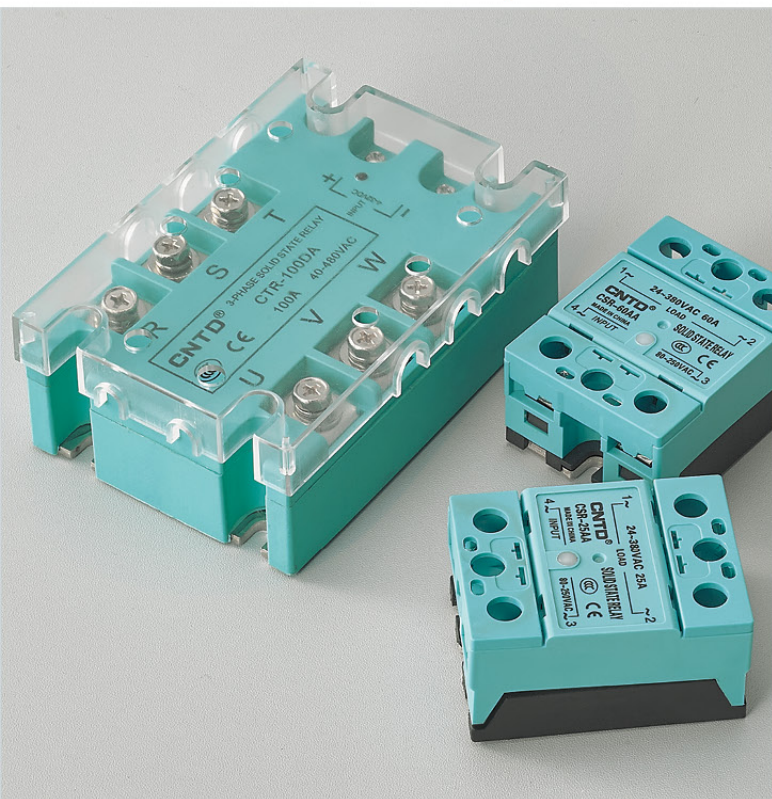




Overview

Solid State Relay(CSR) is industrial control appliances which use power semiconductor devices for main control part, compare with traditional magnetic contact industrial controllers, it is more high-powered, intelligent, digital, systematic and green development.

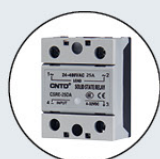
according switch mode CSR have zero-cross and random type. When the input control signal, random type conduction immediately, zero cross type need load voltage turn to zero region just can conduction. Revocation of the control signal,all can cut off when less than maintenance current. zero cross type may cause the maximum half-cycle delay, but reduces the impact of the load and radiofrequency interference, is the ideal switching devices.Random type fast response,suitable for dimmer,thermostats resistive loads and some inductive load applications.

When the CSR turn off, if in the phase current and voltage have different, will have a large rise rate (dv/dt) on the triac, such as dv/dt higher than Triac standatrd (300V/us), will result in delay shutdown even failure. use anti-parallel thyristor's CSR(powerful type) will been greatly improved at dv/dt(dv / dt is 500V/us). Therefore, in the field of capacitive load or inductive load, suggest the use powerful type CSR. CNTD's CSR are all powerful type.

Solid-state voltage regulator consists of thyristor switching circuit, resistance-capacitance phase shifting circuit,lag circuit and over-voltage absorption circuit.The use of only one external potentiometer can be used to achieve AC power regulation.In many occasions can replace the heavy contact voltage lighting power supply,voltage,temperature,brightness, speed and other analog adjustment.

