



纺织机械行业 手册

固态继电器行业定制专家

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SAP40(双灯)交流固态继电器

SAP40 (Dual Lamp) AC Solid State Relay



产品具备欧盟CE认证

该系列产品获得实用新型与外观专利 专利号:2015204886030 2015204816220 2018205206108 2018302231724

- 控制回路与负载回路之间光电隔离
- 过零输出或随机导通可选择
- 国际标准化安装尺寸
- 工程塑料外壳和配备阻燃安全透明罩
- LED指示工作状态
- 内置RC吸收回路, 抗干扰能力强
- 环氧树脂灌胶, 抗腐蚀、抗爆能力强
- 直流4-32VDC或交流90-280VAC输入控制



常规款



K2款

产品命名规则

S

SSR (固态继电器)

A

A:交流输出

P

P:方型

40

负载电压
40:40-530VAC

**

负载电流
05:5A
...
120:120A

**

控制信号
D:4-32VDC
A:90-280VAC

**

R: 随机型
无:过零型

产品选型

Product Selection

产品型号	负载电压	负载电流	控制信号	隔离电压	绝缘电压	动作状态指示
SAP4005D	40-530VAC	5A	4-32VDC or 90-280VAC	≥2500VAC	≥2500VAC	输入输出LED灯指示
SAP4010D	40-530VAC	10A	4-32VDC or 90-280VAC	≥2500VAC	≥2500VAC	输入输出LED灯指示
SAP4015D	40-530VAC	15A	4-32VDC or 90-280VAC	≥2500VAC	≥2500VAC	输入输出LED灯指示
SAP4020D	40-530VAC	20A	4-32VDC or 90-280VAC	≥2500VAC	≥2500VAC	输入输出LED灯指示
SAP4025D	40-530VAC	25A	4-32VDC or 90-280VAC	≥2500VAC	≥2500VAC	输入输出LED灯指示
SAP4040D	40-530VAC	40A	4-32VDC or 90-280VAC	≥2500VAC	≥2500VAC	输入输出LED灯指示
SAP4050D	40-530VAC	50A	4-32VDC or 90-280VAC	≥2500VAC	≥2500VAC	输入输出LED灯指示
SAP4060D	40-530VAC	60A	4-32VDC or 90-280VAC	≥2500VAC	≥2500VAC	输入输出LED灯指示

产品型号	负载电压	负载电流	控制信号	隔离电压	绝缘电压	动作状态指示
SAP4070D	40-530VAC	70A	4-32VDC or 90-280VAC	≥2500VAC	≥2500VAC	输入输出LED灯指示
SAP4080D	40-530VAC	80A	4-32VDC or 90-280VAC	≥2500VAC	≥2500VAC	输入输出LED灯指示
SAP4090D	40-530VAC	90A	4-32VDC or 90-280VAC	≥2500VAC	≥2500VAC	输入输出LED灯指示
SAP40100D	40-530VAC	100A	4-32VDC or 90-280VAC	≥2500VAC	≥2500VAC	输入输出LED灯指示
SAP40120D	40-530VAC	120A	4-32VDC or 90-280VAC	≥2500VAC	≥2500VAC	输入输出LED灯指示

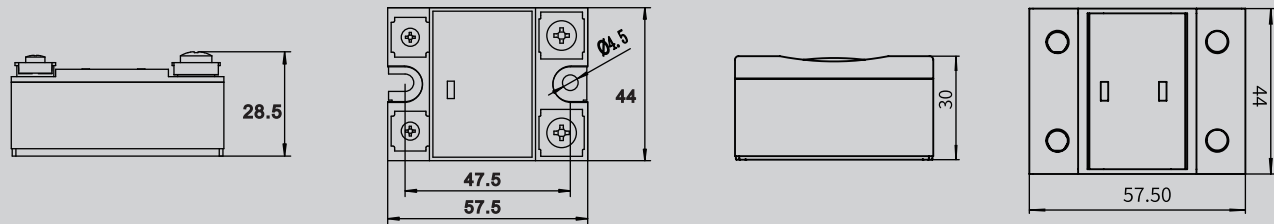
产品参数

Product parameters

输入参数		
控制电压	4-32VDC	
关断电压	1VDC	
导通电压	4VDC	
控制电流	6-25mA(内置恒流电路)	
输出参数		
负载电压范围	SAP40系列	
	40-530VAC	
最小导通电流	0.10A	
最大通态压降	1.5VAC	
最大断态电流	10mA	
断态电压临界上升率	500V/us	
最大导通时间	随机型	2ms
	过零型	1/2周期+1ms
	交流控制	40ms
最大关断时间	直流控制	10ms
	交流控制	40ms
工作频率	45-65HZ	
输出参数		
最小隔离电压	输入与输出之间≥2000VAC	
最小绝缘电压	输入与输出于底板≥2000VAC	
绝缘电阻	1000MΩ (500VDC)	
工作环境温度	-40~80℃	

产品尺寸图 Product dimension diagram

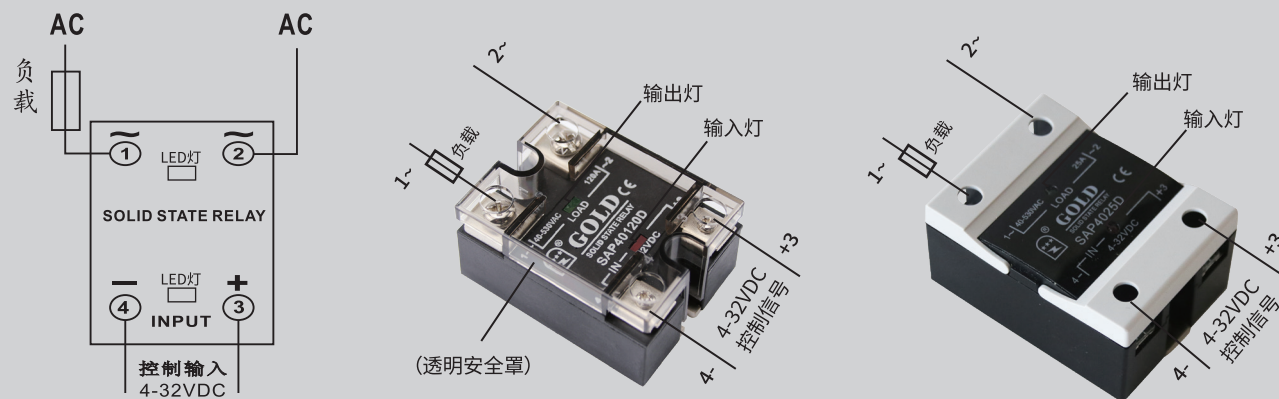
单位 (mm)



