KANE®

Global partner for Industrial Automation

SELECTION GUIDE

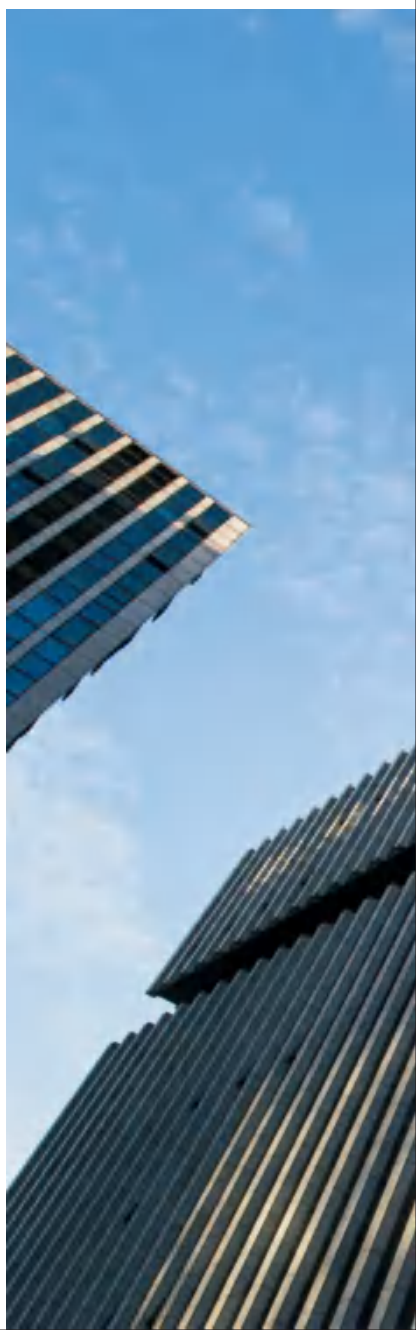
Ver.2025

About us

Kane electric is a professional high-tech enterprise integrating product development, manufacturing, sales and technical service.

The company has gathered a number of senior engineers and professional and technical personnel, with independent and high R & D capability of new products,exquisite testing equipment and advanced production equipment.We strictly follow international standards to produce high-quality industrial control products.

The company produces a full range of single and three-phase solid-state relays, voltage regulators,SCR power regulators, bridge rectifiers, power modules, heatsinks, temperature controllers, rotary encoders, switching power supply, etc, all the products are sold well all over the China and exported to Southeast Aisa, Middle East, Europe, America and other cou -ntries, the quality is trusted by customers.




ICG
VERIFICATION OF CONFORMITY


GTS
VERIFICATION OF EMC COMPLIANCE
CE


Quality Management System Certificate
GB/T 19001-2016/ISO 9001:2015
IAF
IAS

SSR model composition and meaning

This is only for reference, the actual prodcut does not support all combinations . For selecting the specified mode, Please contact our staff.

K	①	-	②	-	③	-	④	-	⑤	-	⑥

K
Kane company

① Product name
SSR:Solid State Relay
SCR:Solid state voltage regulator

② Input
1:Single phase SSR
2:Dual SSR
3:Three-phase SSR
H1:Single phase industrial SSR
M3:Three-phase motor reversing SSR

③ Load voltage
24: 24~240VAC
38: 0~380VAC
48: 24~480VAC
66: 24~660VAC
22: 6-220VDC

④ Input voltage
10:10A
25:25A
...
120:120A

⑤ Input/output
DA: DC to AC
AA: AC to AC
DD: DC to DC
VA: input potentiometer
LA: input 4~20mA
VD: input 0~10VDC

⑥ Function
No mark: Zero cross turn-on
P: random turn-on

IMPORTANT:

The rated current of SSR is named by TRIAC or chip's current inside the SSR, for example, a 10A SSR means that there is a 10A TRIAC inside the SSR, but 10A SSR can't be used for 10A load, margin must be left on the current according to different types of loads, such as:
For resistive load, SSR's rated current must be over 2 times of the load current.
For inductive loads, SSR's rated current must be over 5 times of the load current.
For capacitive load, it should be 10 times or even larger.

Selection method of Fast fuse:

Fast fuse's current is 60~80% of SSR's current, take 10A SSR for example,the matched fast fuse is 6~8A.

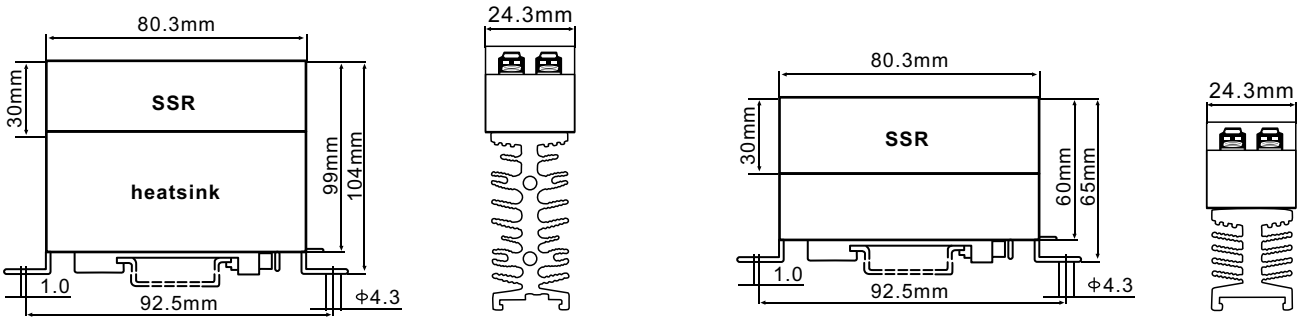
KANE®

SLIM DIN RAIL MOUNT SSR

Features:

1. 24.3mm width for space-saving design
2. Rated current: 10-40A
3. Built-in RC
4. With LED indicator
5. Zero cross or random turn-on
6. DC or AC control
7. DIN Rail or panel mount installation

OUTLINE & INSTALLATION DIMENSION:



TYPES	KSSR1-B□DA	KSSR1-B□AA
INPUT		
Input voltage range	3-32VDC(DA)	70-280VAC(AA)
Max input current	12mA	15mA
Turn on voltage	2.8VDC	70VAC
Turn off voltage	1.5VDC	50VAC
OUTPUT		
Load voltage range	24~480VAC	
Peak voltage	800V	
Load current	10A,25A,40A	
Max off-state leakage current	2mA	
Max on-state voltage drop	≤1.5V	
GENERAL		
Length x Width x Height(mm)	80.3 x 24.3 x 65, 80.3 x 24.3 x 104	
Weight(approx.)	200g, 300g	
Dielectric strength (input to output)	4000V	
Dielectric strength (input,output to base)	2500V	
Operating temperature	–20℃~80℃	
Certification	CE	

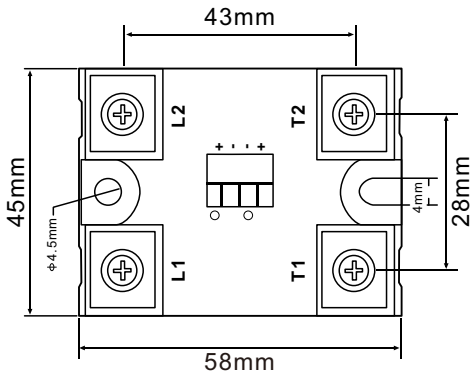
PRECAUTIONS

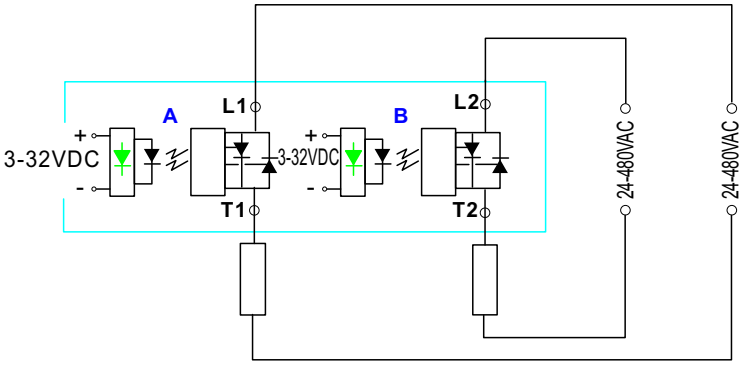
1. When choosing a SSR, please consider the actual load current and working ambient temperature.
2. For a good cooling,the SSR needs an air convection. Less convection air produces an abnormal heating.
3. In case of no space between two SSRs(zero space between two SSRs), please reduce the load current.
4. A forced cooling (fan inside the cabinet) improves significantly the thermal performances.
5. In all cases please check the heatsink temperature never exceed 90℃.

Features:

1.Dual zero cross solid state relay
2.Rated Load current 10~80A
3.Built-in RC
4.With LED indicator
5.Dielectric strength 4000V
6. DC control

OUTLINE & INSTALLATION DIMENSION:





TYPES	KSSR-248□DA-2H
INPUT	
Input voltage range	3-32VDC(DA)
Max input current	12mA
Turn on voltage	2.8VDC
Turn off voltage	1.5VDC
OUTPUT	
Load voltage range	24~480VAC
Peak voltage	800V
Load current	10A,25A,40A,60A,80A
Max off-state leakage current	2mA
Max on-state voltage drop	1.5V
GENERAL	
Length x Width x Height(mm)	58 x 45 x 28
Weight(approx.)	150g
Dielectric strength (input to output)	4000V
Dielectric strength (input,output to base)	2500V
Operating temperature	–20℃~80℃
Certification	CE

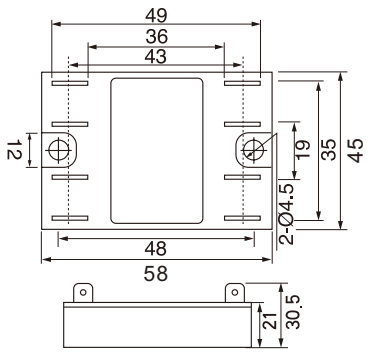
PRECAUTIONS

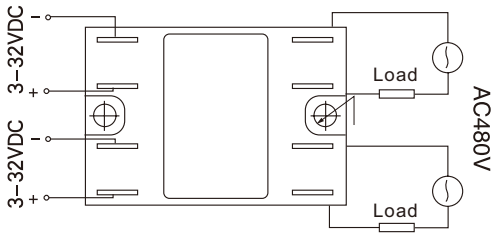
1. When choosing a SSR, please consider the actual load current and working ambient temperature.
2. Dual SSR must be mounted on heatsink, it's necessary to use thermal grease or thermal pad.
3. Tighten SSR terminal screws properly.
4. Please do not use SSR beyond the descriptions in the datasheet.

Features:

1.Power and control connections by FASTON terminals
2.Dual zero cross solid state relay
3.Rated load current 10~80A
4.Built-in RC
5.Dielectric strength 4000V
6.DC control

OUTLINE & INSTALLATION DIMENSION:





TYPES	KSSR-248□DA-2Z
INPUT	
Input voltage range	3-32VDC(DA)
Max input current	12mA
Turn on voltage	2.8VDC
Turn off voltage	1.5VDC
OUTPUT	
Load voltage range	24~480VAC
Peak voltage	800V
Load current	10A,25A,40A,60A,80A
Max off-state leakage current	2mA
Max on-state voltage drop	1.5V
GENERAL	
Length x Width x Height(mm)	58 x 45 x 30.5
Weight(approx.)	130g
Dielectric strength (input to output)	4000V
Dielectric strength (input,output to base)	2500V
Operating temperature	–20℃~80℃
Certification	CE

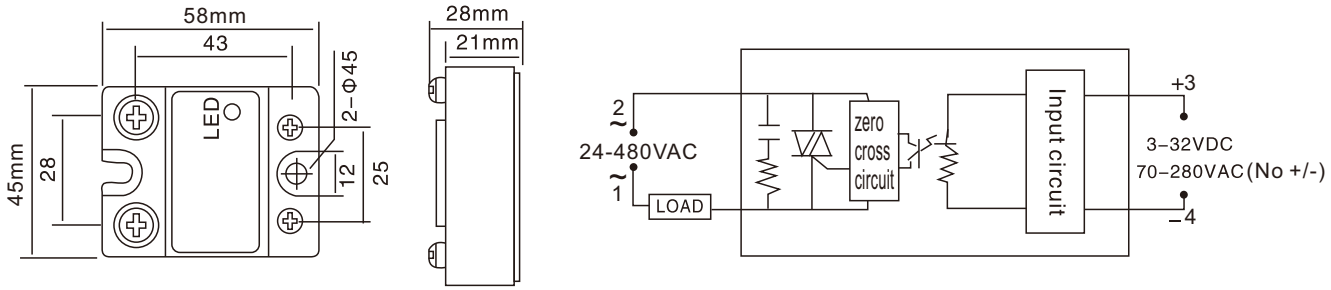
PRECAUTIONS

1. When choosing a SSR, please consider the actual load current and working ambient temperature.
2. Dual SSR must be mounted on heatsink, it's necessary to use thermal grease or thermal pad.
3. Tighten SSR terminal screws properly.
4. Please do not use SSR beyond the descriptions in the datasheet.
5. Semiconductor relays don't provide any galvanic insulation between the load the the mains.

Features:

1. Rated current: 10-120A
2. Built-in RC
3. With LED indicator
4. High dielectric strength up to 4000V
5. High isolation strength 1000ÌÙ/500VDC
6. Zero cross or random turn-on
7. DC or AC control

OUTLINE & INSTALLATION DIMENSION:



TYPES	KSSR-148□DA	KSSR-148□AA
INPUT		
Input voltage range	3-32VDC(DA)	70-280VAC(AA)
Max input current	12mA	15mA
Turn on voltage	2.8VDC	70VAC
Turn off voltage	1.5VDC	50VAC
OUTPUT		
Load voltage range	24–480VAC	
Peak voltage	800V	
Load current	10A,15A,25A,40A,60A,80A,100A,120A	
Max off-state leakage current	2mA	
Max on-state voltage drop	1.5V	
GENERAL		
Length x Width x Height(mm)	58 x 45 x 33(with protection cover)	
Weight(approx.)	100g	
Dielectric strength (input to output)	4000V	
Dielectric strength (input,output to base)	2500V	
Operating temperature	-20℃~80℃	
Certification	CE	

PRECAUTIONS

1. When choosing a SSR, please consider the actual load current and working ambient temperature.
2. Apply heat-radiation silicon grease or a heat conductive sheet between SSR and heat sink.
3. Tighten SSR terminal screws properly.
4. Please do not use SSR beyond the descriptions in the datasheet.