Features

- Current:0.5A~400A
- Voltage:12V~680V
- General Install Size
- Vacuum Weld Technics
- Led indicator showing "ON" or "OFF"
- Protect Panel
- IEC standard
- Input & output type could chose DC/AC AC/AC DC/DC



■ Gray



■ Light green

Model Number Structure

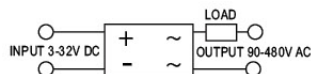


- 1 CSR=CNTD Single Phase Solid State Relay
CTR=CNTD Three Phase Solid State Relay
- 2 None= Improve Design Type(Light Green)
E=Standard Economic Type(Gray)
- 3 Rated Operation Current
- 4 Control & Load voltgge type
DA=DC(4-32V)AC(24-380V) AA=AC(80-250V)AC(24-380V)
DD=DC(4-32V)DC(12-240V) VA=Voltage regulator调压器(24 380VAC)
- 5 None=Zero Cross Trigger
R=Radom Switch

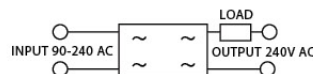
Applications

- AC DC switch & Temp control
- Automate Control
- CNC machinery
- Packaging machinery
- Textile machinery
- Glass machinery
- Plastic machinery

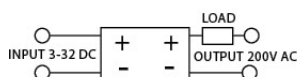
1、CSR-D(DC TO AC) Application Circuit



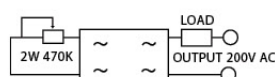
2、CSR-A(AC TO AC) Application Circuit



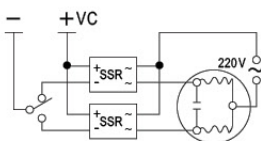
3、CSR-DD(DC to DC) Application Circuit



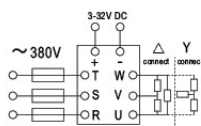
4、CSR-V(voltage regulator) Application Circuit



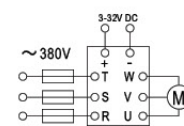
5、Motor positive and reverse Application Circuit



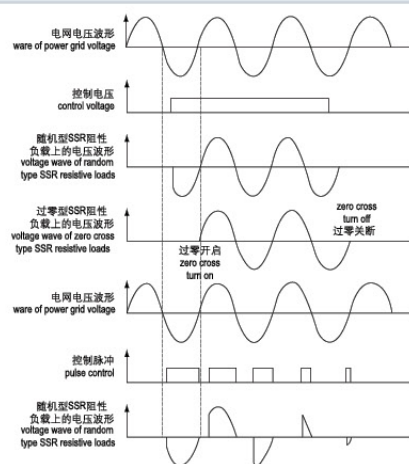
6、3phase CSR Load control Connect



7、3phase Motor positive and reverse



Specification		input parameter				output parameter				Safe Load		
		Control Voltage	Control Current	Start Current	Close Voltage	Operating Current	Operating Voltage	Insulate voltage	Protection		Resistive Load	Inductive Load
									Over Voltage	Over Current		
CSR	DC/ AC	4-32 V DC	<20mA	≥ 5mA	≤ 1.5V DC	10-100A	24-480 V AC	≥ 2500 VAC	RC MOV	Fast Fuse	60%	40%
	AC/AC	80-250 V AC	<30mA	≥ 5mA	≤ 10V AC	10-100A	24-480 V AC					
	Industry class	4-32 V DC	<20mA	≥ 5mA	≤ 1.5V DC	100-800A	24-480 V AC		Diode			
	DC/DC	3-32 V DC	<25mA	≥ 5mA	≤ 1.5V DC	10-40A	12-250 V DC					
CTR		4-32 V DC	<30mA	≥ 9ma	≤ 2.5V DC	10-120A	24-480 V AC		RC MOV	Fast Fuse		
Solid StateVoltage Regulator		Potentiometer 500K Ω/1/4W				10-40A	10-250V AC		RC MOV	Fast Fuse		



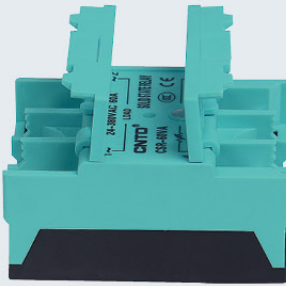
RC: Built-in resistance capacity absorption circuit.
MOV: External shunt metal oxide varistor.

Notes

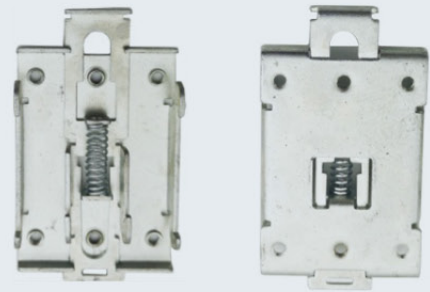
1. Strictly prohibit for load short circuit. Can use fast fuse.
2. Ling time working current can't over 70% of the nominal value.
3. Heatsink temperature can't over 75℃.
4. Use at inductive load area, adding varistor for protect is better.