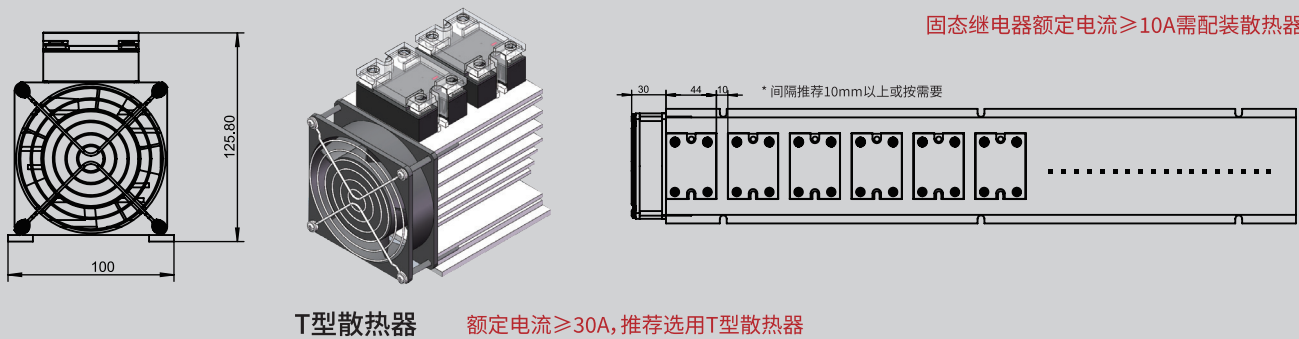
常规款 长宽高:57.5mm*44mm*28.5mm

K2款长宽高:57.5mm*44mm*30mm

产品接线图 Product wiring diagram

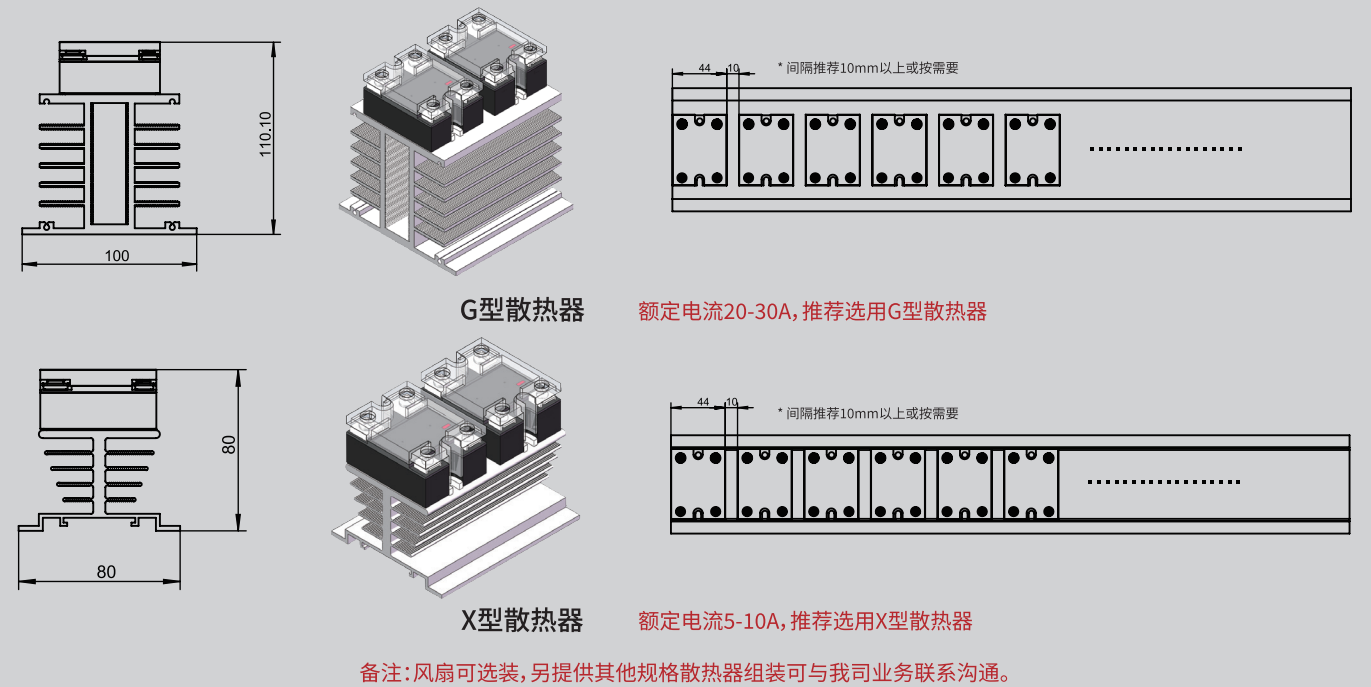


推荐散热器 Recommended radiator



T型散热器 额定电流 $\geq 30A$, 推荐选用T型散热器

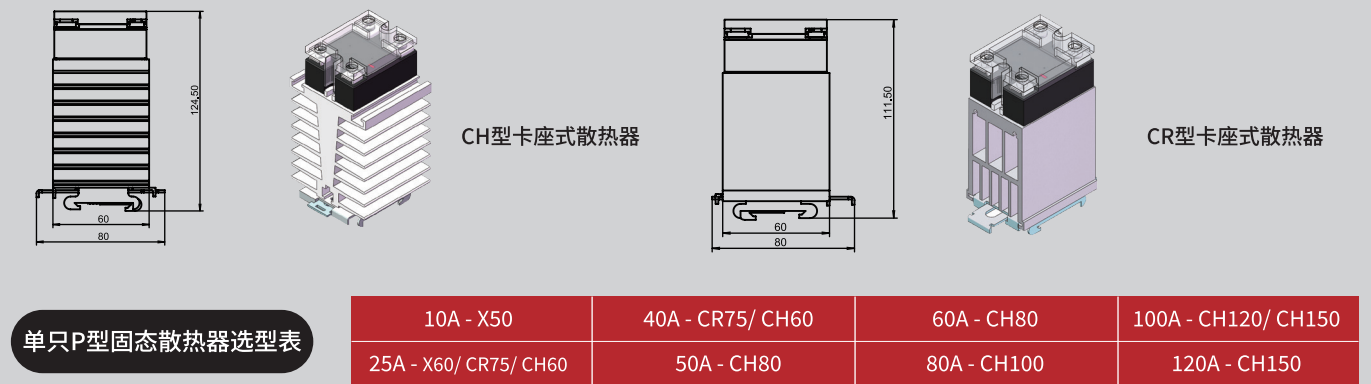
固态继电器额定电流 $\geq 10A$ 需配装散热器



G型散热器 额定电流20-30A, 推荐选用G型散热器

X型散热器 额定电流5-10A, 推荐选用X型散热器

备注: 风扇可选装, 另提供其他规格散热器组装可与我司业务联系沟通。



单只P型固态散热器选型表

10A - X50	40A - CR75/ CH60	60A - CH80	100A - CH120/ CH150
25A - X60/ CR75/ CH60	50A - CH80	80A - CH100	120A - CH150

使用注意事项 Precautions for use

- 1、我司已就产品品质和可靠性做了很大努力,若应用在固态继电器内部的半导体功率器件选型或使用不当还是会导致不可恢复的损坏。由于电网电压波动(通常 $\pm 10\%$)以及感抗、容抗的不同,在选型时需考虑一定的安全系数。例如:电加热长期工作电流不能超过60%的SSR电流额定标称值,电机工作电流不应超过1/7 SSR的电流额定标称值。
- 2、在长期工作电流 $> 5A$ 时必须加装与之配套的散热器,工作中散热器底板温度不得超过 $80^{\circ}C$ 。若环境温度过高应采取风冷以加速空气流动获得更好的散热效果。
- 3、为确保安装过程中固态继电器与散热器表面紧密接触而达到更理想的散热效果,可根据不同电流等级使用专用导热膜或导热硅脂,在安装时请将导热膜平行置于固态继电器底板与散热器接触面之间并紧固安装固定螺丝;配备导热硅脂的在安装时请在固态继电器底板均匀涂抹适量导热硅脂,并紧固安装固定螺丝(M4螺丝和弹簧垫片)。
- 4、为防止使用中负载短路或者电流、电压超负荷工作造成的固态继电器击穿损坏,强烈推荐安装使用与之匹配的快速熔断器。
- 对感性类负载还需要在固态输出端加装压敏电阻、RC吸收回路。
- 5、固态继电器工作时必须保证有足够而又不超出标称触发电压和电流值,例如:控制端为“4-32VDC”,即最小的输入电压不得小于4VDC,最大不得超过32VDC,因此在串联或并联使用中需特别注意满足固态继电器的触发要求。
- 6、固态继电器应存放于通风、干燥、无腐蚀性气体的环境中,避免潮湿、雨淋、跌落及剧烈摔碰。