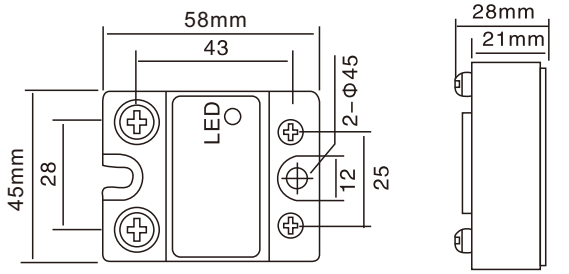
KANE®

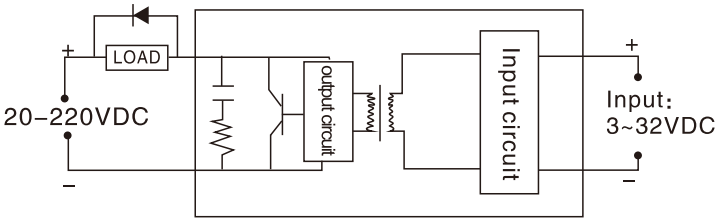
SINGLE PHASE DC OUTPUT SSR

Features:

1. DC voltage control
2. MOSFET output
3. Transformer isolation
4. Low on-state resistance
5. With LED indication
6. Dielectric strength 2500V
7. Panel mount

OUTLINE & INSTALLATION DIMENSION:





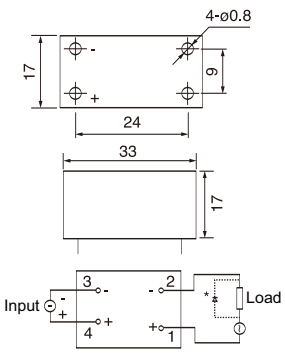
TYPES	KSSR-122□DD
INPUT	
Input voltage range	3-32VDC(DD)
Max input current	40mA
Turn on voltage	3VDC
Turn off voltage	2VDC
OUTPUT	
Load voltage range	24–220VDC,480VDC
Load current	10A,25A,40A,60A,80A,100A,120A
Max off-state leakage current	2mA
Max on-state voltage drop	⩽1V
GENERAL	
Length x Width x Height(mm)	58 x 45 x 33(with protection cover)
Weight(approx.)	100g
Insulation resistance	500MΩ/500VDC
Dielectric strength (input,output to base)	2500V
Operating temperature	-20℃~80℃
Certification	CE

PRECAUTIONS

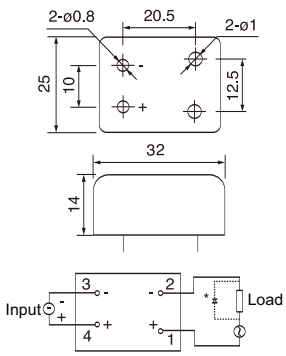
1. When used for inductive loads, a suppression circuit must be added. 60VDC, 100VDC, 400VDC, 900VDC voltage can be customized.
2. When selecting the relay, please pay special attention to the operating current of the load and the ambient temperature. When the load is working, an adequate heat sink or other effective heat dissipation measures are required.
3. The heat generated when the relay is working needs to be dissipated through the metal base plate of the relay. When installing, please pay attention to the tight connection between the relay and the heat sink. The installation should be firm and the joint surface should be coated with heat-conducting silicone grease.
4. When the connection between the output terminal and the load line is loose, the heat generated during power-on will cause the product to burn out; excessive torque will damage the relay.

Value / Pictures / Main technical data				
INPUT	KSSR-P124□DA		KSSR-P122□DD	
Control voltage range	3–32VDC			
Max input current	6–35mA			
Must turn-on voltage	3.5VDC			
Must turn-off voltage	1.5VDC			
OUTPUT				
Load voltage	220VAC,380VAC		60VDC,110VDC,220VDC	
Max load current	1A,2A,3A,4A,5A,6A,7A			
Off-state leakage current	<1.5mA			
On-state voltage drop	⩽1.5V			
GENERAL				
Dielectric strength	2500V			
Operating temperature	–20℃–70℃			
Certificate	CE			

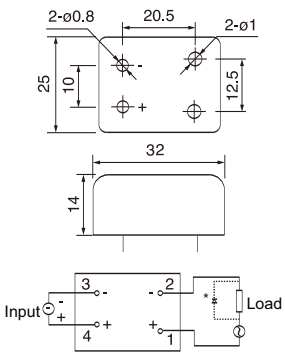
OUTLINE DIMENSIONS



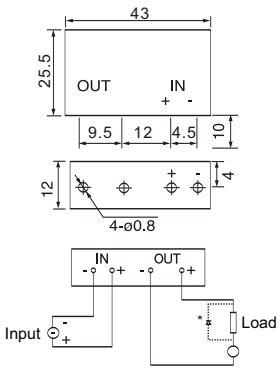
33.0L × 17.0W × 17.0H



32.0L × 25.0W × 15.0H



32L × 25W × 14H



38L × 22.0W × 12.5H

* When used for an inductive load, a suppression circuit must be added.

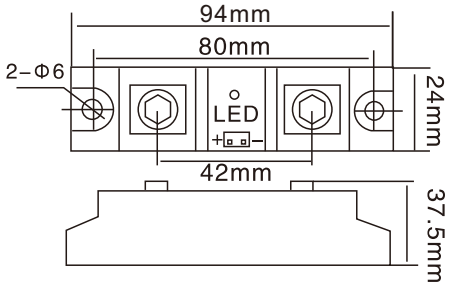
PRECAUTIONS

1. For relay welding, the welding time should not exceed 10 seconds at 260°C, not exceed 5 seconds at 350°C.
2. When wiring the relay, make sure that the polarity of the input terminal is correct, so as not to damage the relay.
3. The heat sink is built-in, if the heat dissipation regulation is poor, the output load current should be derated.
4. If the transient voltage at both ends of the relay exceeds the nominal value, a varistor should be connected in parallel at the output end of the relay to prevent the relay from being broken down.

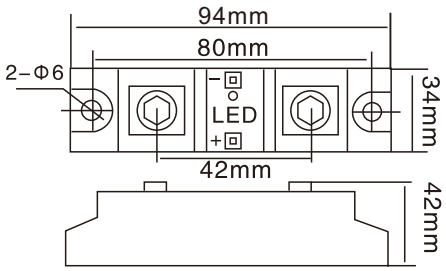
Features:

1. Rated current: 60-500A
2. Built-in RC
3. With LED indicator
4. High dielectric strength up to 4000V
5. High isolation strength 1000Ω/500VDC
6. Zero cross or random turn-on
7. DC or AC control

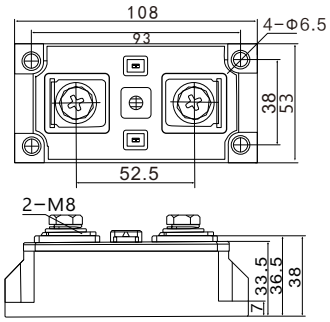
OUTLINE & INSTALLATION DIMENSION:



60-150A



200−300A



400A,500A

TYPES	KSSR-H148□DA	KSSR-H148□AA
INPUT		
Input voltage range	3-32VDC(DA)	70-280VAC(AA)
Max input current	12mA	16mA
Turn on voltage	4.5VDC	70VAC
Turn off voltage	3VDC	60VAC
OUTPUT		
Load voltage range	24–480VAC	
Peak voltage	800V	
Load current	60A,80A,100A,120A,150A,200A,250A,300A,400A,500A	
Max off-state leakage current	4mA	
Max on-state voltage drop	2.5V	

GENERAL			
Length x Width x Height(mm)	94x25x38(40-150A)	94x34x42(200-300A)	108x53x47(400-500A)
Weight(approx.)	130g	210g	500g
Dielectric strength (input to output)		4000Vrms	
Dielectric strength (input,output to base)		2500Vrms	
Operating temperature		−20 ~80	
Certification		CE	

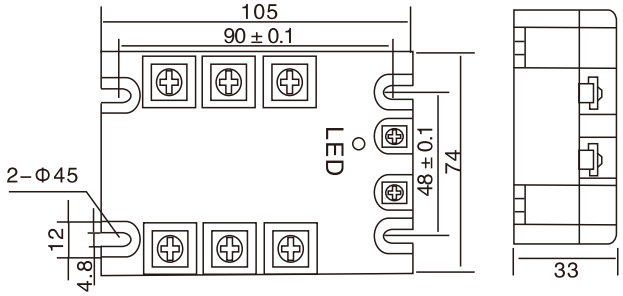
PRECAUTIONS

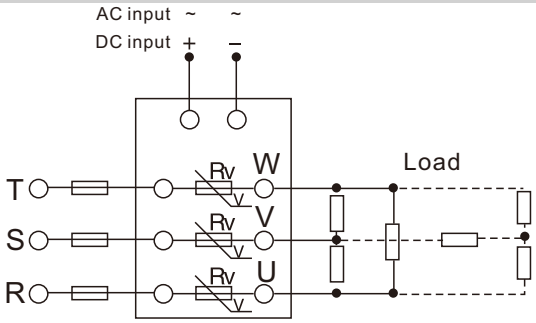
1. When choosing a SSR, please consider the actual load current and working ambient temperature.
2. Apply heat-radiation silicon grease or a heat conductive sheet between SSR and heat sink.
3. Tighten SSR terminal screws properly.
4. Please do not use SSR beyond the descriptions in the datasheet.

Features:

1. Rated current: 10-120A
2. Built-in RC
3. With LED indicator
4. High dielectric strength up to 4000V
5. High isolation strength 1000Ω/500VDC
6. Zero cross or random turn-on
7. DC or AC control

OUTLINE & INSTALLATION DIMENSION:





TYPES	KSSR-348□DA	KSSR-348□AA
INPUT		
Input voltage range	3-32VDC(DA)	70-280VAC(AA)
Max input current	40mA	15mA
Turn on voltage	4VDC	70VAC
Turn off voltage	2.7VDC	50VAC
OUTPUT		
Load voltage range	24–480VAC	
Peak voltage	1000V	
Load current	10A,25A,40A,50A,60A,80A,100A,120A	
Max off-state leakage current	≤8mA	
Max on-state voltage drop	1.5V	
GENERAL		
Length x Width x Height(mm)	105L × 74W × 33H	
Weight(approx.)	360g	
Dielectric strength (input to output)	4000Vac	
Dielectric strength (input,output to base)	2500Vac	
Operating temperature	–20℃~80℃	
Certification	CE	

PRECAUTIONS

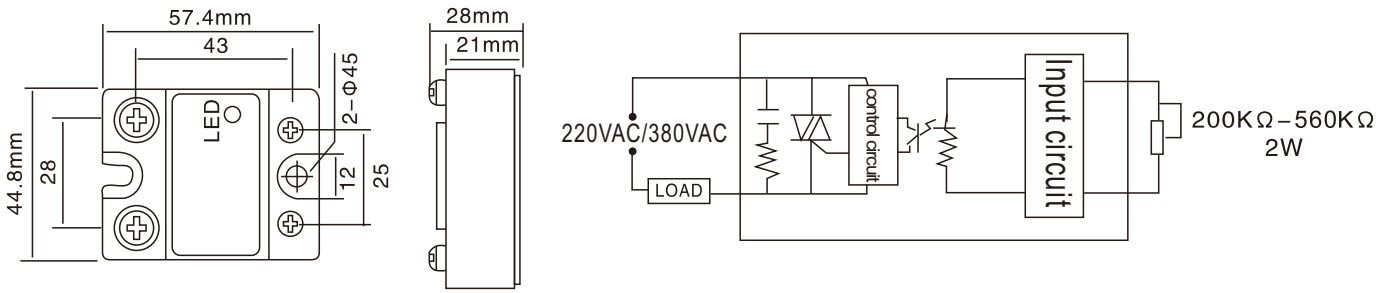
1. If load can bring high surge current(such as bulb,etc),make sure that SSR can bear the surge current.
2. If surge current exceeds range, must connect a fast fuse to output terminal.
3. If instantaneous voltage exceeds range, must connect a varistor to output terminal in parallel,recommend 750V varistor.

SINGLE PHASE SOLID STATE MODULE (KSCR-VA)

Features for SSVR:

1. Controlled by potentiometer
2. Rated current 10-120A
3. Built-in RC
4. Excellent linear output
5. High reliability

OUTLINE & INSTALLATION DIMENSION:



TYPES	KSCR-138□VA
INPUT	
Potentiometer	200KΩ–560KΩ 2W
OUTPUT	
Load voltage	0–220VAC or 380VAC
Load current	10A,15A, 25A,40A,50A,60A,80A,100A,120A
Max. off-state leakage current	2mA
Max. on-state voltage drop	1.5V
GENERAL	
Length x Width x Height(mm)	57.4L × 44.8W × 28H
Weight(approx.)	100g
Dielectric strength(input,output to base)	2500Vrms
Operating temperature	–20℃~80℃
Certification	CE

PRECAUTIONS

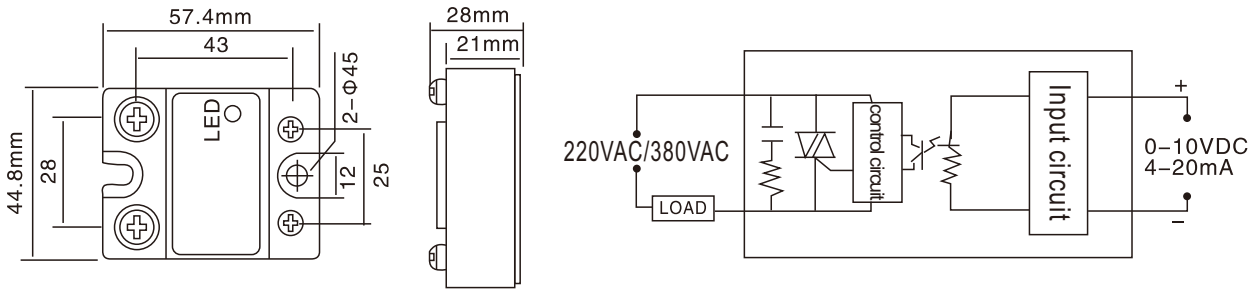
1. The input terminal and output terminal are not isolated, both are charged, pay attention to safety!
2. The output voltage 380V needs to be customized.
3. A radiator must be installed for a load above 10A, and forced cooling by a fan or water for a load above 40A.
4. If it is used to regulate transformer, please use the S-DTY series fully isolated AC voltage regulator module.

SINGLE PHASE SOLID STATE MODULE (KSCR-LA,VD)

Features for SSVR:

1. Controlled by 0-10V or 4-20mA
2. Rated current 10-120A
3. Built-in RC
4. Excellent linear output
5. High reliability

OUTLINE & INSTALLATION DIMENSION:



TYPES	KSCR-138□LA	KSCR-138□VD
INPUT		
Input signal	Current input: 4-20mA	Voltage input:0-5VDC 0-10VDC
OUTPUT		
Load voltage	0-220VAC,0-380VAC	
Load current	10A,15A,25A,40A,50A,60A,80A,100A,120A	
Max. off-state leakage current	2mA	
Max. on-state voltage drop	1.5V	
GENERAL		
Length x Width x Height(mm)	57.4L x 44.8W x 28H	
Weight(approx.)	100g	
Dielectric strength(input,output to base)	2500VAC	
Operating temperature	–20℃~80℃	
Certification	CE	

PRECAUTIONS

1. It can be used with intelligent PID temperature controller.
2. The output voltage 380V needs to be customized.
3. A radiator must be installed for a load above 10A, and forced cooling by a fan or water for a load above 40A.
4. If it is used to regulate transformer, please use the S-DTY series fully isolated AC voltage regulator module.

