FEATURES

- Wide load Voltage range:24~380 VAC & 90~480 VAC.
- Load Current:10, 25 and 40 Amperes.
- Long service life and high reliability.
- LED indicates the operating of the device.(Except Phase controller)
- Low EMI / RFI & surge by Zero-cross Trigger.
- DC type can be driven by IC such as TTL & CMOS.

MODEL DESIGNATIONS

TSSR — 25 (1) D (2) H (3)

Designation	Signal	Description
1. Load current	10	10A
	25	25A
	40	40A
2. Input type	A	AC input
	D	DC input
	V	Phase trigger control
3. Output Voltage range	None	24~380VAC
	H	90~480VAC

● Phase controller only has 48~380VAC for output voltage range.

SPECIFICATIONS : AC INPUT

● Input characteristics

Input characteristics \ Model	TSSR-10A	TSSR-25A	TSSR-40A	TSSR-10AH	TSSR-25AH	TSSR-40AH
Control voltage range	90~250VAC 50/60Hz					
Control current	3mA max.					
Pickup voltage	AC 70V max.					
Dropout voltage	AC 30V min.					

● Output characteristics

Voltage range	24~380 VAC			90~480 VAC		
Peak voltage (t=1min)	600VAC (reference)					
Maximum current (rms)	10A	25A	40A	10A	25A	40A
Maximum surge current (t=10ms)	100A	250A	400A	100A	250A	400A

● General characteristics (@ 25°C)

Operate time	1/2 of load power source cycle + 1 ms max.	
Release time	1/2 of load power source cycle + 1 ms max.	
Output ON voltage drop	1.6V (rms) max.	
Leakage current	4 mA max. (at V max.)	8 mA max. (at V max.)
Insulation resistance	100 MΩ min. (at 500 VDC)	
Dielectric strength	2,500 VAC, 50/60Hz for 1 minute	
Vibration resistance	Mechanical durability: 10 to 55Hz, 1.5mm double amplitude	
Shock resistance	Mechanical durability: 1,000m/s^2 (approx. 100G)	
Storage temperature	-30°C to 100°C (with no icing nor condensation)	
Ambient temperature	-20°C to 80°C (with no icing nor condensation)	
Ambient humidity	45 to 85%RH	
Weight	Approx. 80g	

SPECIFICATIONS : DC INPUT

Input characteristics

Characteristics \ Model	TSSR-10D	TSSR-25D	TSSR-40D	TSSR-10DH	TSSR-25DH	TSSR-40DH
Control voltage range	3~32VDC					
Control current	6mA/12VDC					
Pickup voltage	DC 3V max.					
Dropout voltage	DC 2V min.					

Output characteristics

Voltage range	24~380VAC			90~480VAC		
Peak voltage (t=1min)	600VAC (reference)					
Maximum current (rms)	10A	25A	40A	10A	25A	40A
Maximum surge current (t=10ms)	100A	250A	400A	100A	250A	400A

General characteristics (@ 25°C)

Operate time	1/2 of load power source cycle + 1 ms max.	
Release time	1/2 of load power source cycle + 1 ms max.	
Output ON voltage drop	1.6V (rms) max.	
Leakage current	4 mA max. (at V max.)	8 mA max. (at V max.)
Insulation resistance	100 MΩ min. (at 500 VDC)	
Dielectric strength	2,500 VAC, 50/60Hz for 1 minute	
Vibration resistance	Mechanical durability: 10 to 55Hz, 1.5mm double amplitude	
Shock resistance	Mechanical durability: 1,000m/s^2 (approx. 100G)	
Storage temperature	-30°C to 100°C (with no icing nor condensation)	
Ambient temperature	-20°C to 80°C (with no icing nor condensation)	
Ambient humidity	45 to 85%RH	
Weight	Approx. 80g	

SPECIFICATIONS : PHASE CONTROLLER

Input characteristics

Characteristics \ Model	TSSR-10V	TSSR-25V	TSSR-40V
Variable resistor range	100kΩ to 48V, 250kΩ to 110V, 500kΩ to 220V, 1MΩ to 380V		
Control method	Phase trigger control		

Output characteristics

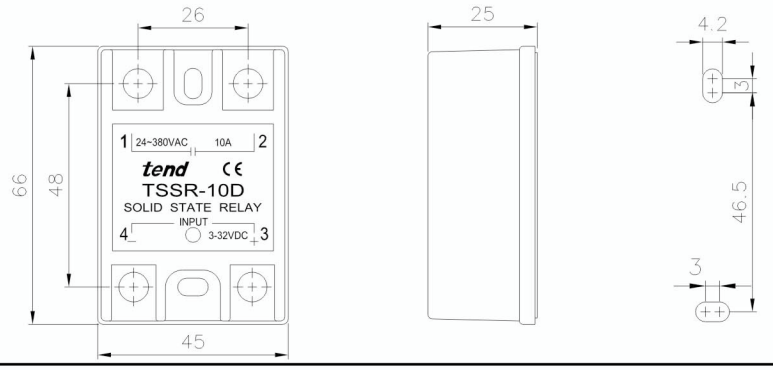
Voltage range	48~380 VAC		
Peak voltage (t=1min)	600VAC (reference)		
Maximum current (rms)	10A	25A	40A
Maximum surge current (t=10ms)	100A	250A	400A

General characteristics (@ 25°C)