SAP48(单灯)交流固态继电器

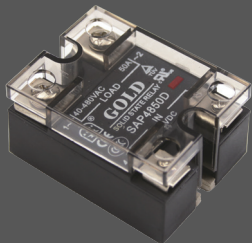
SAP48 (Single Lamp) AC Solid State Relay



该系列产品获得实用新型与外观专利

专利号:2015204886030 2015204816220 2018205206108
专利号:2018303861232 2018302231936

- 控制回路与负载回路之间光电隔离
- 过零输出或随机导通可选择
- 国际标准化安装尺寸
- 工程塑料外壳和配备阻燃安全透明罩
- LED指示工作状态
- 内置RC吸收回路, 抗干扰能力强
- 环氧树脂灌胶, 抗腐蚀、抗爆能力强
- 直流4-32VDC或交流90-280VAC输入控制



常规款



防滑款

产品命名规则

S

SSR (固态继电器)

A

A:交流输出

P

P:方型

48

负载电压
48:40-480VAC

**

负载电流
05:5A
...
120:120A

**

控制信号
D:4-32VDC
A:90-280VAC

**

R: 随机型
无:过零型

产品选型

Product Selection

产品型号	负载电压	负载电流	控制信号	隔离电压	绝缘电压	动作状态指示
SAP4805D	40-480VAC	5A	4-32VDC or 90-280VAC	≥2500VAC	≥2500VAC	输入LED灯指示
SAP4810D	40-480VAC	10A	4-32VDC or 90-280VAC	≥2500VAC	≥2500VAC	输入LED灯指示
SAP4815D	40-480VAC	15A	4-32VDC or 90-280VAC	≥2500VAC	≥2500VAC	输入LED灯指示
SAP4820D	40-480VAC	20A	4-32VDC or 90-280VAC	≥2500VAC	≥2500VAC	输入LED灯指示
SAP4825D	40-480VAC	25A	4-32VDC or 90-280VAC	≥2500VAC	≥2500VAC	输入LED灯指示
SAP4840D	40-480VAC	40A	4-32VDC or 90-280VAC	≥2500VAC	≥2500VAC	输入LED灯指示
SAP4850D	40-480VAC	50A	4-32VDC or 90-280VAC	≥2500VAC	≥2500VAC	输入LED灯指示
SAP4860D	40-480VAC	60A	4-32VDC or 90-280VAC	≥2500VAC	≥2500VAC	输入LED灯指示

坚持更高标准 追求卓越品质

产品型号	负载电压	负载电流	控制信号	隔离电压	绝缘电压	动作状态指示
SAP4870D	40-480VAC	70A	4-32VDC or 90-280VAC	≥2500VAC	≥2500VAC	输入LED灯指示
SAP4880D	40-480VAC	80A	4-32VDC or 90-280VAC	≥2500VAC	≥2500VAC	输入LED灯指示
SAP4890D	40-480VAC	90A	4-32VDC or 90-280VAC	≥2500VAC	≥2500VAC	输入LED灯指示
SAP48100D	40-480VAC	100A	4-32VDC or 90-280VAC	≥2500VAC	≥2500VAC	输入LED灯指示
SAP48120D	40-480VAC	120A	4-32VDC or 90-280VAC	≥2500VAC	≥2500VAC	输入LED灯指示

产品参数

Product parameters

输入参数		
控制电压	4-32VDC	
关断电压	1VDC	
导通电压	4VDC	
控制电流	6-25mA(内置恒流电路)	
输出参数		
负载电压范围	SAP48系列	
	40-480VAC	
最小导通电流	0.10A	
最大通态压降	1.5VAC	
最大断态电流	10mA	
断态电压临界上升率	500V/us	
最大导通时间	随机型	2ms
	过零型	1/2周期+1ms
	交流控制	40ms
最大关断时间	直流控制	10ms
	交流控制	40ms
工作频率	45-65HZ	
输出参数		
最小隔离电压	输入与输出之间≥2500VAC	
最小绝缘电压	输入与输出于底板≥2500VAC	
绝缘电阻	1000MΩ (500VDC)	
工作环境温度	-40~80℃	

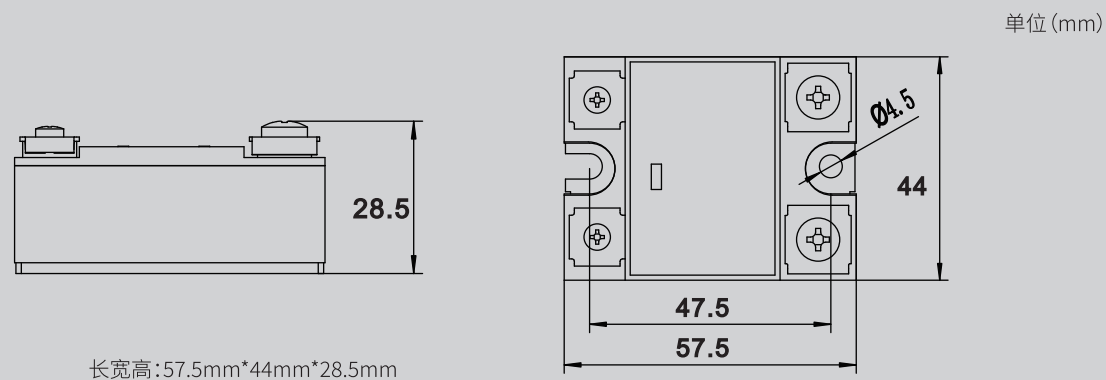
产品用途

Product purpose

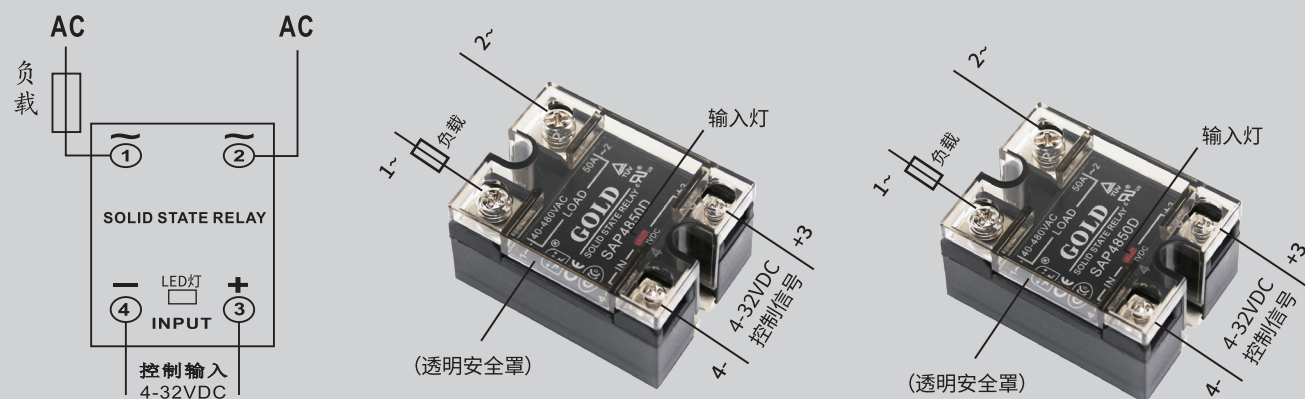
该系列产品广泛应用于电炉加热恒温系统、数控机械、塑料机械、食品机械、包装机械、纺织机械、石油化工仪器设备、娱乐设施等自动化控制领域, 适合各种阻性、感性和容性负载。

Widely used in automation control fields such as electric furnace heating constant temperature systems, CNC machinery, plastic machinery, food machinery, packaging machinery, textile machinery, petrochemical equipment, entertainment facilities, etc., suitable for various resistive, inductive, and capacitive loads.