Features:

1. High Dielectric strength over 4KV
2. High isolation strenght over 100MÙ/500VDC
3. High surge current sustenance
4. High surge voltage sustenance
5. Conformity with EN60947-4-3 and EN60950

GUIDING OF MODEL:

Terminal type

Ex: **SSR – 40 D A – H – R**
1 2 3 4 5 6

1. Product
 ⌈ SSR ⌋ = Single phase solid state module
 ⌈ HPR ⌋ = High power solid state module
 ⌈ TSR ⌋ = Three phases solid state module
 ⌈ ESR ⌋ = Three phases High power solid state module
 ⌈ EZR ⌋ = Plug type solid state module

2. Output current
 ⌈ 10 ⌋ = 10A ⌈ 25 ⌋ = 25A ⌈ 40 ⌋ = 40A
 ⌈ 50 ⌋ = 50A ⌈ 60 ⌋ = 60A ⌈ 80 ⌋ = 80A

3. Input method
 ⌈ D ⌋ = 4 ~ 32VDC
 ⌈ A ⌋ = 80 ~ 250VAC
 ⌈ L ⌋ = 4 ~ 20mA
 ⌈ V ⌋ = Variable resistor

4. Output voltage
 ⌈ A ⌋ = AC voltage
 ⌈ D ⌋ = DC voltage

5. Output voltage range
 ⌈ H ⌋ = High voltage type
 ⌈ Non ⌋ = Standard type

6. Control method
 ⌈ R ⌋ = Random control
 ⌈ Non ⌋ = Zero cross control

PCB or Fuse type

Ex: **SSR P 03 D A – H**
1 2 3 4 5 6

1.Product
 ⌈ SSR ⌋ = Single phase solid state module
 ⌈ SCR ⌋ = Single phase linear solid state module

2. Mounting method or Others
 ⌈ P ⌋ = PCB type
 ⌈ M ⌋ = Mini PCB type
 ⌈ R ⌋ = Relay type
 ⌈ K ⌋ = Heat–sink type
 ⌈ F ⌋ = Fuse type

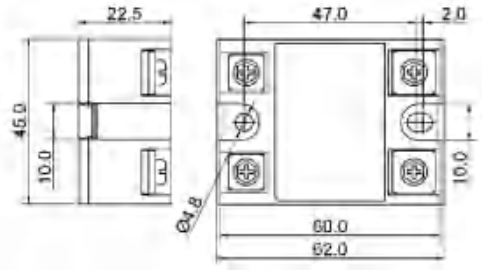
3. Output current
 ⌈ 03 ⌋ = 3A ⌈ 10 ⌋ = 10A
 ⌈ 25 ⌋ = 25A ⌈ 40 ⌋ = 40A

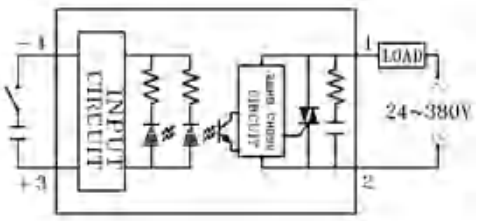
4. Input method
 ⌈ D ⌋ = 4 ~ 32VDC
 ⌈ A ⌋ = 80 ~ 250VAC
 ⌈ L ⌋ = 4 ~ 20mA

5. Output voltage
 ⌈ A ⌋ = AC voltage
 ⌈ D ⌋ = DC voltage

6. Output voltage range
 ⌈ H ⌋ = High voltage type
 ⌈ Non ⌋ = Standard type

OUTLINE & INSTALLATION DIMENSION:





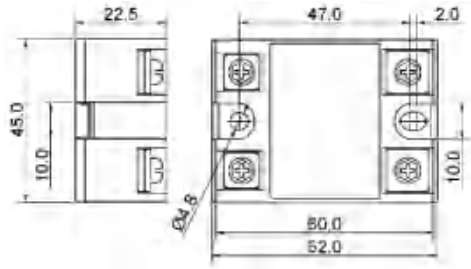
TYPES	SSR-□DA	SSR-□AA
INPUT		
Input voltage	4~32VDC	80~250VAC 50/60Hz
Turn off voltage	<3.5VDC	<35VAC
Trigger current	12.0mA max.	1.0VA max.
Control method	zero cross	
Response time	8.3 ms(60Hz)	
Input immunity	2KV	
OUTPUT		
Output voltage	24~480VAC	
Peak voltage	1200VAC min.	
Leakage current	5mA max.	
Rated current	10A,25A,40A,60A,80A,100A,120A	
GENERAL		
Isolation strength	4KVrms	
Insulation strength	100Ω/500VDC	
Housing material	ABS	
Circumstance	-40℃~+80℃; 35~85%RH	

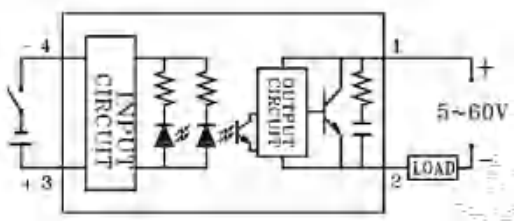
PRECAUTIONS

1. To protect the solid state module against a short-circuit of the load,please use a fast fuse with a I^2t value < 1/2 I^2t value specified.
2. Thermal grease is required when the solid state module is mounted on a heat sink.
3. The rated current is corresponding to a resistive load,if the solid state module is applied in other loads, please consider the inrush current at turn on and the surge voltage at turn off.

* Electric discharge lamps: Those loads have the inrush current at turn on and the surge voltage at turn off, please use high voltage type on 220VAC mains.
* Incandescent lamp,Three phase motors: The rated current of the module must be over 4 times of the load current.
* Transformer loads: The rated current of the module must be over 10 times of the transformer current.
* Capacitor loads: The rated current of the module must be over 3 times of the capacitor current.

OUTLINE & INSTALLATION DIMENSION:



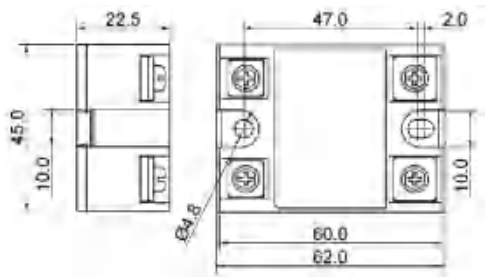


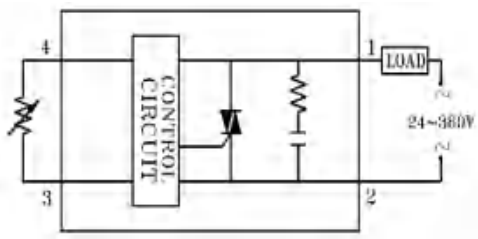
TYPES	SSR-□DD
INPUT	
Input voltage	4~32VDC
Turn off voltage	<3.0VDC
Trigger current	12.0mA max.
Control method	Random
Response time	1.0 ms
Input immunity	2KV
OUTPUT	
Output voltage	6~200VDC
Peak voltage	600VAC min.
Leakage current	1.0mA
Rated current	10A,25A,40A,60A,80A,100A,120A
GENERAL	
Isolation strength	4KVrms
Insulation strength	100Ω/500VDC
Housing material	ABS
Circumstance	-40℃~+80℃；35~85%RH

PRECAUTIONS

1. To protect the solid state module against a short-circuit of the load,please use a fast fuse with a I^2t value < 1/2 I^2t value specified.
2. Thermal grease is required when the solid state module is mounted on a heat sink.
3. The rated current is corresponding to a resistive load,if the solid state module is applied in other loads, please consider the inrush current at turn on and the surge voltage at turn off.

* Electric discharge lamps: Those loads have the inrush current at turn on and the surge voltage at turn off, please use high voltage type on 220VAC mains.
* Incandescent lamp,Three phase motors: The rated current of the module must be over 4 times of the load current.
* Transformer loads: The rated current of the module must be over 10 times of the transformer current.
* Capacitor loads: The rated current of the module must be over 3 times of the capacitor current.





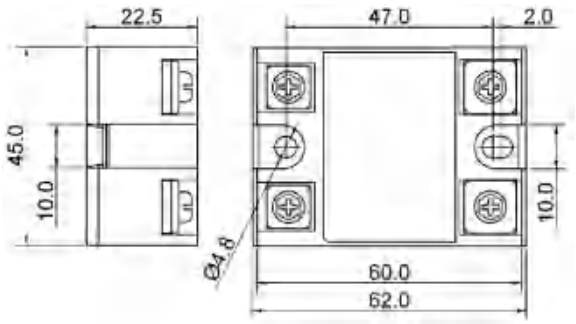
TYPES	SCR-□VA
INPUT	
Input voltage	Variable resistor, 2W 200~560KΩ potentiometer
Control method	Phase control
Response time	1.0 ms(60Hz)
Input immunity	2KV
OUTPUT	
Output voltage	24~380VAC
Peak voltage	1200VAC min.
Leakage current	5mA max.
Rated current	10A,25A,40A,60A,80A,100A,120A
GENERAL	
Isolation strength	4KVrms
Insulation strength	100Ω/500VDC
Housing material	ABS
Circumstance	-40℃~+80℃；35~85%RH

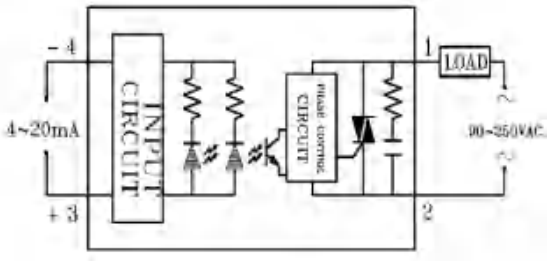
PRECAUTIONS

1. To protect the solid state module against a short-circuit of the load,please use a fast fuse with a I^2t value < 1/2 I^2t value specified.
2. Thermal grease is required when the solid state module is mounted on a heat sink.
3. The rated current is corresponding to a resistive load,if the solid state module is applied in other loads, please consider the inrush current at turn on and the surge voltage at turn off.

* Electric discharge lamps: Those loads have the inrush current at turn on and the surge voltage at turn off, please use high voltage type on 220VAC mains.
* Incandescent lamp,Three phase motors: The rated current of the module must be over 4 times of the load current.
* Transformer loads: The rated current of the module must be over 10 times of the transformer current.
* Capacitor loads: The rated current of the module must be over 3 times of the capacitor current.

OUTLINE & INSTALLATION DIMENSION:





TYPES	SCR-□LA	SCR-□VD
INPUT		
Input voltage	4~20mA	0-10VDC
Control method	Phase control	
Response time	1.0 ms max.	
Input immunity	4KVrms	
OUTPUT		
Output voltage	90~250VAC	
Peak voltage	1200VAC min.	
Leakage current	0.5% of full load max.	
Rated current	10A,25A,40A,60A,80A,100A,120A	
GENERAL		
Isolation strength	4KVrms	
Insulation strength	100Ω/500VDC	
Housing material	ABS	
Circumstance	-40℃~+80℃; 35~85%RH	

PRECAUTIONS

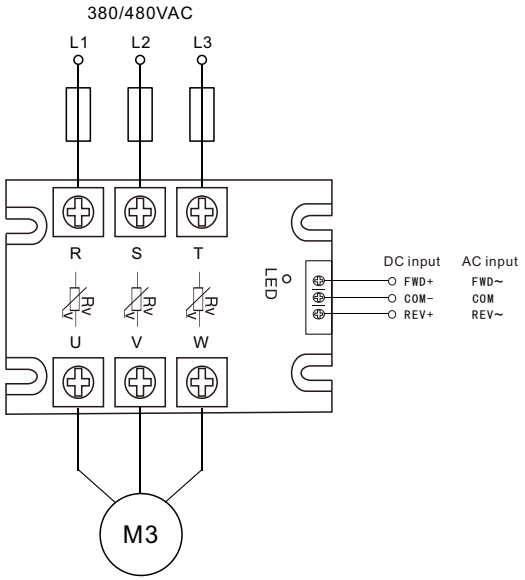
1. Please do not touch any terminal of this module while power supply is supplied, if do, it may result in electronic shock.
2. Power supply system must to be shutdown before renew the fuse, if not, it may result in electronic shock.
3. Please rated the load current within the specified value, if not, it may result to burn up this module or fuse.
4. Please tighten the screw terminals over 35Kg/cm2,if not, it may result to burn up this module or fuse.
5. If this module is burned up, it may be in short circuit condition or malfunction, please settle an independent alarm system to ensure safety protection,if not,it may result in a serious accident.

KANE®

THREE-PHASE MOTOR REVERSING SSR

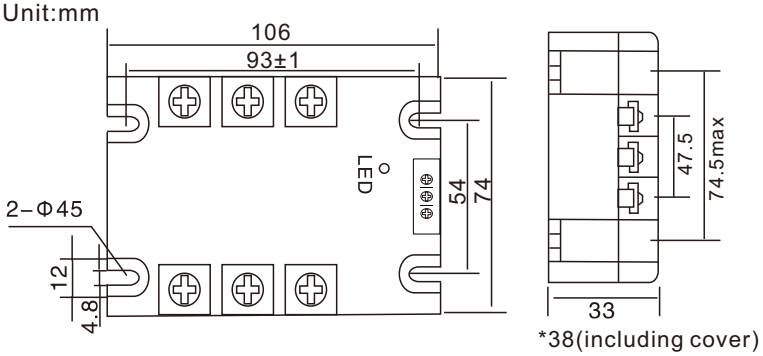
Features:

1. Optical isolation
2. With LED indication,green color for Forward, red for REV.
3. Dielectric strength 4000V
4. Zero-cross turn on
5. Built-in RC
6. Panel mount
7. DC or AC control



DIMENSION & WIRING DIAGRAM:

Unit:mm



TYPES	KSSR-M348□DA	KSSR-M3448□AA
INPUT	10~30VDC	90~280VAC
Must turn on voltage	10VDC	90VAC
Must turn off voltage	8.5VDC	80VAC
Switching time between FWD and REV	>2S	
Max. input current	50mA	

OUTPUT

Load current/Motor power	10A/1KW,25A/2.5KW,40A/4KW,60A/5.5KW,80A/6KW,100A/7.5KW,120A/8KW,150A/10KW,200A/12KW		
Load voltage	48~480VAC	Min. load current	100mA
Max transient voltage	800Vpk	Max.off-state leakage current	5mA
Max on-state voltage drop	1.5Vrms	Exponential rise rate of off-state voltage dv/dt	500V/μs
		Insulation	2500Vrms

GENERAL

Dielectric strength (input to output)	4000VAC,50Hz/60Hz,1min
Insulation resistance	1000MΩ(at 500VDC)
Working and storage temperature	-30℃~+80℃
Ambient humidity	45%~85%RH
Termination	Screw
Mounting method	Panel mount
Weight(approx.)	340g
Operating status indication	Forward: Green Reverse: Red

PRECAUTIONS

1. Before connect a load that generates a high surge current, such as a lamp load, made sure that the module can withstand the surge current of the load.
2. Make sure the switching time between forward and reverse more than 2 seconds.
3. Tighten the module terminal screws properly. if the screws are not tight, the module will be damaged by heat which is generated when module turn on.

SINGLE-PHASE RECTIFIER AND VOLTAGE REGULATOR

Ordering information

KDZ-T	220	D	40

- 40 → Rated output current: 40: 40A...120:120A
- D → Type of control voltage: D:DC
- 220 → Supply voltage: 220:220V, 380:380V
- KDZ-T → Design code

OVERVIEW

The single-phase intelligent rectifier and voltage regulator module adopts high-quality PCB and imported single-chip microcomputer circuit design,it has multiple control modes,manual or automatic regulation,to stepless adjust the load voltage and power from zero to the maximum.