Recommended value of load type (Room temperature)

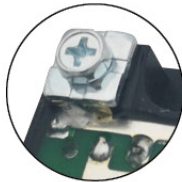
Load type	Pure Resistance	Electric hot wire	Incandescent lamp	Transformer/ Electromagnet	1 phase AC motor	3 phase AC motor
value of load	100%	50-70%	35-50%	25-40%	12-24%	18-33%



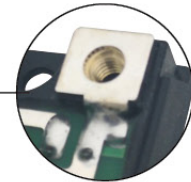
Patent design, using the coverprotection model, easy to operate



CSR-B01
导轨卡件 CSR clamp



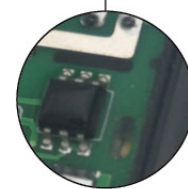
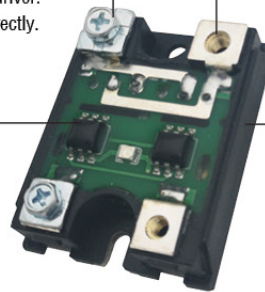
High quality screw, can operate by hexagonal sleeve or screwdriver. Integral fixed gasket, wire without terminal can also be used directly.



Power device directly conducts with copper electrode, which has strong overcurrent ability. Brass fasteners with precise threads help to enhance conductivity.



SMT double panel full patch process, optimize the driving advantages of Crydom and Celcu, strong anti-interference ability, accurate control.



Transparent silicone gel has excellent thermal conductivity and strong insulation characteristics. Multi-layer sealing design, waterproof, dustproof and salt fog resistance, can be used stably in harsh environments.

Specifications

Model	CSR-DA		CSR-AA		CSR-VA	CSR-DD	CTR-DA	
	CSRE-DA		CSRE-AA		CSRE-VA	CSRE-DD	CTRE-DA	
Operation Current	10A,25A,40A	60A,80A,100A	10A,25A,40A	60A,80A,100A	10A,25A,40A	10A,25A,40A	10A,25A,40A	60A,80A,100A,120A
Operation Voltage	24-480V AC		24-480V AC		10-250V AC	12-250V DC	24-480V AC	
Control Voltage	4-32V DC		80-250V AC		500K Ω /1/4W	3-32V DC	4-32V DC	
Control Current	DC 3-25mA		AC $\leq$ 12mA		/	DC 3-25mA	DC 3-25mA	
V_{TM}	$\leq$ 1.5V	$\leq$ 1.5V	$\leq$ 1.5V	$\leq$ 1.5V	$\leq$ 1.5V	$\leq$ 2.3V	$\leq$ 1.5V	$\leq$ 1.5V
I_{RRM}	$\leq$ 10mA	$\leq$ 20mA	$\leq$ 10mA	$\leq$ 20mA	$\leq$ 5mA	$\leq$ 5mA	$\leq$ 15mA	$\leq$ 15mA
T_Q	$\leq$ 10mS		$\leq$ 10mS		$\leq$ 10mS	$\leq$ 10mS	$\leq$ 10mS	
V_{iso}	2500V AC		2500V AC		2500V AC	2500V AC	2500V AC	
R_{iso}	1000m Ω 500V DC		1000m Ω 500V DC		1000m Ω 500V DC	1000m Ω 500V DC	1000m Ω 500V DC	
T_J	-30~+80 $^{\circ}$ C		-30~+80 $^{\circ}$ C		-30~+80 $^{\circ}$ C	-30~+80 $^{\circ}$ C	-30~+80 $^{\circ}$ C	
Weight	90g	140g	90g	140g	90g	90g	350g	450g