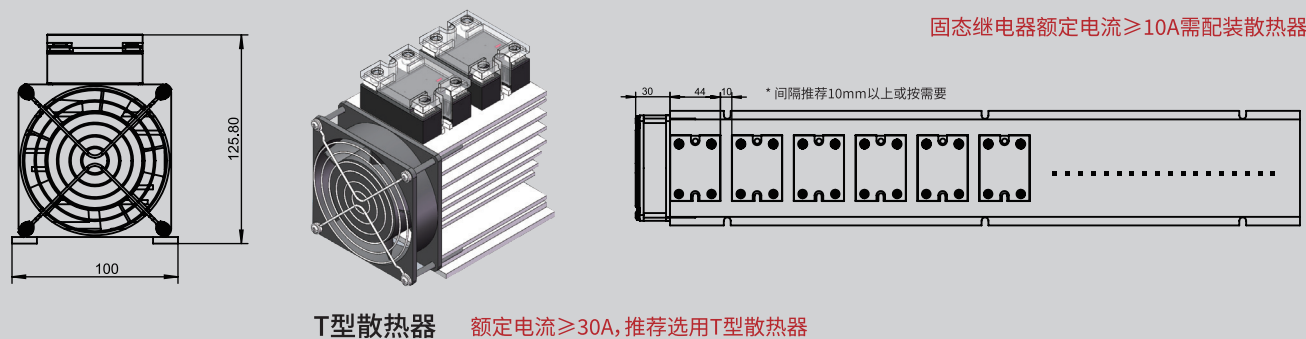
产品尺寸图 Product dimension diagram



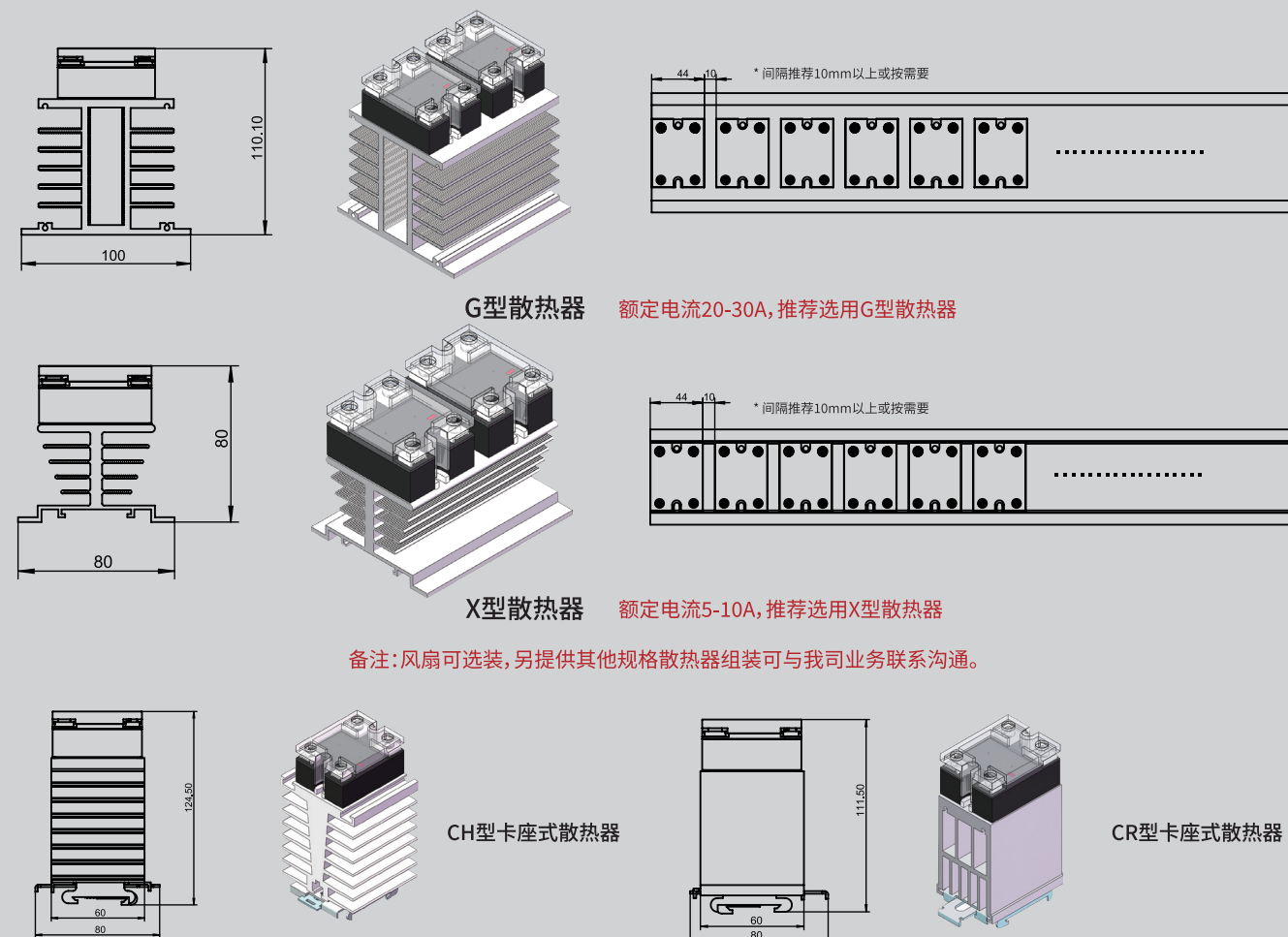
产品接线图 Product wiring diagram



推荐散热器 Recommended radiator



推荐散热器 Recommended radiator



使用注意事项 Precautions for use

- 1、我司已就产品品质和可靠性做了很大努力,若应用在固态继电器内部的半导体功率器件选型或使用不当还是会导致不可恢复的损坏。由于电网电压波动(通常 $\pm 10\%$)以及感抗、容抗的不同,在选型时需考虑一定的安全系数。例如:电加热长期工作电流不能超过60%的SSR电流额定标称值,电机工作电流不应超过1/7 SSR的电流额定标称值。
- 2、在长期工作电流 $> 5A$ 时必须加装与之配套的散热器,工作中散热器底板温度不得超过 $80^{\circ}C$ 。若环境温度过高应采取风冷以加速空气流动获得更好的散热效果。
- 3、为确保安装过程中固态继电器与散热器表面紧密接触而达到更理想的散热效果,可根据不同电流等级使用专用导热膜或导热硅脂,在安装时请将导热膜平行置于固态继电器底板与散热器接触面之间并紧固安装固定螺丝;配备导热硅脂的在安装时请在固态继电器底板均匀涂抹适量导热硅脂,并紧固安装固定螺丝(M4螺丝和弹簧垫片)。
- 4、为防止使用中负载短路或者电流、电压超负荷工作造成的固态继电器击穿损坏,强烈推荐安装使用与之匹配的快速熔断器。
- 对感性类负载还需要在固态输出端加装压敏电阻、RC吸收回路。
- 5、固态继电器工作时必须保证有足够而又不超出标称触发电压和电流值,例如:控制端为“4-32VDC”,即最小的输入电压不得小于4VDC,最大不得超过32VDC,因此在串联或并联使用中需特别注意满足固态继电器的触发要求。
- 6、固态继电器应存放于通风、干燥、无腐蚀性气体的环境中,避免潮湿、雨淋、跌落及剧烈摔碰。