It's widely used for DC heating equipment, ovens, lighting, motor speed regulation, welding, electroplating, electrolysis, inductance coils,etc.

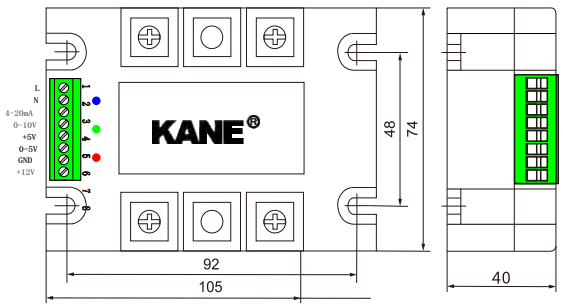
PERFORMANCE CHARACTERISTICS

1. Wide range of main circuit working voltage: single-phase 24-480VAC
2. Power supply: 100-240VAC
3. The module has an output 12Vdc 500mA,it can be power supply for other equipment.
4. Fully compatible with 0-5VDC, 0-10VDC, 4-20mA signals, and manual control by a 10K/2W potentiometer
5. Red LED indicator for power ON, green LED indicates Output, and blue LED indicates high temperature protection
6. Built-in temperature protection function (85°C)
7. Good linearity, stable output, and stepless adjustment of the output end from 0 to the maximum output voltage
8. Built-in soft start function (the factory default time is 2S, and can be customized 0-60S)
9. No need to distinguish between zero and live wires, simple wiring, and convenient maintenance
10. The main circuit and the control circuit are fully isolated, safe and reliable

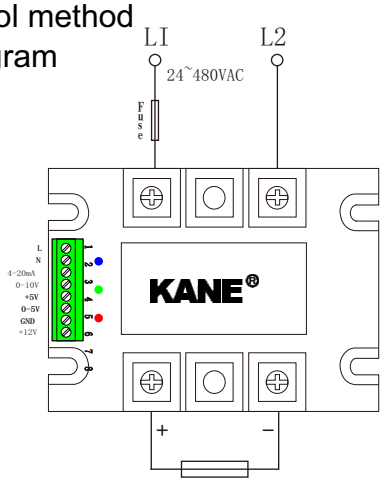
DIMENSION AND WIRING DIAGRAM:

Overall installation dimensions (mm)

10-200A (105*74*40), mounting hole size 92*48
With transparent cover (105*74*45)



Input control method Wiring diagram



Ordering information

KDTY - 220 D 40 P

- P: full wave, XP: half-wave
- Rated output current: 40: 40A...120:120A
- Type of control voltage: D:DC
- Supply voltage: 220:220V, 380:380V
- Design code

DESCRIPTION

KDTY series single-phase AC voltage regulator module is a economic voltage regulator developed by TriHero,input and output of the module is opto-isolated.

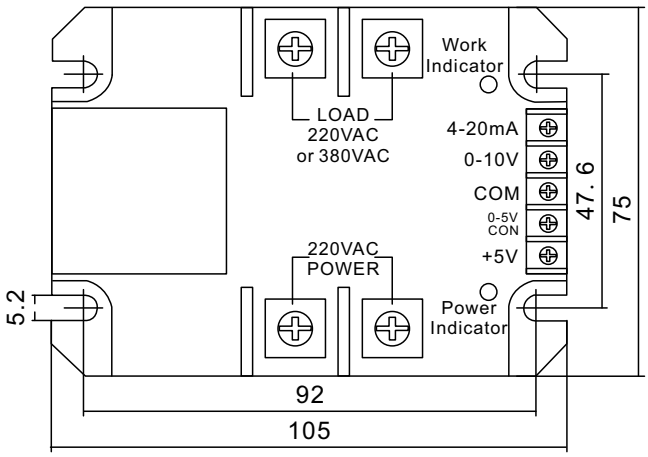
The module is very convenient to achieve adjustment of output load voltage and power by changing input signals automatically or manually.

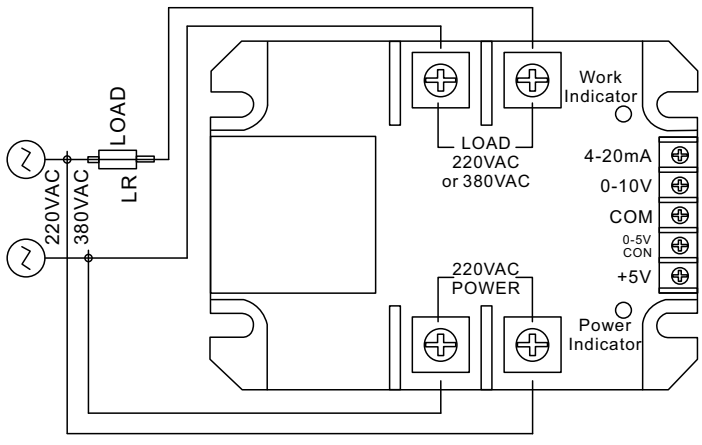
CATEGORY

1. Input signals: 0-10V,4-20mA,1-5V,or 2W 10K potentiometer
2. Supply voltage: single-phase 220V(default), single-phase 380V.
3. Rated current: 10A,25A,40A, 60A,80A,100A,120A,160A,200A,240A,300A,350A,400A.

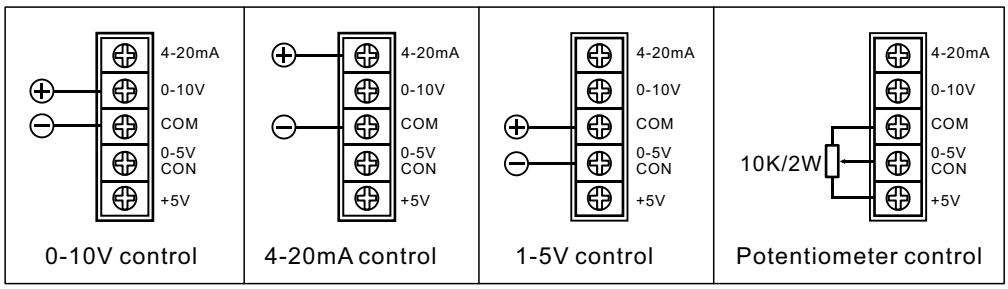
* For current more than 400A, please use the single phase AC phase-shift trigger module.

DIMENSION AND WIRING DIAGRAM:





Input signals:



Ordering information

DJTY - 220 D 400 P

- P: full wave, XP: half-wave
- Rated output current: 60: 60A...500:500A
- Type of control voltage: D:DC
- Supply voltage: 220:220V, 380:380V
- Design code

DESCRIPTION

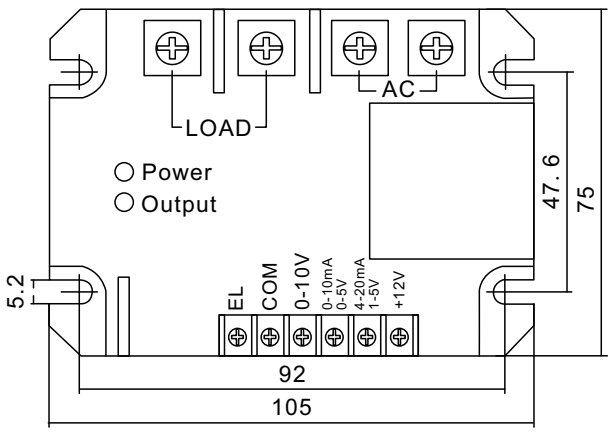
DJTY series single-phase AC voltage regulator module is a high precision product developed by TriHero, it has three functions: phase shift voltage regulating,cycle wave power regulating and PWM adjusting, input and output of the module is opto-isolated, the module is very convenient to achieve precise adjustment of output load voltage and power by changing input signals automatically or manually.

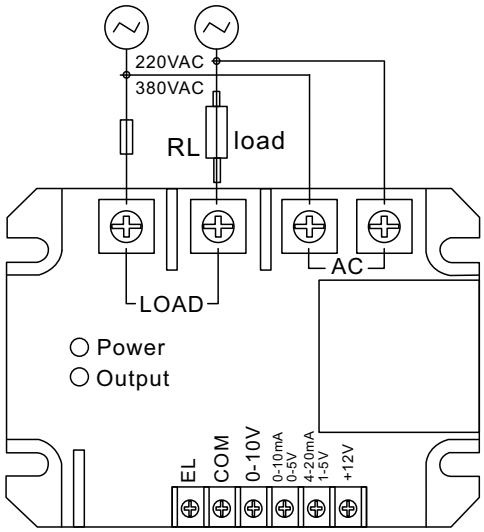
CATEGORY

1. Input signals: 0-10V,4-20mA,1-5V,or 2W 10K potentiometer
2. Supply voltage: single-phase 220V(default), single-phase 380V.
3. Rated current: 10A,25A,40A, 60A,80A,100A,120A,160A,200A,240A,300A,350A,400A.

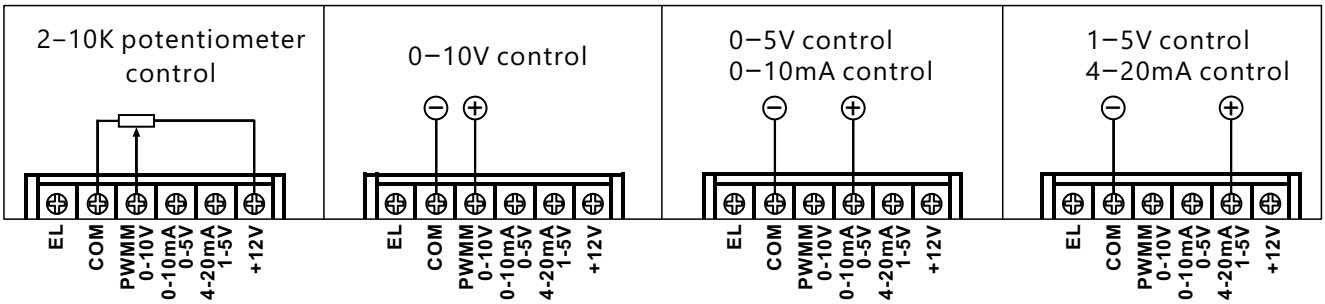
* For current more than 400A, please use the single phase AC phase-shift trigger module.

DIMENSION AND WIRING DIAGRAM:





Input signals:



JSTY SERIES
THREE-PHASE POWER REGULATOR

JSTY thyristor voltage regulator, which contains three-phase potential detection, constant current source, linear amplifier, phase shift circuit, PI adjustment, power amplification, pulse shaping, high-frequency pulse transformer isolation trigger and three sets of anti-parallel SCR chips in one, the control loop (weak current part) and load loop (strong current part) are fully isolated, which can be continueinuerolled by a 10K potentiometer, 1-5V voltage signal control, 4-20mA current signal control, to change the conduction of the thyristor Angle, the three-phase load voltage can be steplessly adjusted from 0V to the full voltage of the power grid.

MAIN SPECIFICATIONS

1. Main circuit working voltage: three-phase 380VAC（±5%）
2. Power supply: 40-150A regulator: DC12V(40-150A regulator), 150A-450A regulator: single-phase 220VAC（±5%）
3. Regulation range: 0-180°
4. Manual control: potentiometer (10K 2W)
5. Analog signal control: 40-150A regulator: DC1-5V, 4-20mA
   150A-450A regulator: DC1-5V, DC2-10V, DC4-20mA, DC2-10mA
6. Novel and unique design, three-phase has no phase sequence restriction, wiring is simple, and maintenance is convenient
7. Main circuit and control circuit are fully isolated, safe and reliable

*8. Built-in soft start function (default setting time is 2S, 0-15S can be customized)

*9. Built-in temperature protection function（85°C）

10. Rated current: 40A~150A(104x74x39mm),150A~450A(140x96x48mm)

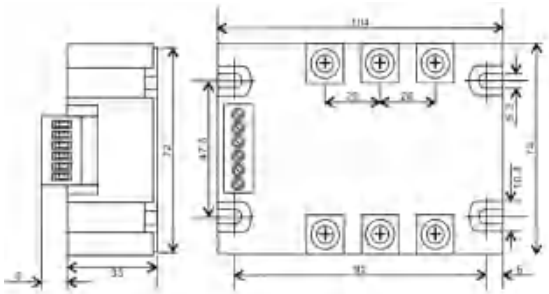
* Functions are available only for big size regulator 150-450A

ORDERING INFORMATION

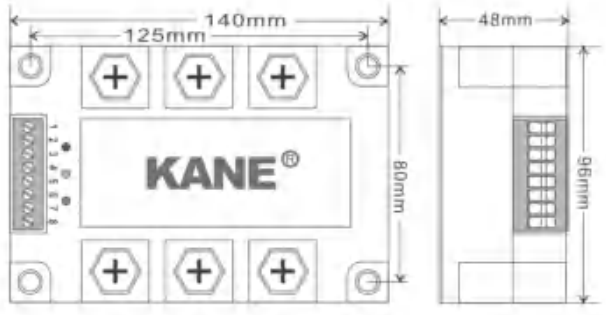
JSTY	-	380	D	100	P

- P: full wave, XP: half-wave
- Rated output current: 100:100A
- Type of control voltage: D:DC
- Supply voltage: 380:380V
- Design code

DIMENSION AND WIRING DIAGRAM:



40~150A



150~450A

T6 SCR power regulator is suitable for resistive or inductive loads such as resistance heating wires, lamp tubes, transformers, graphite, silicon carbide rods, bottle blowing machines, etc., and can precisely control the temperature.

MAIN SPECIFICATIONS

Phase	Single phase, three-phase
Rated current	30A to 1200A
Supply voltage	PC board: 220VAC Main power supply: 180V~6000VAC
Digital display	both output voltage and current
Input	4~20mA,0~20mA,0~5V,1~5V,0~10V,2~10V,VA,Potentiometer,Key
Output	Zero output,Phase,Current limit,Voltage limit,Constant current,Constant voltage,Cycle.
Over-current protection	stop output in 50s when over-current
Safety protection	built-in fast fuse, PVC fireproof material
Communication function	Rs485 Communication with PLC
Cooling fan	starts automatically at 42℃
Temperature protection circuit	alarm at 85℃ and stop output
Output feature	High precision linear proportional output
Parameter recovery and locking	One-key parameter recovery and locking

ORDER GUIDE

Type
T6

Mode	
1	1 phase
2	2 phase
4	3-phase half wave control
5	3-phase full-controlled

Main power	
0	AC12-80V
1	AC85-160V
4	AC180-440V
6	AC460-600V

Output current			
028	28A	200	200A
030	30A	225	225A
040	40A	250	250A
050	50A	300	300A
060	60A	350	350A
075	75A	400	400A
080	80A	450	450A
100	100A	500	500A
125	125A	600	600A
150	150A	800	800A
175	175A		
1200	1200A water cooling		

Output control mode	
Z	Zero-cycle control
P	Phase shift control
CT	Current limit
C	Constant current
VT	Voltage limit
V	Constant voltage
AT	3-phase Current control
CV	Voltage and current control
DC	DC Output Control
KW	Limit KW
KWT	Constant KW
CYC	Change the cycle of output

RS485 Communication	
R	YES
N	NO

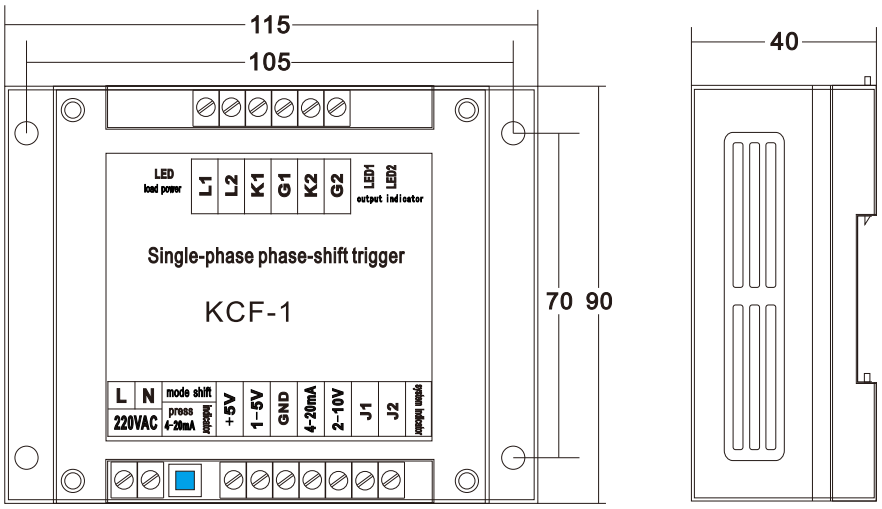
KCF thyristor trigger adopts military grade PCB and imported micro-controller design,used to trigger thyristor to achieve voltage regulating function,to stepless regulate load voltage,output has advantages of high degree linearity and low control point.