Output ON voltage drop	1.6V (rms) max.
Leakage current	10 mA max. (at V max.)
Dielectric strength	2,500 VAC, 50/60Hz for 1 minute
Vibration resistance	Mechanical durability: 10 to 55Hz, 1.5mm double amplitude
Shock resistance	Mechanical durability: 1,000m/s^2 (approx. 100G)
Storage temperature	-30°C to 100°C (with no icing nor condensation)
Ambient temperature	-20°C to 80°C (with no icing nor condensation)
Ambient humidity	45 to 85%RH
Weight	Approx. 80g

DIMENSIONS

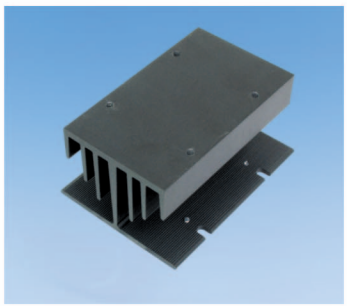
TSSR- □□□

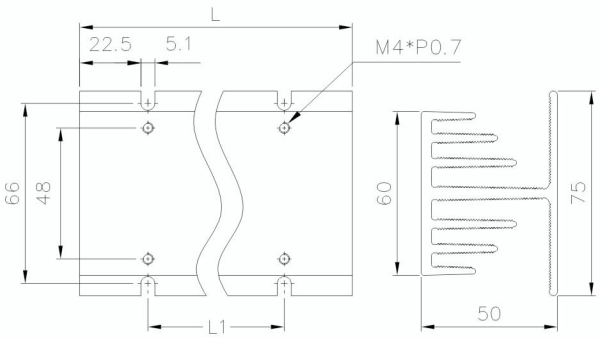


ACCESSORIES

(There are 5 different lengths of heat sink available. It can be chosen based on the quantity of TSSR used. Put the number of TSSR used in the □ such as TSSR01-[1P].)

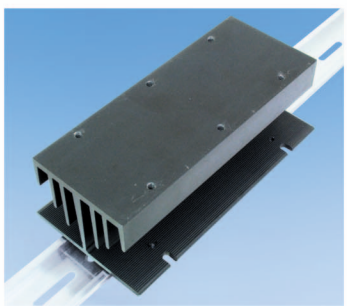
TSSR01-□ Heat sink

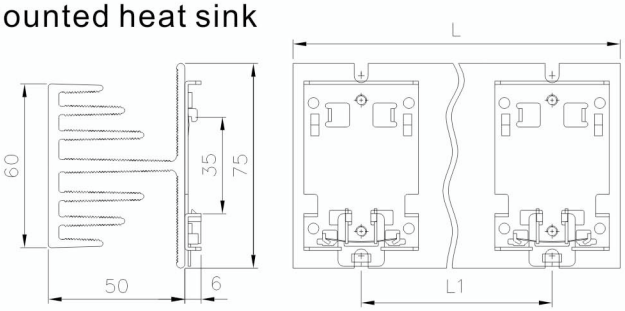




Signal	L	L1
1P	50mm	
2P	100mm	50mm
3P	150mm	100mm
4P	200mm	150mm
5P	250mm	200mm

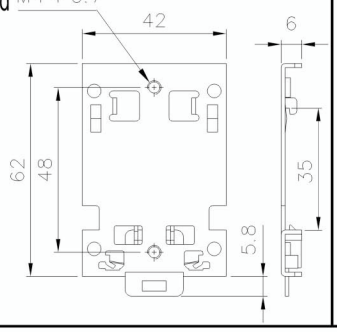
TSSR02-□ DIN rail mounted heat sink



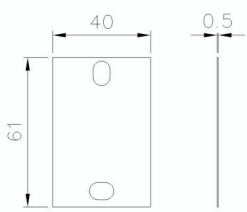


Signal	L	L1
1P	50mm	
2P	100mm	50mm
3P	150mm	100mm
4P	200mm	150mm
5P	250mm	200mm

TSSR03 DIN rail mounted M4*P0.7



TSSR04 Heat conduction rubber



- Used between bottom of TSSR and heat sink.
- Tear off protection film before using.

PRECAUTIONS FOR SAFE USE

1. The TSSR and heat sink will be hot and may occasionally cause minor burns. Do not touch the TSSR or heat sink either while the power supply is ON, or immediately after the power is turned OFF.
2. Be sure to conduct wiring with the power supply turned OFF. Touching the terminals when they are charged may occasionally result in minor electric shock.
3. The internal snubber circuit is charged and may occasionally cause minor electric shock. Do not touch the TSSR' s main circuit terminals immediately after the power is turned OFF.
4. Do not apply a short-circuit to the load side of the TSSR. The TSSR may rupture.
5. TSSR malfunction or fire damage may occasionally occur. Do not apply excessive voltage or current to the TSSR terminals.
6. To protect against short-circuit accidents, install a quick-burning fuse that is rated 80% current maximum on the output line.
7. Abnormal heat generated by terminals may occasionally result in fire damage. Do not operate if the screws on the output terminal are loose.
8. Do not obstruct the airflow to the TSSR or heat sink.
9. When installing the TSSR directly into a control panel so that the panel can be used as a heat sink, use a panel material with low thermal resistance, such as aluminum or steel.
10. The TSSR should be installed with a heat sink when the load current is more than 15A. Heat generated from a TSSR error may occasionally cause the output element to short, or cause fire damage.