SAM模块式/大电流压接式固态继电器

SAM Modular/High Current Crimp Solid State Relay



产品具备欧盟CE认证

- 控制回路与负载回路之间光电隔离
- 过零导通或随机导通可选择
- 国际标准化安装尺寸
- 工程塑料外壳和配备阻燃安全透明罩
- LED指示工作状态
- 内置RC吸收回路, 抗干扰能力强
- 环氧树脂灌胶, 抗腐蚀、抗爆能力强
- 使用时需配适当散热器,必要时加风冷

该系列产品获得实用新型与外观专利 专利号:2012206519899 2018303861251



产品命名规则

S	A	M	**	**	**
SSR (固态继电器)	A:交流输出	M:条型	负载电压 40:24-530VAC 60:24-660VAC 80:40-800VAC	负载电流 40:40A ... 1600:1600A	控制信号 D:4-32VDC/ A:90-280VAC/ 80系列无交流控制

产品用途 Product purpose

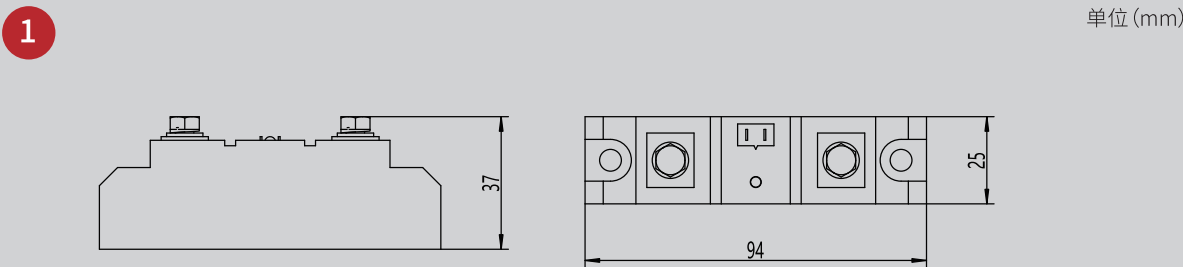
该系列产品广泛应用于电炉加热恒温系统、数控机械、塑料机械、食品机械、包装机械、纺织机械、石油化工仪器设备、娱乐设施等自动化控制领域。

This series of products is widely used in automation control fields such as electric furnace heating constant temperature systems, CNC machinery, plastic machinery, food machinery, packaging machinery, textile machinery, petrochemical equipment, entertainment facilities, etc.

产品选型 Product Selection

产品型号	负载电压	负载电流	控制信号	隔离电压	绝缘电压	动作状态指示	图示
SAM4040D	24-530VAC	40A	4-32VDC or 90-280VAC	≥2000VAC	≥2000VAC	输入输出双LED指示	图1
SAM4060D	24-530VAC	60A	4-32VDC or 90-280VAC	≥2000VAC	≥2000VAC	输入输出双LED指示	图1
SAM4080D	24-530VAC	80A	4-32VDC or 90-280VAC	≥2000VAC	≥2000VAC	输入输出双LED指示	图1
SAM40100D	24-480VAC	100A	4-32VDC or 90-280VAC	≥2000VAC	≥2000VAC	输入输出双LED指示	图1
SAM40120D	24-480VAC	120A	4-32VDC or 90-280VAC	≥2000VAC	≥2000VAC	输入输出双LED指示	图1
SAM40150D	24-480VAC	150A	4-32VDC or 90-280VAC	≥2000VAC	≥2000VAC	输入LED指示	图2
SAM40200D	24-480VAC	200A	4-32VDC or 90-280VAC	≥2000VAC	≥2000VAC	输入LED指示	图2
SAM40250D	24-530VAC	250A	4-32VDC or 90-280VAC	≥2000VAC	≥2000VAC	输入LED指示	图2
SAM40300D	24-480VAC	300A	4-32VDC or 90-280VAC	≥2000VAC	≥2000VAC	输入LED指示	图2
SAM40400D	24-530VAC	400A	4-32VDC or 90-280VAC	≥2000VAC	≥2000VAC	输入LED指示	图2
SAM6060D	24-660VAC	60A	4-32VDC or 90-280VAC	≥2000VAC	≥2000VAC	输入LED指示	图1
SAM6080D	24-660VAC	80A	4-32VDC or 90-280VAC	≥2000VAC	≥2000VAC	输入LED指示	图1
SAM60100D	24-660VAC	100A	4-32VDC or 90-280VAC	≥2000VAC	≥2000VAC	输入LED指示	图1
SAM60120D	24-660VAC	120A	4-32VDC or 90-280VAC	≥2000VAC	≥2000VAC	输入LED指示	图1
SAM60150D	24-660VAC	150A	4-32VDC or 90-280VAC	≥2000VAC	≥2000VAC	输入LED指示	图2
SAM60200D	24-660VAC	20A	4-32VDC or 90-280VAC	≥2000VAC	≥2000VAC	输入LED指示	图2
SAM60250D	24-660VAC	260A	4-32VDC or 90-280VAC	≥2000VAC	≥2000VAC	输入LED指示	图2
SAM60300D	24-660VAC	300A	4-32VDC or 90-280VAC	≥2000VAC	≥2000VAC	输入LED指示	图2
SAM80500D	40-800VAC	500A	4-32VDC or 90-280VAC	≥2500VAC	≥2500VAC	输入LED指示	图3a
SAM80600D	40-800VAC	600A	4-32VDC or 90-280VAC	≥2500VAC	≥2500VAC	输入LED指示	图3a
SAM80800D	40-800VAC	800A	4-32VDC or 90-280VAC	≥2500VAC	≥2500VAC	输入LED指示	图3b
SAM801200D	40-800VAC	1200A	4-32VDC or 90-280VAC	≥2500VAC	≥2500VAC	输入LED指示	图3c
SAM801600D	40-800VAC	1600A	4-32VDC or 90-280VAC	≥2500VAC	≥2500VAC	输入LED指示	图3d

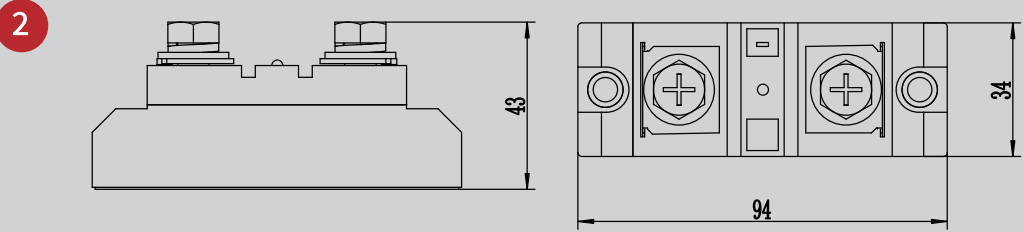
产品尺寸图 Product dimension diagram



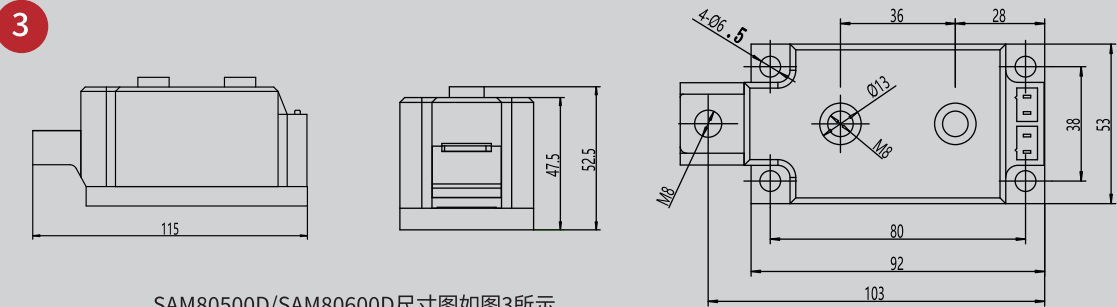
(SAM4040D-120D/SAM6060D-120D尺寸图如图1所示)