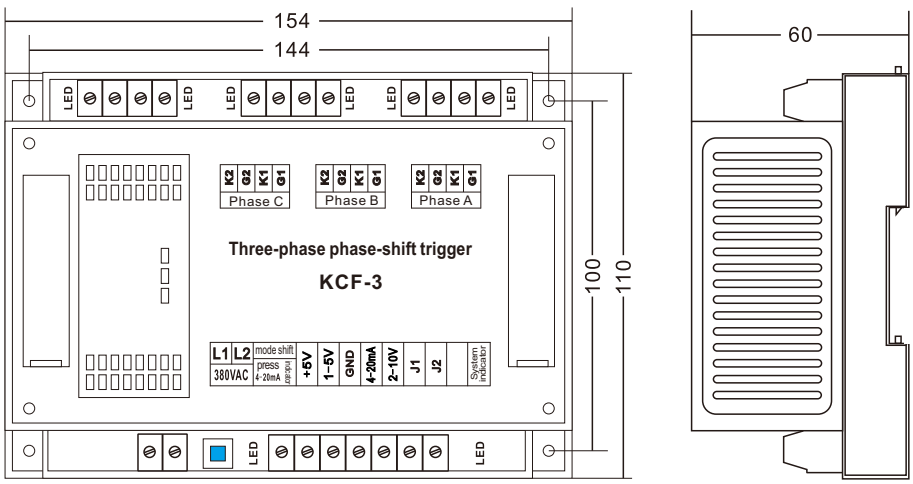
The trigger is applied for occasions like voltage regulation on primary side of transformer,welding machine,temperature control,dimming, charging,excitation,electroplating,electrolysis,water treatment,etc.

FEATURES

- ▶Good waveform symmetry, control accuracy ≤ 5%, high linearity, stable work.
- ▶Can trigger thyristor within 3000A.
- ▶A variety of control signals, potentiometer(10K),DC1-5V,DC2-10V,DC4-20mA.
- ▶With soft-start function（Please specify when ordering）.
- ▶Novel and unique design, no phase sequence restriction, simple wiring, easy maintenance.
- ▶Main circuit and control circuit fully isolated, safe and reliable.
- ▶Three anti-spray paint with a layer of transparent protective film, with superior moisture, dust &corrosion resistance.
- ▶The trigger is equipped with an event or fault blockade triggering function. For example, when the device is switched on, the pulse is blocked and the thyristor of the main circuit is completely turned off.

DIMENSIONS:





THYRISTOR TRIGGER MODULE

Main Features:

* Fully isolated protected input
* Aux.5V supply
* Short circuit protected
* High specification

Typical Applications:

* Heating loads
* Power supplies
* High inrush current loads
* DC injection braking
* Motor control

DESCRIPTION

FKPC 200 is one of the new generation of TriHero Power Control Modules. The new high specification design provides an optimum level of isolated gate drive for a wide range of SCR's connected to form powerful AC to AC regulators or AC to DC Power Supplies.

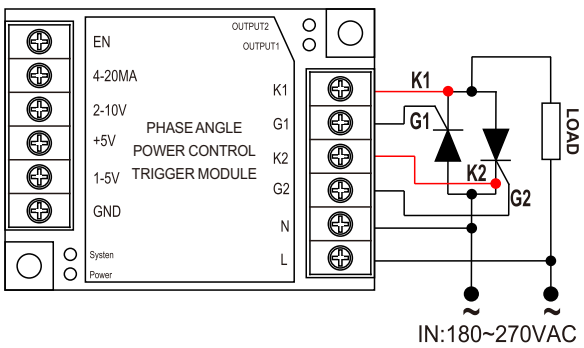
The new design can be used to control most of the standard power circuits.FKPC 200 can be powered from a separate aux. power supply thus allowing the SCR power circuit to be operated on NON-STANDARD voltages.

The new design incorporates a number of very important features such as GATE STEERED firing required for highly inductive loads, un-committed OP-AMP to allow FEEDBACK control, and gate output drive SHORT CIR--CUIT protected. Additionally both 50/60Hz can be accommodated and internal 5V ref. has a HIGH OUTPUT current capability ideal to power EXTERNAL control circuits.

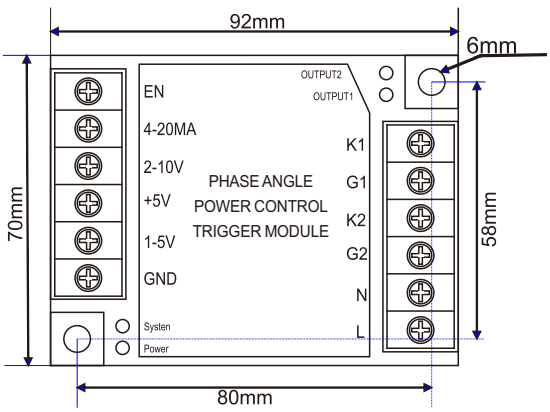
The excellent package, which integrates an internal supply transformer, is fully compatible for mounting with SCR modules. The input and output SCREW terminals connections are both electrically and mechanically isolated.

DIMENSION AND WIRING DIAGRAM:

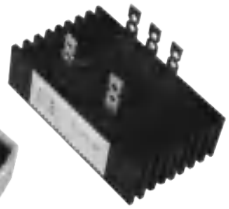
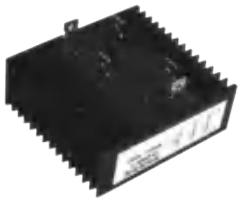
Control terminal wiring diagram



Installation dimension(92*70*32)





Feature:

1.Current: 5-250A
2.Voltage: 100-1600V
3.Small universal size "vacuum + hydrogen protection" welding technology
4.Glass Passivated Diode Chips
5.Excellent strength/volume ratio
6.High Thermal Conductivity Package

Typical application:

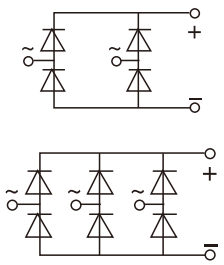
Rectified power supply
Industrial Automation Control
CNC machinery, remote control system

Model Description

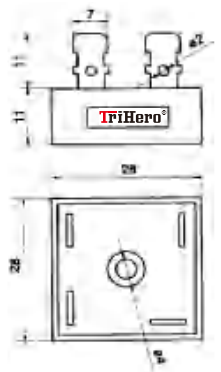
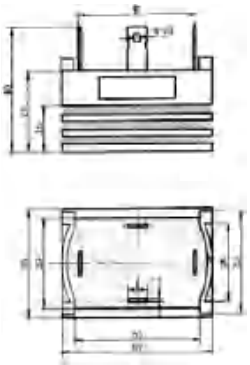
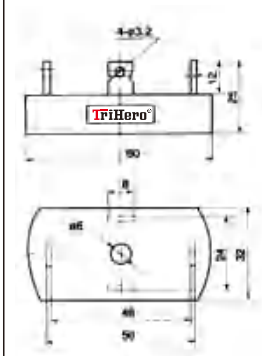
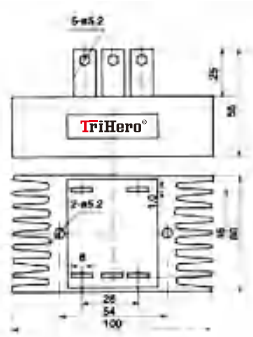
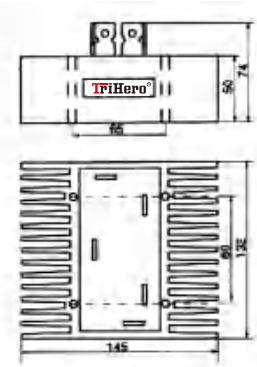
KBPC ① 35 ② 06 ③

1. Bridge rectifier
KBPC,QL=single-phase bridge
SQL,SKBPC=three-phase bridge
2. DC output current value Id
3. Repetitive peak reverse voltage
VRRM=marked value x100

Electric circuit for single phase and three-phase



OUTLINE DIMENSIONS

KBPC5-35A	QLF5-50A	QL 5-50A	QL/SQL 40-100A	QL/SQL 150-300A
				

Datasheet for Single phase bridge rectifier

Type	Id	IF(AV)	VRRM	IRRM	VISOL	Outline
	A	A	V	A	V	
KBPC5A-50A	5-50	2.5-17.5	100-1600	5	2500	28x28x22
GBPC5A-50A	5-50	2.5-17.5	100-1600	5	2500	28x28x22
QL5A-50A	5-50	2.5-25	100-1600	5	2500	32x32x24
QL5A-50A	5-50	2.5-25	100-1600	5	2500	32x60x25
QL-40A	40	20	100-1600	7	2500	60x100x55
QL-60A	60	30	100-1600	7	2500	60x100x55
QL-100A	100	50	100-1600	7	2500	60x100x55
QL-150A	150	75	100-1600	10	2500	132x145x75
QL-200A	200	100	100-1600	10	2500	132x145x75
QL-250A	250	125	100-1600	10	2500	132x145x75
QL-300A	300	150	100-1600	10	2500	132x145x75

Datasheet for Three-phase bridge rectifier

Type	Id	IF(AV)	VRRM	IRRM	VISOL	Outline
	A	A	V	A	V	
SKPBC5A-50A	5-50	12	100-1600	7	2500	28x28x22
SQL10A	10	12	100-1600	7	2500	32x60x25
SQL20A	20	14	100-1600	7	2500	32x60x25
SQL40A	40	16	100-1600	7	2500	60x100x55
SQL50A	50	18	100-1600	7	2500	60x100x55
SQL60A	60	20	100-1600	7	2500	60x100x55
SQL100A	100	34	100-1600	7	2500	60x100x55
SQL150A	150	50	100-1600	10	2500	132x145x75
SQL200A	200	67	100-1600	10	2500	132x145x75
SQL250A	250	84	100-1600	10	2500	132x145x75
SQL300A	300	92	100-1600	10	2500	132x145x75

Feature:

1.Chip is electrically insulated from baseboard, 2500V AC voltageInternational Standard Package
2.Fully crimped structure, excellent temperature characteristics and power cycle capability
3.All modules below 350A are forced air-cooled, and modules above 400A can be either air-cooled or water-cooled
4.Easy to install, easy to use and maintain Small size and light weight
5.Vacuum + hydrogen shielded welding technology

Typical applications:

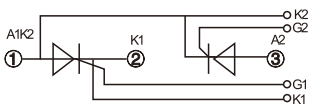
AC and DC motor control,Various rectified power supplies,Industrial Heating Control,Dimming,Contactless switch,Motor soft start,static var compensation,welding machine,Inverter,UPS power supply,battery charge and discharge.

Introduction:

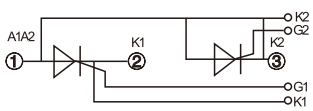
$V_{DSM}/V_{RSM}=V_{DRM}/V_{RRM}+200V$
Unless specified otherwise,I_{GT},V_{GT},I_H,V_{TM},I_{TM},V_{ISO} are measured values under 25℃;
Other parameters in the table are measured values at Tjm.$I^2t=I^2_{TSM}t_W/2$; t_W

CIRCUIT DIAGRAM

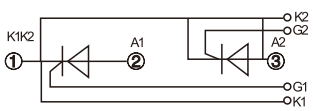
MTC



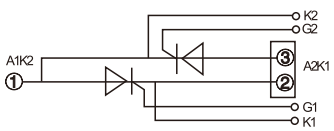
MTA



MTK



MTX



Type	$I_{T(AV)}$	V_{DRM} V_{RRM}	V_{TM}/I_{TM}		I_{DRM} I_{RRM}	I_{GT}	V_{GT}	I_H	dv/dt	di/dt	T_{jm}	V_{iso}
	A	V	V	A	mA	mA	V	mA	V/μs	A/μs	C	V(AC)
MT×25A	25	400–2600	1.5	80	8	100	2.5	100	800	50	125	2500
MT×55A	55	400–2600	1.5	80	8	100	2.5	100	800	50	125	2500
MT×70A	70	400–2600	1.9	170	10	100	2.5	100	800	50	125	2500
MT×90A	90	400–2600	1.9	270	15	100	2.5	100	800	100	125	2500
MT×110A	110	400–2600	1.9	330	20	100	2.5	100	800	100	125	2500
MT×130A	130	400–2600	1.9	410	25	150	2.5	100	800	100	125	2500
MT×160A	160	400–2600	1.9	480	25	150	2.5	100	800	100	125	2500
MT×200A	200	400–2600	1.9	600	30	180	2.5	100	800	100	125	2500
MT×250A	250	400–2600	1.9	750	30	180	2.5	100	800	100	125	2500
MT×300A	300	400–2600	1.9	900	40	180	2.5	100	800	100	125	2500
MT×400A	400	400–2600	1.9	1050	40	200	3.0	100	800	100	125	2500
MT×500A	500	400–2600	1.9	1500	40	200	3.0	100	800	100	125	2500
MTx600A	600	400-2600	1.9	2000	40	200	3.0	100	200	100	125	2500
MT×800A	800	400–2600	1.9	2400	40	200	3.0	100	800	100	125	2500
MT×500A*	500	400–2600	1.9	1500	40	200	3.0	100	800	100	125	2500
MT×800A*	800	400–2600	1.9	2400	40	200	3.0	100	800	100	125	2500
MT×1000A*	1000	400–2600	1.9	3000	40	200	3.0	100	800	100	125	2500

Note:
1. * means water-cooling module
2. MTx represents any one of MTC,MTK,MTA,MTX and MT.
3. The corresponding models for PK,SKKT,IR,KT,MCC,TT,etc,subject to circuit diagram.