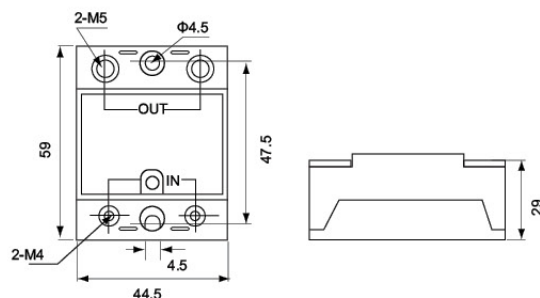
Appearance and Dimension

CSR-DA



Model

CSR-10DA
CSR-25DA
CSR-40DA
CSR-60DA
CSR-80DA
CSR-100DA

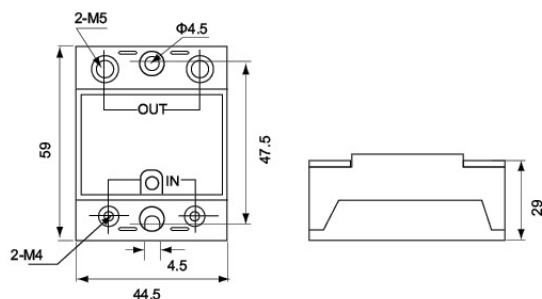


CSR-AA



Model

CSR-10AA
CSR-25AA
CSR-40AA
CSR-60AA
CSR-80AA
CSR-100AA

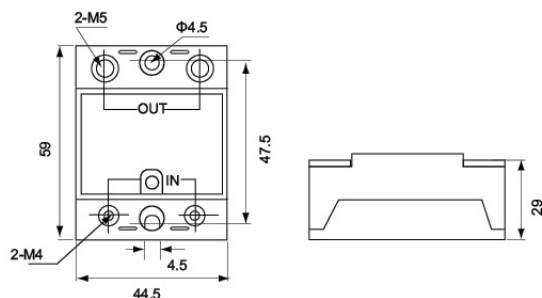


CSR-VA



Model

CSR-10VA
CSR-25VA
CSR-40VA

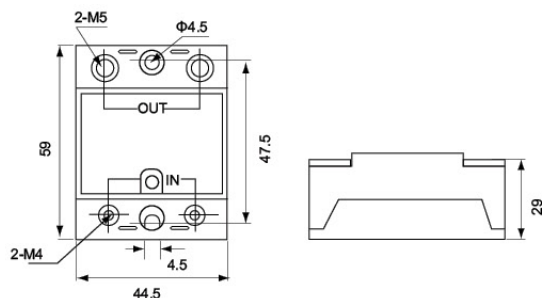


CSR-DD



Model

CSR-10DD
CSR-25DD
CSR-40DD

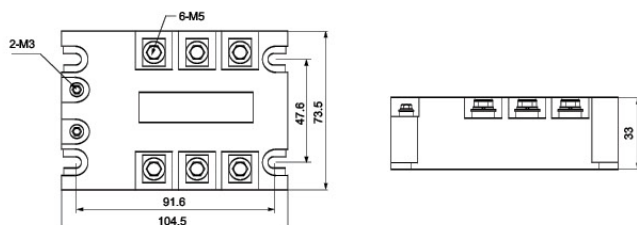


CTR-DA



Model

CTR-10DA
CTR-25DA
CTR-40DA
CTR-60DA
CTR-80DA
CTR-100DA
CTR-120DA

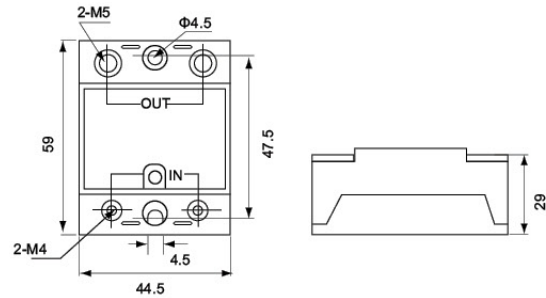


Appearance and Dimension

CSRE-DA



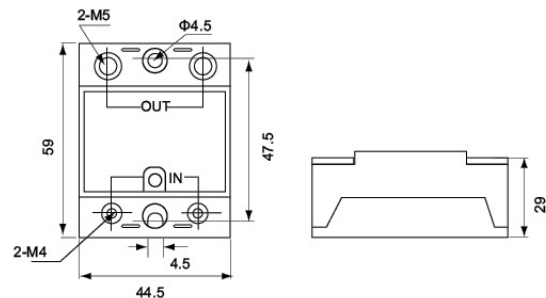
Model
CSRE-10DA
CSRE-25DA
CSRE-40DA
CSRE-60DA
CSRE-80DA
CSRE-100DA