产品尺寸图 Product dimension diagram

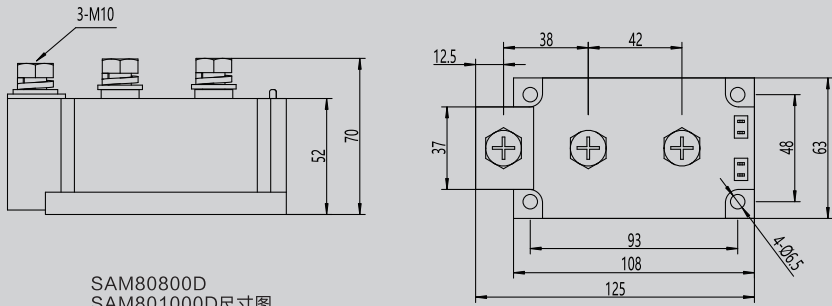
单位 (mm)



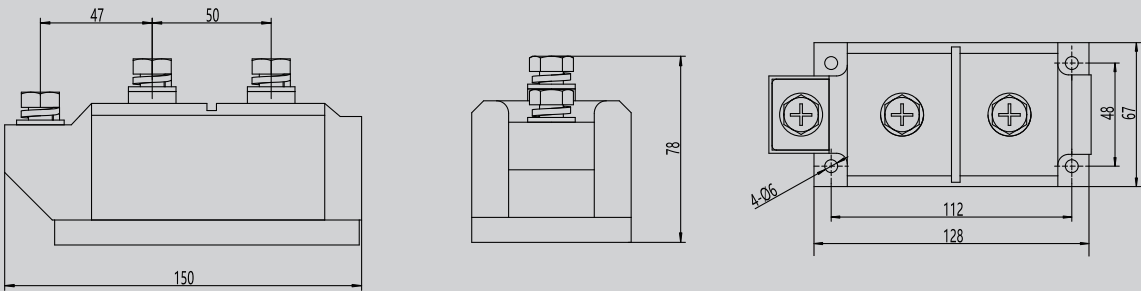
(SAM40150-404000/SAM60150D-60300D尺寸图如图2所示)



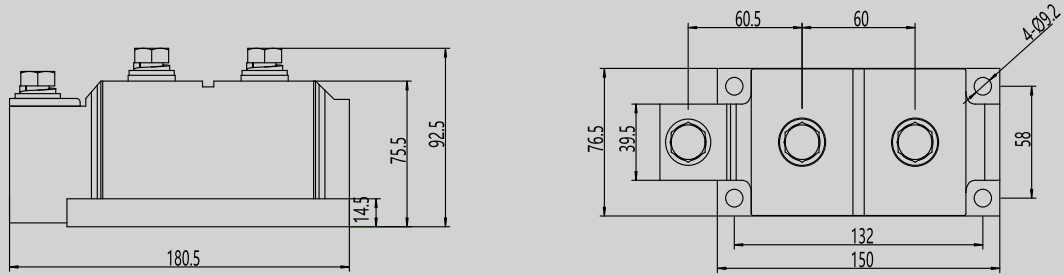
SAM80500D/SAM80600D尺寸图如图3所示



SAM80800D
SAM801000D尺寸图



SAM801200D尺寸图



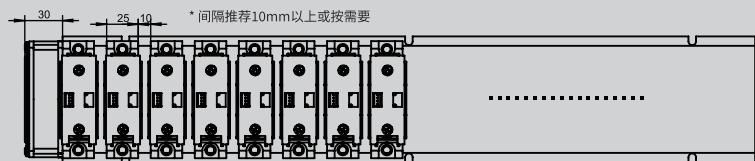
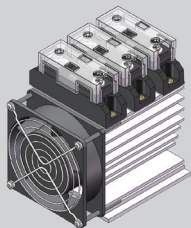
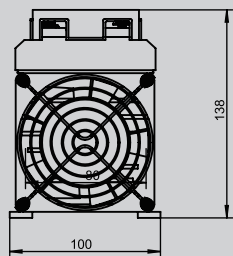
SAM801600D尺寸图

产品参数 Product parameters

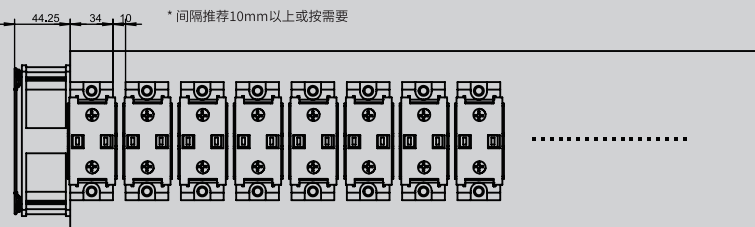
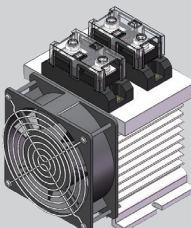
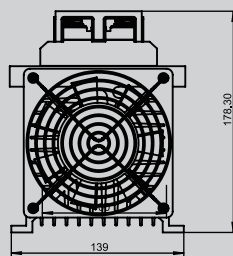
输入参数			
控制电压	4-32VDC		90-280VAC
关断电压	1VDC		15VAC
导通电压	4VDC		90VAC
控制电流	6-25mA(内置恒流电路)		无
输出参数			
负载电压范围	SAM40系列	SAM60系列	SAM80系列
	24-480VAC/24-530VAC	24-660VAC	24-8000VAC
最小导通电流	10mA		
最大通态压降	1.5VAC		
最大断态电流	10mA		
断态电压临界上升率	500V/us		
最大导通时间	直流控制	随机型	1ms
		过零型	1/2周期+1ms
	交流控制		10ms
最大关断时间	直流控制	随机型	1ms
		过零型	1/2周期+1ms
	交流控制		10ms
工作频率	45-65HZ		
输出参数			
最小隔离电压	输入与输出之间≥2000VAC		
最小绝缘电压	输入与输出于底板≥2000VAC		
绝缘电阻	1000MΩ (500VDC)		
工作环境温度	-40~80℃		

推荐散热器 Recommended radiator

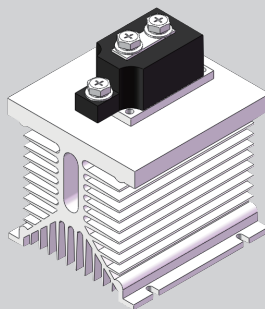
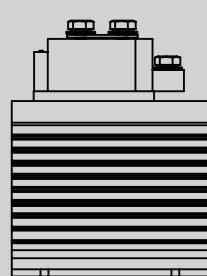
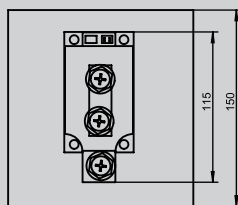
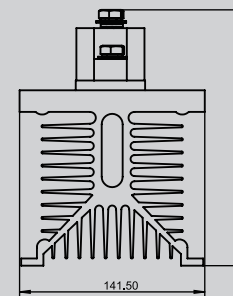
固态继电器额定电流 $\geq 10\text{A}$ 需配装散热器