Feature:

1.Chip is electrically insulated from baseboard, 2500V AC voltage

2.International Standard Package

3.Fully crimped structure, excellent temperature characteristics and power cycle capability

4.All modules below 350A are forced air-cooled, and modules above 400A can be either air-cooled or water-cooled

5.Easy to install, easy to use and maintain

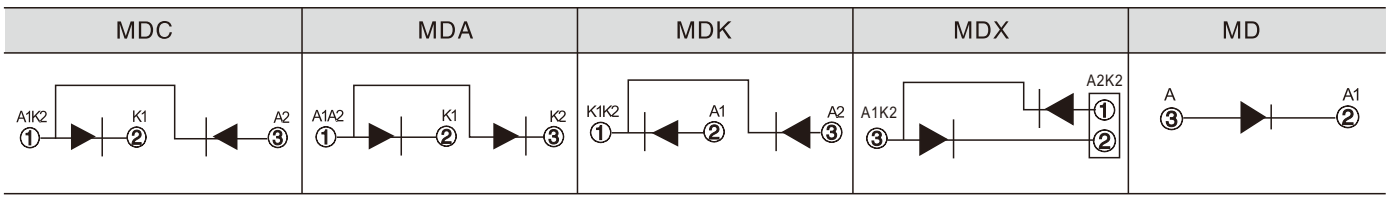
6.Small size and light weight

7.Vacuum + hydrogen shielded welding technology

Typical applications:

DC power supply for instrument and equipment,AC and DC motor control,Various rectified power supplies, Motor soft start,welding machine,Inverter,battery charge and discharge.

CIRCUIT DIAGRAM



Type	$I_{F(AV)}$	V_{RRM}	V_{TM}/ I_{TM}		I_{RRM}	$I_{F(RMS)}$	T_{jm}	V_{iso}
	A	V	V	A	mA	A	C	V(AC)
MD×25A	25	400–2600	1.5	80	8	41	150	2500
MD×55A	55	400–2600	1.5	170	8	86	150	2500
MD×70A	70	400–2600	1.5	270	8	110	150	2500
MD×90A	90	400–2600	1.5	270	8	141	150	2500
MD×110A	110	400–2600	1.5	330	8	173	150	2500
MD×130A	130	400–2600	1.5	410	12	212	150	2500
MD×160A	160	400–2600	1.5	480	12	251	150	2500
MD×200A	200	400–2600	1.5	600	12	314	150	2500
MD×250A	250	400–2600	1.5	750	20	393	150	2500
MD×300A	300	400–2600	1.5	900	20	471	150	2500
MD×400A	400	400–2600	1.65	1000	40	640	150	2500
MD×500A	500	400–2600	1.65	1500	40	785	150	2500
MDx600A	600	400–2600	1.65	2400	40	785	150	2500
MD×800A	800	400–2600	1.65	2400	40	785	150	2500
MD×1000A	1000	400–2600	1.65	3000	40	785	150	2500
MD×500A*	500	400–2600	1.65	1500	40	785	150	2500
MD×800A*	800	400–2600	1.65	2400	40	1256	150	2500

Note:
1. * means water-cooling module
2. MDx represents any one of MDC,MDK,MDA,MDX and MD.
3. The corresponding models for RM,SKKD,DD,MDX,2RI,etc,subject to circuit diagram.

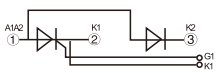
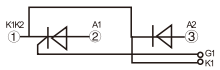
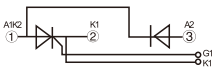
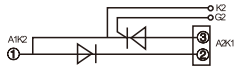
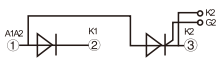
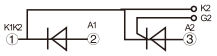
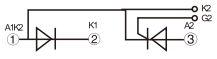
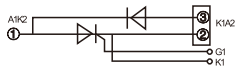
Feature:

Chip is electrically insulated from baseboard, 2500V AC voltage
International Standard Package
Fully crimped structure, excellent temperature characteristics and power cycle capability
All modules below 350A are forced air-cooled, and modules above 400A can be either air-cooled or water-cooled
Easy to install, easy to use and maintain
Small size and light weight
Vacuum + hydrogen shielded welding technology

Typical applications:

DC power supply for instrument and equipment,AC and DC motor control,Various rectified power supplies,
Motor soft start,welding machine,Inverter,battery charge and discharge.

CIRCUIT DIAGRAM

MFA(TD)	MFK(TD)	MFC(TD)	MFX(TD)
			
MFD(DT)	**MFK(DT)**	**MFC(DT)**	**MFX(DT)**
			

Type	$I_{T(AV)}$	V_{DRM} V_{RRM}	V_{TM} I_{TM}		I_{DRM} I_{RRM}	I_{GT}	V_{GT}	I_H	dv/dt	di/dt	I_{TSM} I_{FSM}	T_{jm}	V_{iso}
	A	V	V	A	mA	mA	V	mA	V/μs	A/μs	$A\times10^3$	C	V(AC)
MF×25A	25	400–2600	1.69	80	8	100	2.5	100	800	50	0.55	125	2500
MF×55A	55	400–2600	1.69	170	8	100	2.5	100	800	50	1.25	125	2500
MF×70A	70	400–2600	1.9	170	8	100	2.5	100	800	50	1.60	125	2500
MF×90A	90	400–2600	1.9	270	15	100	2.5	100	800	100	2.00	125	2500
MF×110A	110	400–2600	1.9	330	20	100	2.5	100	800	100	2.40	125	2500
MF×130A	130	400–2600	1.9	410	20	150	2.5	100	800	100	3.80	125	2500
MF×160A	160	400–2600	1.9	480	25	150	2.5	100	800	100	5.40	125	2500
MF×200A	200	400–2600	1.9	600	30	180	2.5	100	800	100	7.20	125	2500
MF×250A	250	400–2600	1.9	750	40	180	2.5	100	800	100	8.50	125	2500
MF×300A	300	400–2600	1.9	900	30	180	2.5	100	800	100	9.30	125	2500
MF×400A	400	400–2600	1.9	1050	40	200	3.0	100	800	100	14.0	125	2500
MF×500A	500	400–2600	1.9	1500	50	200	3.0	100	800	100	16.0	125	2500
MF×800A	800	400–2600	1.9	2400	50	200	3.0	100	800	100	16.0	125	2500
MF×1000A	1000	400–2600	1.9	3000	50	200	3.0	100	800	100	16.0	125	2500
MF×500A*	500	400–2600	1.9	1500	40	200	3.0	100	800	100	11.0	125	2500
MF×800A*	800	400–2600	1.9	2400	40	200	3.0	100	800	100	16.0	125	2500

Note:
1. * means water-cooling module
2. MFx represents any one of MFC,MFK,MFA and MFX.
3. The corresponding models for MFC,SKKH,PE,TD,etc,subject to circuit diagram.

MDS,MDQ
SINGLE-PHASE, THREE-PHASE RECTIFIER BRIDGE MODULE

Feature:
1.Chip is electrically insulated from baseboard, 2500V AC voltage
2.International Standard Package
3.Easy to install, easy to use and maintain
4.Small size and light weight
5.Vacuum + hydrogen shielded welding technology
6.Maximum operating junction temperature up to 150℃
7.Small forward voltage drop

Introduction:

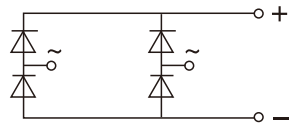
$V_{RSM}=V_{RRM}+200V$
Unless specified otherwise,
V_{FM}, V_{iso} are measured values at T_{jm}.

Typical applications:

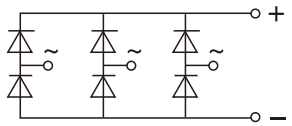
DC power supply for instrument and equipment,input rectification power supply of PWM inverter, DC motor excitation power supply, input rectification of switching power supply, soft start capacitor charging, electric drag and auxiliary current, inverter welding machine and current charging DC power supply.

CIRCUIT DIAGRAM

MDQ



MDS



Single-phase rectifier bridge module(MDQ)

* The corresponding models for SKCH,DF,VHF,etc,subject to circuit diagram

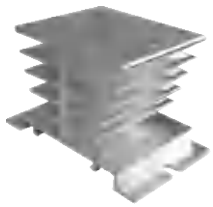
Type	Id	IF(AV)	Tc	VRRM	IRRM	VTM ITM		Tjm	Viso
	A	A	℃	V	mA	V	A	℃	VAC
MDQ30	30	15	100	600-2000	8	1.45	45	150	2500
MDQ60	60	30	100	600-2000	8	1.45	90	150	2500
MDQ75	75	40	100	600-2000	8	1.45	130	150	2500
MDQ100	100	50	100	600-2000	8	1.45	150	150	2500
MDQ150	150	75	100	600-2000	8	1.5	225	150	2500
MDQ200	200	100	100	600-2000	8	1.5	300	150	2500
MDQ300	300	150	100	600-2000	8	1.5	450	150	2500
MDQ400	400	200	100	600-2000	8	1.5	600	150	2500
MDQ500	500	250	100	600-2000	8	1.5	750	150	2500
MDQ600	600	300	100	600-2000	10	1.5	900	150	2500
MDQ800	800	400	100	600-2000	10	1.5	1200	150	2500
MDQ1000	1000	500	100	600-2000	10	1.5	1500	150	2500

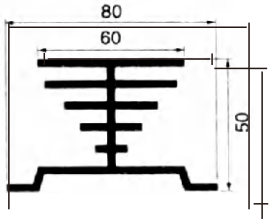
Three-phase rectifier bridge module(MDS)

* The corresponding models for 6RI,RM,DF,etc,subject to circuit diagram

Type	Id	IF(AV)	Tc	VRRM	IRRM	VTM ITM		Tjm	Viso
	A	A	℃	V	mA	V	A	℃	VAC
MDS30	30	10	100	600-2000	8	1.45	30	150	2500
MDS60	60	20	100	600-2000	8	1.45	60	150	2500
MDS75	75	30	100	600-2000	10	1.45	80	150	2500
MDS100	100	35	100	600-2000	10	1.45	100	150	2500
MDS150	150	50	100	600-2000	10	1.5	150	150	2500
MDS200	200	68	100	600-2000	10	1.5	200	150	2500
MDS300	300	100	100	600-2000	10	1.5	300	150	2500
MDS400	400	135	100	600-2000	10	1.5	400	150	2500
MDS500	500	168	100	600-2000	10	1.5	500	150	2500
MDS600	600	200	100	600-2000	10	1.5	600	150	2500
MDS800	800	270	100	600-2000	10	1.5	800	150	2500
MDS1000	1000	330	100	600-2000	10	1.5	1000	150	2500

TYPE I

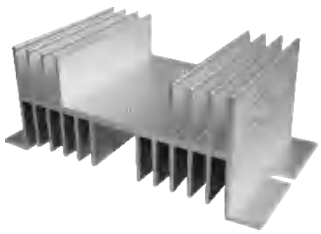


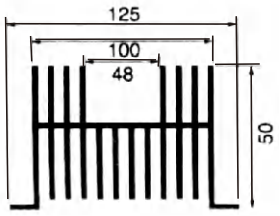


Type	I-50
L x W x H(mm)	50×60×50
Application	single phase SSR≤15A

Note: W is the width at the top

TYPE W

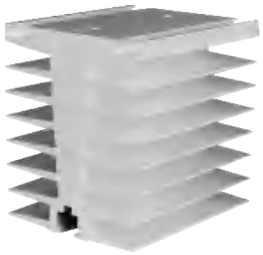


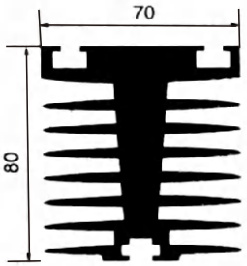


Type	W-70
L x W x H(mm)	70×100×50
Application	single phase SSR≤40A

Type	W-100,W-110
L x W x H(mm)	100×100×50 ,110x100x50
Application	single phase SSR≤60A

TYPE T



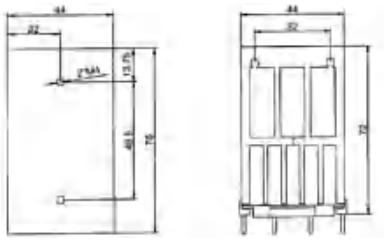


Type	T-80
L x W x H(mm)	80×80×70
Application	single phase SSR≤60A

Type	T-110
L x W x H(mm)	110 x 80 x70
Application	single phase SSR≤80A

Note: Can be installed with DIN rail mounting base

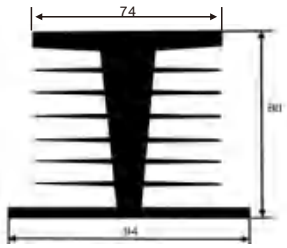
TYPE TH



Type	TH-76
L x W x H(mm)	76 x 44 x 72
Application	single phase SSR≤40A

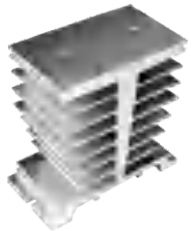
Note: With DIN rail mounting base TS35

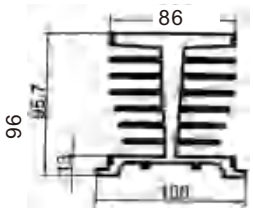
TYPE Ib



Type	Ib
L x W x H(mm)	49x74x80mm
Application:	For single phase SSR≤80A

TYPE Ic

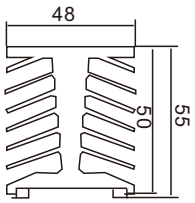


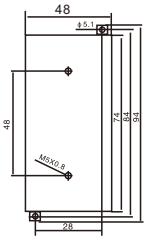


Type	Ic
L x W x H(mm)	50*86x96mm
Application:	For single phase SSR≤60A

Note: other lengths are available

TYPE D

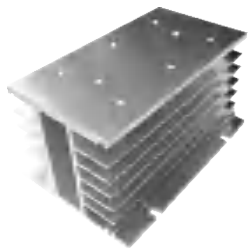


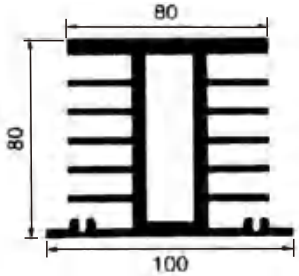


Type	D-74
L x W x H(mm)	74x48x55
Application	single phase SSR≤40A

Note: With DIN rail mounting base TS35

TYPE H

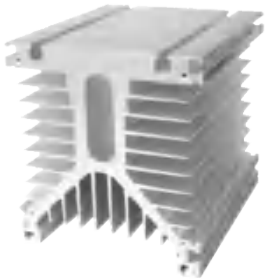


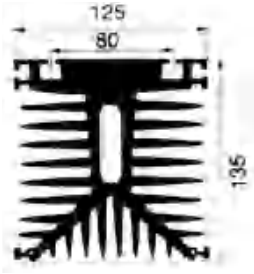


Type	H-110, H-150
L x W x H(mm)	110x80x80,150x80x80
Application	H-110: for three-phase or industrial SSR≤60A H-150: for three-phase or industrial SSR≤80A