CSRE-AA



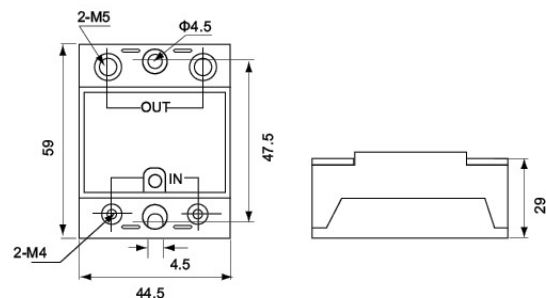
Model
CSRE-10AA
CSRE-25AA
CSRE-40AA
CSRE-60AA
CSRE-80AA
CSRE-100AA



CSRE-VA



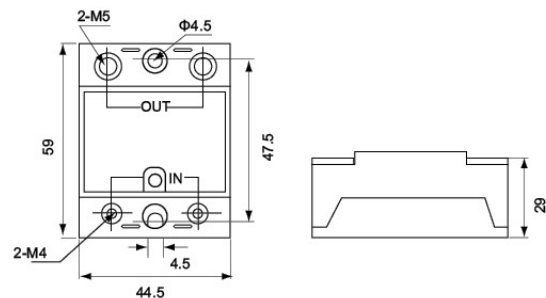
Model
CSRE-10VA
CSRE-25VA
CSRE-40VA



CSRE-DD



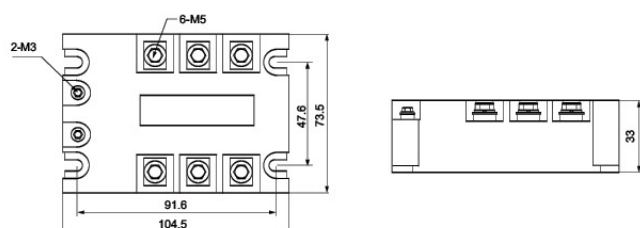
Model
CSRE-10DD
CSRE-25DD
CSRE-40DD



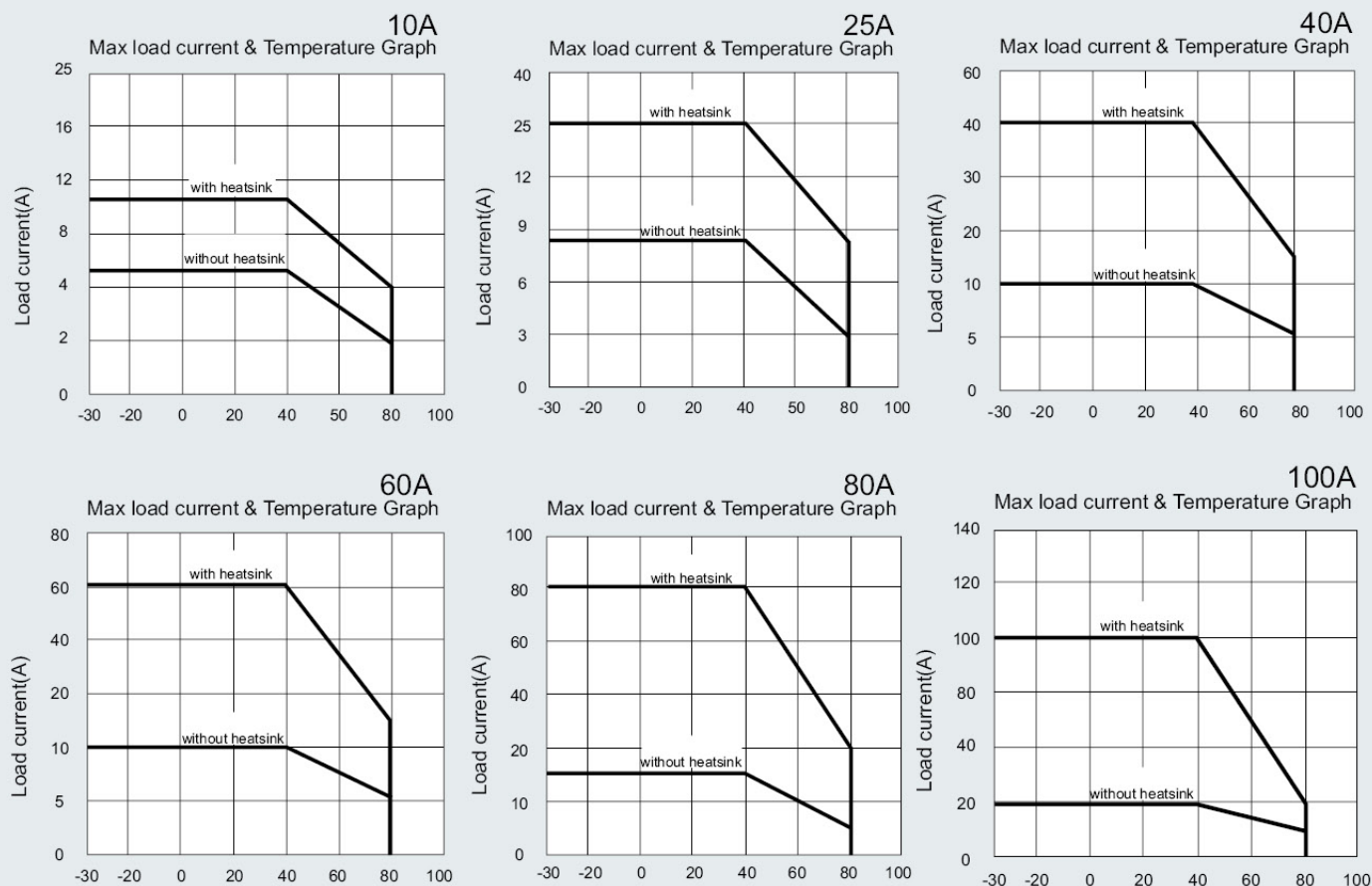
CTRE-DA



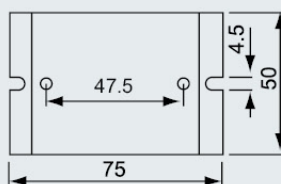