25mm宽--T型散热器



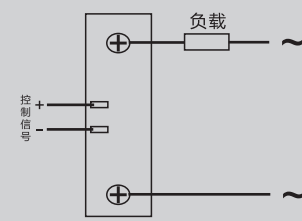
34mm宽--W型散热器



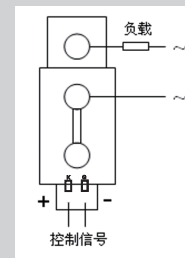
80系列--W型散热器

备注: 风扇可选装, 另提供其他规格散热器组装可与我司业务联系沟通。

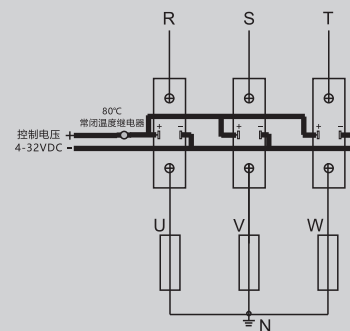
产品接线图 Product wiring diagram



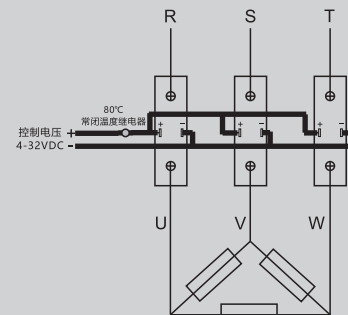
SAM40/60系列接线图



SAM80系列图



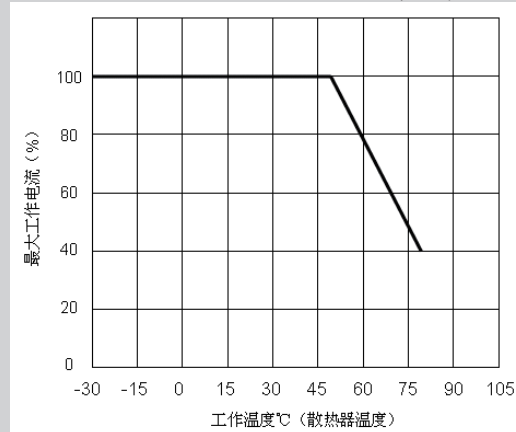
负载星型接线示意图(可选择接零或不接零)



负载三角型接线示意图

产品曲线图 Product curve chart

工作温度与工作电流关系曲线(通用)



MDQ单相整流桥模块

MDQ single-phase rectifier bridge module



- 国际标准封装焊接结构, 优良的温度特性和功率循环能力
玻璃钝化工艺(方片)芯片
- 低通态压降≤1.3
- 引线端与底板电气绝缘, 2500V交流电压
- 阻断电压高达1600V
- 高达12倍抗浪涌能力
- 面板安装
- 环保产品(符合ROHS要求)



MDQ60A-100A (仿三社外形)



MDQ60A-100A(仿富士外形)



MDQ150A-200A

产品选型

Product Selection

产品型号	耐压 VDRM VDRM (V)	反向漏电流 IDRM IRRM (mA)	最大直流输出		正向 平均 IF(AV) (V)	正向 有效 IF(RMS) (V)	正向 浪涌 VFsm (V)	正向峰值 压降 VFsm (V)	结壳 热阻 Rth(j-c) (℃-W)	电路 Circuit
			ID	Tc						
MDQ60	1600~2500	≤3	60	85	40	65	650	≤1.3	1.50	
MDQ75	1600~2500	≤3	75	85	40	65	650	≤1.3	1.40	
MDQ100	1600~2500	≤3	100	85	55	86	1020	≤1.3	1.10	
MDQ125	1600~2500	≤3	150	85	70	110	1280	≤1.5	0.80	
MDQ150	1600~2500	≤3	200	85	90	140	1600	≤1.5	0.70	
MDQ200	1600~2500	≤3	250	85	110	170	1920	≤1.5	0.56	

产品参数

Product parameters

参数	符号	测试条件	结温	参数值			单位
			Tj(℃)	最小	典型	最大	
直流输出电流	Io	单相全波整流电路, TC=100℃	150			150	A
反向重复峰值电压	VRRM	VRRM tp=10ms VRSM=VRRM+200V	150	800	1600	2500	V
反向重复峰值电流	IRRM	at VRRM	150			10	mA
正向不浪涌电流	IFSM	10ms 正弦半波	150			2500	A
浪涌电流平方时间积	I²t	VR=0.6VRRM				31.8	A²s*10³
门槛电压	VFO		150			0.8	V
斜率电阻	rF					3.8	mΩ
正向峰值电压	VFM	IFM=150A	25			1.47	V
热阻抗（结至壳）	Rth(j-c)	单面散热				0.15	℃/W
热阻抗（结至散热器）	Rth(c-h)	单面散热				0.07	℃/W
绝缘电压	Viso	50Hz,R.M.S,t=1min,Iiso:1mA(max)		2500			V
安装扭矩（M5）	Fm				1.5		N.m
安装扭矩（M6）					3.0		N.m
贮存温度	Tstg			-40		150	℃
重量	Wt				430		g

体积小、重量轻、结构紧凑、可靠性高、外接线简单、互换性好、便于维修和安装;结构重复性好,装置的机械设计可以简化,价格比分立器件低等诸多优点,因而在一诞生就受到了各大电力半导体厂家的热捧,并因此得到长足发展。可根据客户要求定做!

MDS三相全桥整流模块

MDS three-phase full bridge rectifier module



- 国际标准封装
- 焊接结构, 优良的温度特性和功率循环能力
- 玻璃钝化工艺(方片)芯片
- 低通态压降≤1.3
- 引线端与底板电气绝缘, 2500V交流电压
- 阳断电压高达1600V
- 高达12倍抗浪涌能力
- 安装方便
- 环保产品(符合ROHS要求)



MDS60A-100A (仿三社外形)



MDS60A-100A (仿富士外形)



MDS150A-200A



MDS250A-400A

产品选型

Product Selection

产品型号	耐压 V _{DRM} V _{DRM} (V)	反向漏电流 I _{DRM} I _{RRM} (mA)	最大直流输出		正向 平均 I _F (AV) (V)	正向 有效 I _F (RMS) (V)	正向 浪涌 V _{Fsm} (V)	正向峰值 压降 V _{Fsm} (V)	结壳 热阻 R _{th(j-c)} (°C-W)	电路 Circuit
			I _D (A)	T _C (°C)						
MDS60A	1600~2500	≤3	60	85	40	65	650	≤1.3	1.50	
MDS75A	1600~2500	≤3	75	85	40	65	650	≤1.3	1.40	
MDS100A	1600~2500	≤3	100	85	55	86	1020	≤1.3	1.10	
MDS150A	1600~2500	≤3	150	85	70	110	1280	≤1.5	0.80	
MDS200A	1600~2500	≤3	200	85	90	140	1600	≤1.5	0.70	
MDS250A	1600~2500	≤3	250	85	110	170	1920	≤1.5	0.56	
MDS300A	1600~2500	≤3	300	85	130	200	2350	≤1.6	0.46	
MDS400A	1600~2500	≤3	400	85	150	250	2850	≤1.6	0.40	

产品参数

Product parameters

参数	符号	测试条件	结温	参数值			单位
			T _j (°C)	最小	典型	最大	
直流输出电流	I _o	单相全波整流电路, TC=100℃	150			200	A
反向重复峰值电压	V _{RRM}	V _{RRM} tp=10ms V _{RSM} =V _{RRM} +200V	150	800	1600	2500	V
反向重复峰值电流	I _{RRM}	at V _{RRM}	150			12	mA
正向不浪涌电流	I _{FSM}	10ms 正弦半波	150			3000	A
浪涌电流平方时间积	I ² t	V _R =0.6V _{RRM}				45.9	A ² *10 ³
门槛电压	V _{FO}		150			0.8	V
斜率电阻	r _F					2.8	mΩ
正向峰值电压	V _{FM}	I _{FM} =200A	25			1.54	V
热阻抗（结至壳）	R _{th(j-c)}	单面散热				0.12	°C/W
热阻抗（结至散热器）	R _{th(c-h)}	单面散热				0.07	°C/W
绝缘电压	V _{iso}	50Hz,R.M.S,t=1min,I _{iso} :1mA(max)		2500			V
安装扭矩（M5）	F _m				1.5		N . m
安装扭矩（M6）					3.0		N . m
贮存温度	T _{stg}			-40		125	°C
重量	W _t				455		g

体积小、重量轻、结构紧凑、可靠性高、外接线简单、互换性好、便于维修和安装;结构重复性好,装置的机械设计可以简化,价格比分立器件低等诸多优点,因而在一诞生就受到了各大电力半导体厂家的热捧,并因此得到长足发展。可根据客户要求定做!