Note: Can be mounted cooling fan 80*80*30mm

TYPE Y

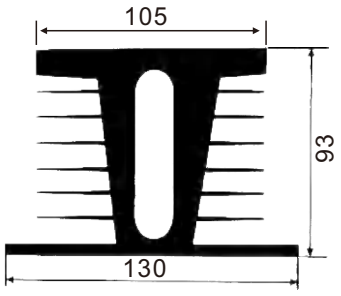




Note: length 200mm, 300mm, 350mm,etc are available

Model	L x W x H(mm)	Application
Y-80	80 x 125 x 135	1.For one piece industrial SSR≤100A 2. For one piece three-phase SSR≤80A
Y-110	110 x 125 x 135	1.For one piece industrial SSR 150A 2. For one piece three-phase SSR or voltage regulator module 150A
Y-150	150 x 125 x 135	1.For one piece industrial SSR 250A 2. For one piece three-phase SSR or voltage regulator module 200A

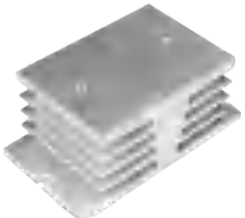
TYPE F

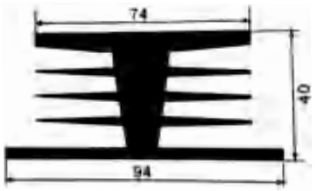


Type	F-120
L x W x H(mm)	120x105x93
Application	1. For three-phase SSR≤100A 2. For industrial SSR≤120A

Note:
1. Can be mounted cooling fan 90*90*30mm
2. Other lengths are available

TYPE E





Type	E-50, E-105,E-130
L x W x H(mm)	50 x 74 x 40 105 x 74 x 40 130 x 74 x 40
Application	E-52:for three-phase SSR≤40A E-105:for single phase SSR≤80A or three-phase SSR≤40A E-130:for single phase SSR≤120A or three-phase SSR≤80A

Features:

1.Dual display, PID control
2.Realizes ideal temperature controlling with newly developed PID control algorithm and high speed sampling.
3.Output: SSR+Relay
4.Enhanced convenience of wiring and maintenance
5.Mounting space saving with compact design

ORDERING INFORMATION

T C N 4 S - 2 4 R

Control output	R	Relay
	V	SSR
	RV	Relay contact output+SSR drive output
Power supply	2	24VDC
	4	100-240VAC 50/60Hz
Alarm	1	Alarm
	2	Alarms
Size	S	DIN W48xH48mm
	M	DIN W72xH72mm
	H	DIN W48xH96mm
	L	DIN W96xH96mm
Digit	4	9999 4-digit
Setting type	CN	Dual display type, set by touch switch
Item	T	Temperature controller

SPECIFICATIONS

Series		TCN4S	TCN4M	TCN4H	TCN4L
Power Supply	AC power	100-240VAC~50/60Hz			
	AC/DC power	24VAC~50/60Hz, 24-48VDC ⎓			
Allowable voltage range		90 to 110% of rated voltage			
Power Consumption	AC power	Max. 5VA(100-240VAC 50/60Hz)			
	AC/DC power	Max. 5VA (24VAC 50/60Hz). Max.3W (24-48VDC)			
Display method		7-segment (PV: red, SV: green).Other display (green,red) LED			
Character size	PV(WxH)	7.0x15.0mm	9.5x20.0mm	7.0x14.6mm	11.0x22.0mm
	SV(WxH)	5.0x9.5mm	7.5x15.0mm	6.0x12.0mm	7.0x14.0mm
Input type	RTD	DPt100Ω,Cu50Ω (allowable line resistance max. 5Ω per a wire)			
	Thermocouple	K(CA), J(IC), L(IC), T(CC), R(PR), S(PR)			
Display accuracy	RTD	At room temperature (23°C±5°C): (PV±0.5% or ±1°C, select the higher one)±1-digit Out of room temperature range: (PV±0.5% or ±2°C, select the higher one)±1-digit For TCN4S-□-P, add±1°C by accuracy standard.			
	Thermocouple				
Control output	Relay	250VAC~3A, 30VDC ⎓3A,1a			
	SSR	12VDC ⎓±2V 20mA Max.			
Alarm output		AL1,AL2 Relay output: 250VAC 1A 1a			
Control method		ON/OFF control, P, PI, PD, PID control			
Hysteresis		1 to 100°C/°F(0.1 to 50.0°C/°F)variable			
Proportional hand (P)		0.1 to 999.9□/□			
Integral time (I)		0 to 9999 sec			
Derivative time(D)		0 to 9999 sec			
Control period(T)		0.5 to 120.0 sec			
Manual reset		0.0 to 100.0%			
Sampling period		100ms			

Ordering information

TCN 5 - □ □ □ □ - □

Power supply

2	24VDC
4	100-240VAC

Input specification

T	Thermocouple (K E J)
R	Thermal resistance (Pt100 Cu50)
T/R	Thermocouple (K E J) Thermal resistance (Pt100 Cu50)
A	Linear current (0–20mA 4–20mA)
U	Linear voltage (0-5V)
G	All input types,including TC,RTD,0-20mA,4-20mA,0-5V

Alarm output

0	No alarm
1	One alarm
2	Two alarms

Output specification

R	Relay contact output
S	SSR solid-state relay output
W	Relay contact+SSR output
1U	Voltage controlled output
2U	Temperature variable voltage output
1A	Current controlled output
2A	Temperature variable current output
1T	SCR zero-crossing output
2T	SCR phase shift output

Size

S	DIN W48 × H48mm
H	DIN W48 × H96mm
W	DIN W96 × H48mm
M	DIN W72 × H72mm
L	DIN W96 × H96mm

Product type

5W	White color housing,LED color white & green
5B	Black color housing,LED color red & green

Item

TCN	Temperature controller

MAIN TECHNICAL PARAMETERS

Power supply	①100~240VAC ②24VDC
Allowable voltage range	90-110% of rated voltage
Power consumption	Max. 8VA
Input specification	TC,RTD,0-20mA,4-20mA,0-5V
Display accuracy	±0.5%
Output specification	SSR+Relay, voltage output,current output, SCR output
Alarm output	Relay 250VAC 5A Max.two sets of alarm outputs
Control method	ON/OFF Position control、PID control
Sampling period	100ms
Relay life cycle	Mechanical above 2.5 million times Electrical above 100000times
Dielectric strength	2000VAC 50/60Hz for 1min.（between all terminals and case）
Vibration	0.75mm amplitude at frequency 5 to 55HZ(for 1 min.) in each X,Y,Z direction for 2 hours
Insulation resistance	Min.100MΩ（500VDC) MEGA
Noise resistance	Square shaped noise by noise simulator(pulse width 1μs)±2kV R–phase,S–phase
Memory retention	Approx.10years(non–volatile semiconductor memory type)
Environment	–10~50℃ 35~85%RH

OUTLINE DIMENSIONS:

Model	Outline size(W*H*D)	Cut-out size(W*H)	PCS/CTN
TCN5-S	48*48*75	45*45	100
TCN5-H	48*96*75	45*92	50
TCN5-W	96*48*75	95*45	50
TCN5-M	72*72*75	68*68	50
TCN5-L	96*96*75	92*92	50

MAIN FEATURES

- Dual display
- PID control
- Organic glass diplay
- RS-485 communication optional
- Wide power supply 110VAC,220VAC,380VAC
- Output Relay+SSR, or 4-20mA

Ordering information

TC6 – □□□□□□ – □□□□
① ② ③ ④ ⑤ ⑥ ⑦

① Panel Size
S:48*48 H:48*96 M:72*72 L:96*96

② Input Signal

Name	K	J	R	S	B	E	N	T	PT	CU	0.K	0-50	0-5V	1-50
Code	E	J	r	S	b	E	n	T	Pt	Cu	0.E	0-50	0-5U	1-50

③ Power Type
S:Switching power supply
L:Linear power supply

④ Main Output
1:Relay 2:SSR
3:4-20mA output
4:Thyristor phase shift trigger / zero crossing trigger
5:30A relay 6: Transmi sson 4-20mA

⑤ Alarm Output 1

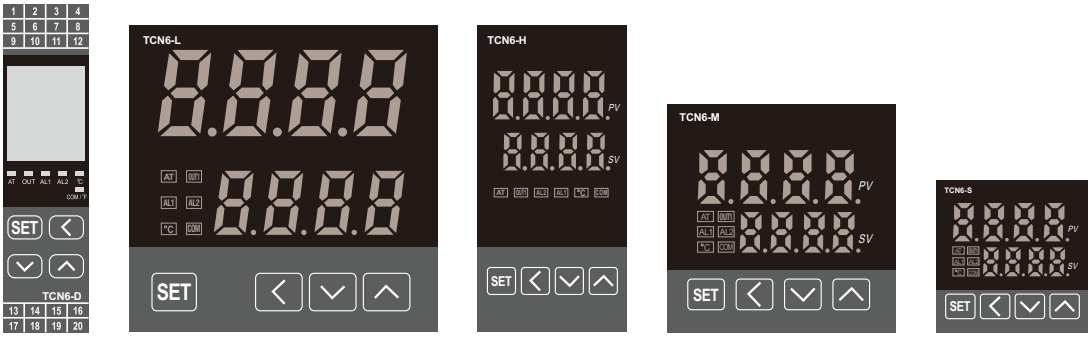
Code	Description
0	No alarm
1	Process high alarm
2	Deviation high alarm(ALM1 default)
3	Process low alarm(ALM2 default)
4	Deviation low alarm
5	Out-band alarm
6	In-band alarm
P-1	Process high alarm with hold action
P-2	Deviatipn high alarm with hold action
P-3	Process low alarm with hold action
P-4	Deviatipn low alarm with hold action

⑥ The alarm output 2 is the same as the alarm output 1

⑦ Function Code (For customized function)

SPECIFICATIONS

Rated voltage	110VAC,220VAC,380VAC
Power consumption	≤5VA
Work environment	Ambient temperature:0℃~50℃ Relative humidity: 35%~85%RH(no condensation)
Storage temperature	-25℃~65℃ (Avoid freezing or dew)
Resolving power	1℃ , 0.1℃ (Adjustable)
Connection mode	Terminal
Measurement accuracy	±0.5%FS
Memory protection	Nonvolatile memory
Installation environment	Installation type II , pollution grade 2
Relay output	Relay contacts AC220V/DC30V,5A
Logic level output	ON: DC12V; OFF: DC0.5Vbelow; Maximum flow: 30mA,load resistance≥1K



MAIN FEATURES

- Dual display
- PID control
- Input TC/RTD
- RS-485 communication optional
- Compact design
- Output Relay+SSR

Ordering information

T C N 6 S - 2 4 R

Control output	R	Relay
	V	SSR
	RV	Relay contact output+SSR drive output
Power supply	4	100-240VAC 50/60Hz
Alarm	1	Alarm
	2	Alarms
Size	S	DIN W48xH48mm
	M	DIN W72xH72mm
	H	DIN W48xH96mm
	L	DIN W96xH96mm
Digit	6	Design serial number
Setting type	CN	Dual display type, set by touch switch
Item	T	Temperature controller

SPECIFICATIONS

SERIES		TCN6-S	TCN6-M	TCN6-H	TCN6-L	TCN6-D
Proportional band (P)		0.1~999.9℃				
Integral time (I)		0~9999 S				
Differential time (D)		0~9999 S				
Control period (T)		0.5~120.0 S				
Manual reset		0.0~100.0%				
Sampling period		100ms				
Withstand voltage	AC Power supply type	2000vac 50 / 60Hz 1 min (between input terminal and power supply terminal)				
	AC/DC Power supply type	1000VAC 50 / 60Hz 1 min (between input terminal and power supply terminal)				
Vibration resistance		5~55Hz (cycle 1 minute) amplitude 0.75mm x, y, z direction 2 hours				
Relay life	Mechanics	OUT:500 More than 10000 times, AL1 / 2: more than 5 million times				
	Electrical	OUT:20 More than 10000 times (250VAC 3A resistive load), AL1 / 2: more than 300000 times (250VAC 1A resistive load)				
Insulation impedance		Above 100m Ω (500VDC as reference)				
Anti-interference		Square wave interference of jamming simulator (pulse width 1 μ s) ± 2KV, R phase, S phase				
Memory preservation		About 10 years (using nonvolatile semiconductor storage)				
Ambient temperature		-10~50℃(not frozen)				
Storage temperature		-20~60℃(not frozen)				
Ambient humidity		35~85%RH, Storage:35~85%RH				
Insulation type		Double insulation or enhanced insulation (identification: ⊡ detect the dielectric strength between the input part and the power supply part, AC power supply type: 2KV, AC / DC power supply type: 1KV)				
Authentication		CE				
Weight		About 100g	About 133g	About 124g	About 179g	About 133g

TCN7 SERIES LCD DISPLAY TEMPERATURE CONTROLLER

Features:

1. LCD display
2. Rs485 communication optional
3. PID control
4. Input TC/RTD
5. Output Relay+SSR

ORDERING INFORMATION

T C N 7 S - 2 4 R

Control output	R	Relay
	V	SSR
	RV	Relay contact output+SSR drive output
Power supply	4	100-240VAC 50/60Hz
Alarm	1	Alarm
	2	Alarms
Size	M	DIN W72xH72mm
	H	DIN W48xH96mm
Digit	7	Design serial number
Setting type	CN	Dual display type, set by touch switch
Item	T	Temperature controller

SPECIFICATIONS

SERIES		TCN7M	TCN7H
Proportional band (P)		0.1~999.9℃	
Integral time (I)		0~9999 S	
Differential time (D)		0~9999 S	
Control period (T)		0.5~120.0 S	
Manual reset		0.0~100.0%	
Sampling period		100ms	
Withstand voltage	AC Power supply type	2000vac 50 / 60Hz 1 min (between input terminal and power supply terminal)	
	AC/DC Power supply type	1000VAC 50 / 60Hz 1 min (between input terminal and power supply terminal)	
Vibration resistance		5~55Hz (cycle 1 minute) amplitude 0.75mm x, y, z direction 2 hours	
Relay life	Mechanics	OUT:500 More than 10000 times, AL1 / 2: more than 5 million times	
	Electrical	OUT:20 More than 10000 times (250VAC 3A resistive load), AL1 / 2: more than 300000 times (250VAC 1A resistive load)	
Insulation impedance		Above 100m Ω (500VDC as reference)	
Anti-interference		Square wave interference of jamming simulator (pulse width 1 μ s) ± 2KV, R phase, S phase	
Memory preservation		About 10 years (using nonvolatile semiconductor storage)	
Ambient temperature		-10~50℃(not frozen)	
Storage temperature		-20~60℃(not frozen)	
Ambient humidity		35~85%RH, Storage:35~85%RH	
Insulation type		Double insulation or enhanced insulation (identification: ⧈ detect the dielectric strength between the input part and the power supply part, AC power supply type: 2KV, AC / DC power supply type: 1KV)	
Authentication		CE	
Weight		About 133g	About 124g

FEATURES

* Standard autotuning
* Large LED screen display
* Heat/cool control
* Numerous control outputs
* ℃/ °F
* Input TC/RTD
* Field-configurable thermocouples

SPECIFICATIONS

INPUT

A) Thermocouple: K,J,E,T,R,S,B,U,L,N,PL2,W5Re/w26Re

B) RTD: Pt100

Input display accuracy: 0.3% ± 1 of the set value SV

Sampling Time: 0.5 sec

PV BIAS

-1999~9999℃ or -199.9~999.9℃(temperature input)

± full span(voltage/current input)

SETTING RANGE

A) Setting range: same as input range

B) Heat-side proportional band(P): 1 to span or 0.1 to span
(ON/OFF action when P=0)

C) Cool-side proportional band(Pc):
0 to 1000% of heat-side proportional band
(heat/cool ON/OFF action when Pc=0)

D) Integral time(I): 0 to 3600sec.(PD action when I=0)

E) Derivative time(D): 0 to 3600sec.(PI action when D=0)

F) Anti-reset windup(ARW): 1 to 100% of heat-side proportional band

G)Deadband/overlap: -10 to 10℃(°F) or -10.0 to 10.0℃(°F)

H) Proportional cycle: 1 to 100 sec.

