wire Dia. In control terminal
16A	107	38	102	0.45	2.0-3.5mm ²	AWG16-20 (Wire Strip 5mm)
25A	107	38	140	0.53	(Wire Strip 10mm)	
33A	158	52	127	1.0	5.5-8.0mm ²	
44A	158	52	158	1.3	(Wire Strip 15mm)	
58A	158	52	198	1.8	(With Fuse Screws)	

● Install options can be of double screws or by rail style.

Environment

- Ambient temperature & humidity : -10/+50 °C; below 90% RH (no dew allowed)
- Insulation-resistance : >20 MΩ (500VDC) control terminal & power terminal & case
- Electronic Strength : 1000VAC / 1minute (control terminal & power terminal)
2000VAC / 1minute (power terminal & case)