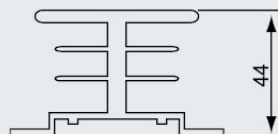
Model
CTRE-10DA
CTRE-25DA
CTRE-40DA
CTRE-60DA
CTRE-80DA
CTRE-100DA
CTRE-120DA



Dissipative Power Curve of CSR

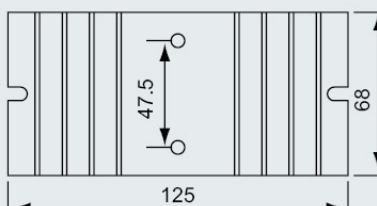
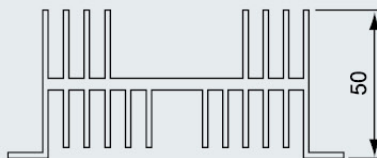


State Relay Heatsink



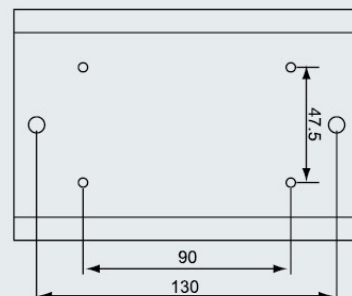
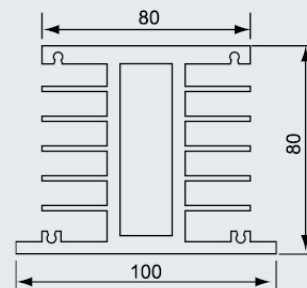
CSR-A01

(For CSR10A-40A)



CSR-A02

(For CSR60A-100A)



CSR-A03

(For CTR10A-120A)