CONTROL METHOD

A) PID control with autotuning
*Available for reverse and direct action (Specify when ordering)

B) Heat/Cool PID control with autotuning (Specify when ordering)
*Available for air and water cooling type

CONTROL OUTPUT

A) Relay output: 250V AC 5A (resistive load)

B) Voltage pulse output: 0-12V DC
(Load resistance: more than 600Ω)

C) Current output: 4-20mA
(Load resistance: less than 600Ω)

TEMPERATURE ALARM

A) Number of alarm: 2 points (Maximum)

B) Alarm action: Deviation High,Low,High/Low,Band
Process High,Low

C) Alarm differential gap: 2℃(°F) or 2.0℃(°F) as standard.

ALARM OUTPUT

Relay output, Form A contact 250V AC 5A (resistive load)

WARRANTY

18 months

SPECIFICATIONS

	Code									
Models	CH102(48x48mm) CH402(48x96mm) CH702(72x72mm) CH902(96x96mm) CH502(96x48mm) CH802(160x80mm)	F	□	□	□	-	□	*	□	□	-	□	□
Control method	PID control with AT(reverse action)	F											
Input type	See Range and Input Code Table	□	□	□									
Control output (OUT1)	Relay contact output Voltage pulse output DC current output 4-20mA Triac trigger output Triac output	M V 8 G T											
Control output (OUT2)	Relay contact output Voltage pulse output DC current output 4-20mA Triac output	M V 8 T											
Alarm	No alarm See Alarm Code Table	N □											
Communication	No communication	N											
IPXX	No waterproof and dustproof	N											

Note: No alarm function when OUT2 used for cooling.

POWER SUPPLY

100-240VAC
24V DC

ALARM CODE TABLE

Code	Type
A	Deviation High
B	Deviation Low
C	Deviation High - Low
D	Deviation Band
E	Deviation High with Hold
F	Deviation Low with Hold
G	Deviation High/Low with Hold
H	Process High
J	Process Low
K	Process High with Hold
L	Process Low with Hold
R	Loop break alarm(LBA)
V	SV High alarm
W	SV Low alarm

RANGE AND INPUT CODE TABLE

RTD

Input	Code		Range
PT100	D	01	-199.9-649.0℃
	D	02	-199.9-200.0℃
	D	05	-100.0-200.0℃
	D	08	0.0-200.0℃
	D	10	0.0-500.0℃

VOLTAGE AND CURRENT

Input	Code		Range
DC0~5V	4	01	0.0~100.0
DC1~5V	6	01	0.0~100.0

THERMOCOUPLE

Input	Code		Range
K	K	01	0-200℃
	K	02	0-400℃
	K	03	0-600℃
	K	04	0-800℃
	K	05	0-1000℃
	K	06	0-1200℃
	K	07	0-1372℃
J	J	01	0-200℃
	J	02	0-400℃
	J	03	0-600℃
	J	04	0-800℃
	J	05	0-1000℃
	J	06	0-1200℃
R [1]	R	01	0-1600℃
	R	02	0-1769℃
S [1]	S	01	0-1600℃
	S	02	0-1769℃
B [1]	B	01	400-1800℃
	B	02	0-1820℃
E	E	01	0-800℃
	E	02	0-1000℃
N	N	01	0-1200℃
	N	02	0-1300℃
T [2]	T	01	-1999-400.0℃
	T	02	-199.9-100℃
	T	03	-100.0-200℃
	T	04	0.0-350℃
W5Re /W26Re	W	01	0-2000℃
	W	02	0-2320℃
PL II	A	01	0-1300℃
	A	02	0-1390℃
	A	03	0-1200℃

1. Type R,S,B input: Accuracy is not guaranteed between 0 and 399℃.
2. Type T input: Accuracy is not guaranteed between -199.9 ~ +100.0℃.

Features:

1. Accurate measurement of angle, position, revolution, speed, acceleration, and distance
2. Cable type, cable connector type, axial / radial connector types available
3. Various resolutions: 1 to 8000 pulses per revolution
4. Various control output options
5. Power supply:5 VDC ± 5%, 8 - 30 VDC ± 5%

ORDERING INFORMATION

TSP 58/ 10 (□) - 1024 3 - 05 L C 9

Shaft type
TSP: solid shaft type
TF: solid shaft flange type
THB: blind hollow shaft type
THT: hollow shaft type

External diameter φ

Shaft diameter

Protection level:
Blank: IP50, anti-dust
M:IP65, anti-dust & drip

Output phase:
3: A,B,Z
6: A,$\bar{A}$,B,$\bar{B}$,Z,$\bar{Z}$

Resolution(p/r)
10,20,30,40,50,
...5400.

Power supply:
05: 5VDC(± 5%)
08: 8-30VDC(± 5%)

Output:
C: complementary (totem pole output)
N: NPN open collector
P: PNP open collector
V: voltage output
L: line driver(Power source 5VDC only, phase 6)
T: push-pull(with inverted signal, phase 6)

Cable outgoing type:
C: connector side outgoing
G: cable side outgoing
H: connector rear outgoing
E: cable rear outgoing

Cable length (cable outgoing): standard 2M

Number of pins(connector type)

BRACKET & COUPLING

Features:

1. Universal AC input / Full range
2. High efficiency up to 85%
3. Protections: short circuit/overload/ overvoltage/overtemperature
4. Cooling by free air convection
5. DC output voltage adjustable
6. Can be installed on DIN rail TS-35

GENERAL SPECIFICATION

Model No.	DR-30	DR-45	DR-60	DR-75	DR-120	DR-240
AC input voltage range	85-264VAC 47-63Hz 120-370VDC				AC110/220 20%	85-264VAC 47-63Hz 120-370VDC
AC inrush current	Cold start,15A at 115V, 30A at 230V	Cold start,28A at 115V, 56A at 230V	Cold start,18A at 115V, 36A at 230V	Cold start,20A at 115V,40A at 230V		Cold start,27A at 115V, 45A at 230V
DC adjustment range	± 10%					
Overload protection	105%~150% constant current limiting, auto-recovery					
Over voltage protection	115%~135% rated output voltage			120%~140% rated output voltage		30-36V for 24V model, 54-60V for 48V model
Setup, rise, hold up time	800ms 60ms 50ms/230VAC at full load			1000ms 60ms 60ms/230VAC	500ms 70ms 30ms/230VAC	800ms 40ms 20ms/230VAC
Withstand voltage	I/P-O/P:3kVAC, I/P-FG:1.5kVAC,O/P-FG:0.5kVAC, 1minute					
Isolation resistance	I/P-O/P I/P-FG O/P-FG:500VDC/100MΩ					
Working temperature	-10~+50℃					
Safety standards	Conform to GB4943,UL60950,EN60950					
EMC standards	Conform to GB9254,UL55022,class B					
Dimension (WxHxD)	78x93x56mm			55.5x125.2x100mm	65.5x125.2x100mm	125.5x125.2x100mm
Weight	0.27kg	0.3kg		0.6kg	0.79kg	1.2kgs

30W

Model No.	Output	Tol.	R&N	Effi.
DR-30-5	5V,3A	± 1%	100mV	74%
DR-30-12	12V,2A	± 0.5%	200mV	81%
DR-30-15	15V,2A	± 0.5%	240mV	82%
DR-30-24	24V,1.5A	± 0.5%	480mV	83%

45W

Model No.	Output	Tol.	R&N	Effi.
DR-45-5	5V,9A	± 1%	100mV	72%
DR-45-12	12V,3.5A	± 0.5%	200mV	77%
DR-45-15	15V,2.8A	± 0.5%	240mV	77%
DR-45-24	24V,2A	± 0.5%	480mV	80%

60W

Model No.	Output	Tol.	R&N	Effi.
DR-60-5	5V,6.5A	± 1%	100mV	76%
DR-60-12	12V,4.5A	± 0.5%	200mV	82%
DR-60-15	15V,4A	± 0.5%	240mV	83%
DR-60-24	24V,2.5A	± 0.5%	480mV	84%

75W

Model No.	Output	Tol.	R&N	Effi.
DR-75-12	12V 6.3A	± 1%	100mV	76%
DR-75-15	15V 5A	± 0.5%	150mV	80%
DR-75-24	24V 3.2A	± 0.5%	150mV	80%
DR-75-48	48V 1.6A	± 0.5%	240mV	81%

120W

Model No.	Output	Tol.	R&N	Effi.
DR-120-12	12V 10A	± 1%	75mV	80%
DR-120-15	15V 8A	± 0.5%	75mV	81%
DR-120-24	24V 5A	± 0.5%	75mV	84%
DR-120-48	48V 2.5A	± 0.5%	100mV	85%

240W

Model No.	Output	Tol.	R&N	Effi.
DR-240-24	24V 10A	± 1%	80mV	84%
DR-240-48	48V 5A	± 0.5%	150mV	85%

KANE®

MDR SERIES
DIN SWITCHING POWER SUPPLY

Features:

1. Universal AC input / full range
2. Installed on DIN rail TS-35
3. Protections: short circuit / overload / over voltage
4. No load power consumption < 0.75W
   (<1W for MDR-100)
5. LED indicator for power on
6. Cooling by free air convection
7. DC output adjustable

GENERAL SPECIFICATION

Model No.	MDR-10	MDR-20	MDR-40	MDR-60	MDR-100
AC input voltage range	85~264VAC; 120~370VDC				
AC inrush current	Cold start, 35A at 115VAC, 70A at 230VAC	Cold start, 20A at 115VAC, 40A at 230VAC	Cold start, 30A at 115VAC,60A at 230VAC		
DC adjustment range	Fixed	±10% rated output voltage	0~+20% rated output voltage		
Overload protection	>105% hiccup mode, auto-recovery	105%~160% constant current limiting,auto-recovery	105%~150% constant current limiting, auto-recovery		
Over voltage protection	115%~135% rated output voltage		125%~150% rated output voltage		
Setup, rise, hold up time	500ms, 30ms, 120ms	500ms, 30ms, 50ms			3000ms, 50ms, 50ms
Withstand voltage	I/P-O/P:3kVAC, I/P-FG:2kVAC, 1minute				
Working temperature	-20~+70℃ (refer to output derating curve)				-10~+60℃
DC OK signal	Open collector		Relay contact		
Safety standards	EN62368-1				
EMC standards	EN55032,EN61000,EN61204-3,EN61000-6-2				
Connection	I/P: 3 poles, O/P: 3 poles screw DIN terminal		IP: 3 poles, O/P: 6 poles screw DIN terminal		
Dimension (WxHxD)	22.5x90x100mm		40x90x100mm		55x90x100mm

10W

Model No.	Output	Tol.	R&N	Effi.
MDR-10-5	5V, 0~2.0A	±5%	80mV	77%
MDR-10-12	12V, 0~0.84A	±3%	120mV	81%
MDR-10-15	15V, 0~0.67A	±3%	120mV	81%
MDR-10-24	24V, 0~0.42A	±2%	150mV	84%

20W

Model No.	Output	Tol.	R&N	Effi.
MDR-20-5	5V, 0~3.0A	±2%	80mV	76%
MDR-20-12	12V, 0~1.67A	±1%	120mV	80%
MDR-20-15	15V, 0~1.34A	±1%	120mV	81%
MDR-20-24	24V, 0~1.0A	±1%	150mV	84%

40W

Model No.	Output	Tol.	R&N	Effi.
MDR-40-5	5V, 0~6.0A	±2%	80mV	78%
MDR-40-12	12V, 0~3.33A	±1%	120mV	86%
MDR-40-24	24V, 0~1.70A	±1%	150mV	88%
MDR-40-48	48V, 0~0.83A	±1%	200mV	88%

60W

Model No.	Output	Tol.	R&N	Effi.
MDR-60-5	5V, 0~10.0A	±2%	80mV	78%
MDR-60-12	12V, 0~5.0A	±1%	120mV	86%
MDR-60-24	24V, 0~2.5A	±1%	150mV	88%
MDR-60-48	48V, 0~1.25A	±1%	200mV	87%

100W

Model No.	Output	Tol.	R&N	Effi.
MDR-100-12	12V, 0~7.5A	±1%	120mV	83%
MDR-100-24	24V, 0~4.0A	±1%	150mV	86%
MDR-100-48	48V, 0~2.0A	±1%	200mV	87%

Features:

1. Universal AC input / full range
2. High efficiency up to 92.5%
3. Installed on DIN rail TS-35
4. Protections: short circuit / overload / over voltage
5. No load power consumption < 0.75W
   (<1W for MDR-100)
6. LED indicator for power on
7. Cooling by free air convection
8. DC output adjustable

GENERAL SPECIFICATION

Model No.		NDR-75	NDR-120	NDR-240	NDR-480
AC input voltage range		90~264VAC; 127~370VDC			
AC inrush current (max.)		Cold start, 35A at 230VAC			
DC adjustment range		12V: 12~14V, 24V: 24~28V, 48V: 48~55V			
Overload protection	Range	105%~130%			
	Type	Constant current limiting, auto-recovery			Constant current limiting, shut off after 3 sec., re-power on to recover
Over voltage protection	Range	12V: 14~17V, 24V: 29~33V, 48V: 56~65V			
	Type	Shut down o/p voltage, re-power on to recover			
Over temperature protection		Shut down o/p voltage, re-power on to recover		Shut down o/p voltage, auto-recovery	
Withstand voltage		I/P-O/P: 3kVAC, I/P-FG: 2kVAC, O/P-FG: 0.5kVAC			
Working temperature		-20~+70℃			
Safety standards		EN62368-1			
EMC standards		EN55032 class B, EN61000,EN61204-3			
Connection (screw DIN terminal)		I/P: 3 poles, O/P: 4 poles			
Dimension (WxHxD)(mm)		32x 125.2x 102	40x 125.2x113.5	63x 125.2x113.5	85.5x 125.2x 128

75W				
Model No.	Output	Tol.	R&N	Effi.
NDR-75-12	12V, 0~6.3A	± 2%	80mV	85.5%
NDR-75-24	24V, 0~3.2A	± 1%	150mV	88%
NDR-75-48	48V, 0~1.6A	± 1%	240mV	89%

120W				
Model No.	Output	Tol.	R&N	Effi.
NDR-120-12	12V, 0~10A	± 2%	100mV	85.5%
NDR-120-24	24V, 0~5A	± 1%	120mV	88%
NDR-120-48	48V, 0~2.5A	± 1%	150mV	89%

240W				
Model No.	Output	Tol.	R&N	Effi.
NDR-240-24	24V, 0~10A	± 1%	150mV	88.5%
NDR-240-48	48V, 0~5A	± 1%	150mV	90%

480W				
Model No.	Output	Tol.	R&N	Effi.
NDR-480-24	24V, 0~20A	± 1%	150mV	92.5%
NDR-480-48	48V, 0~10A	± 1%	150mV	92.5%

KANE®

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