更好的产品 更优的选择

Better products
Better choices



GOLDEN.S.E™
Supreme Electric

GOLDEN
ELECTRICTECH

FROM USA American brand | American Technology | American Patent

GSP48XXDA/AA-DD-C

Horizontal AC Solid State Relay (Flip Version)

GOLDEN solid-state relay



Appearance patent



Exclusive
flip design



High temperature
flame-retardant material



Imported
high-performance chips



Running indicator
light display

Product purpose

Widely used in automation control fields such as electric furnace heating constant temperature systems, CNC machinery, plastic machinery, food machinery, packaging machinery, textile machinery, petrochemical equipment, entertainment facilities, etc., suitable for various resistive, inductive, and capacitive loads.

Product Advantages

VO grade flame retardant - safer and more reliable, stronger isolation - high-precision imported optocoupler, no sparking - no mechanical electric shock action, silent and noiseless - no noise interference during operation, built-in MOV clamp for high-frequency voltage - safe and worry free, first-line brand thyristor - reduces power consumption.

Product Naming Rules

G	S	P	**	**	A/D	A/D	-	C
GOLDEN	Solid State Relay	P: Square shape	Load voltage 24:40-240VAC 48:40-530VAC 66:40-660VAC	LOAD 05:5A ... 80:80A	Control signal D:4-32VDC A:90-280VAC	A:AC output D:DC output		C:Clamshell

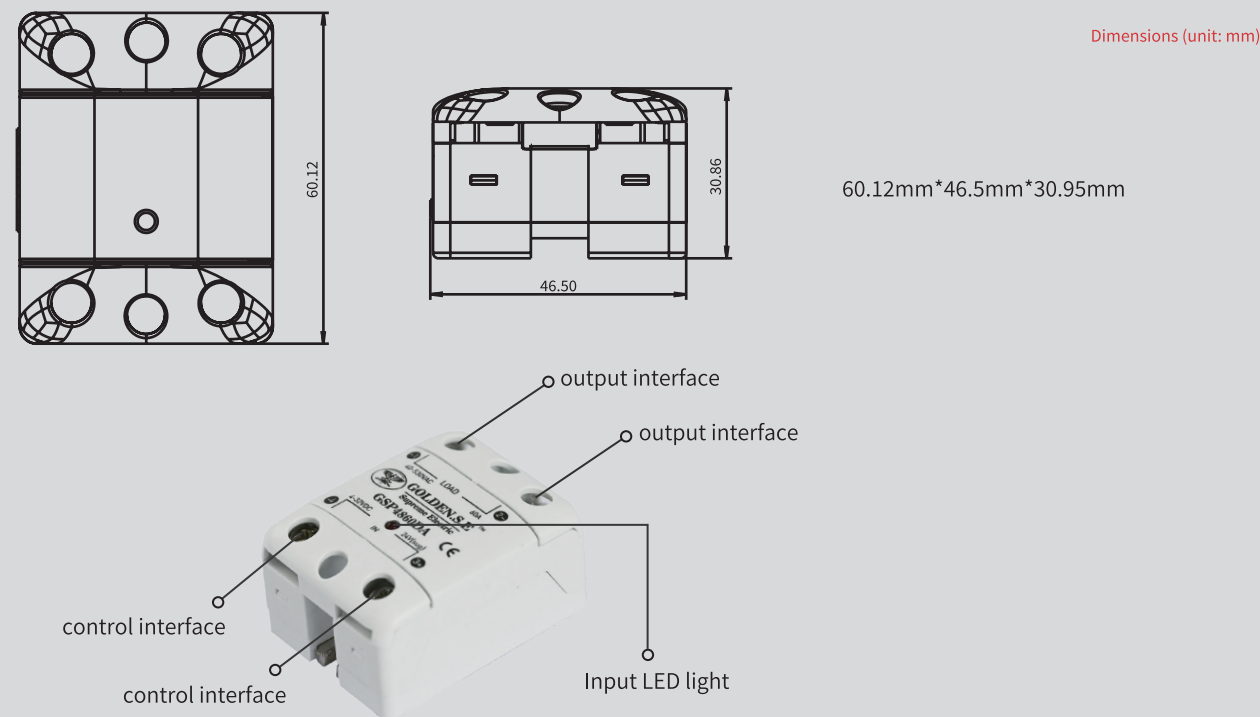
Product Selection Table

Product model	Load voltage	LOAD	Isolation Voltage	Insulation voltage	Control voltage	Action status indication
GSP4805DA-C	40-530VAC	05A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication
GSP4810DA-C	40-530VAC	10A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication
GSP4815DA-C	40-530VAC	15A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication
GSP4820DA-C	40-530VAC	20A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication
GSP4825DA-C	40-530VAC	25A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication
GSP4840DA-C	40-530VAC	40A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication
GSP4860DA-C	40-530VAC	60A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication
GSP4880DA-C	40-530VAC	80A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication

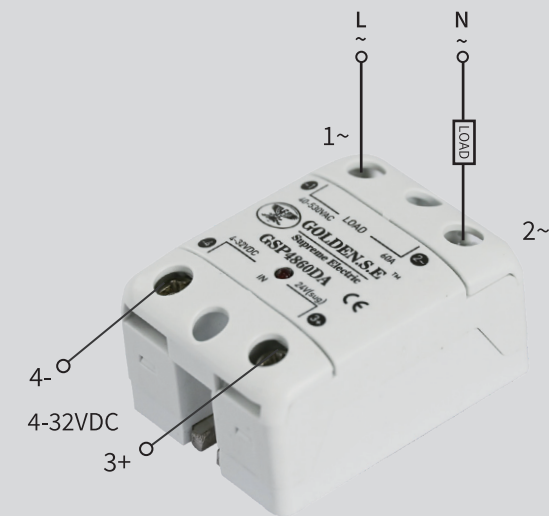
Product parameters

Product wiring diagram	
Control voltage: 4-32VDC	Turn-off voltage: 1VDC
Turn-on voltage: 4VDC	Control Current: 6-25mA (built-in constant current circuit)
Minimum conduction current: 0.1A	Maximum on state pressure drop: 1.5VAC
Maximum off state current: 10mA	Critical rise rate of off state voltage: 500V/us
Maximum conduction time: Random type 10ms Zero crossing type 1/2周期+1ms AC control 40ms	
Maximum shutdown time: DC control 10ms AC control 40ms	
Operating Frequency: 45-65HZ	Minimum isolation voltage: Between input and output ≥ 2500VAC
Minimum insulation voltage: Input and output on the motherboard ≥ 2500VAC	
Insulation resistance: 1000MΩ(500VDC)	Ambient Temperature: -40~80℃

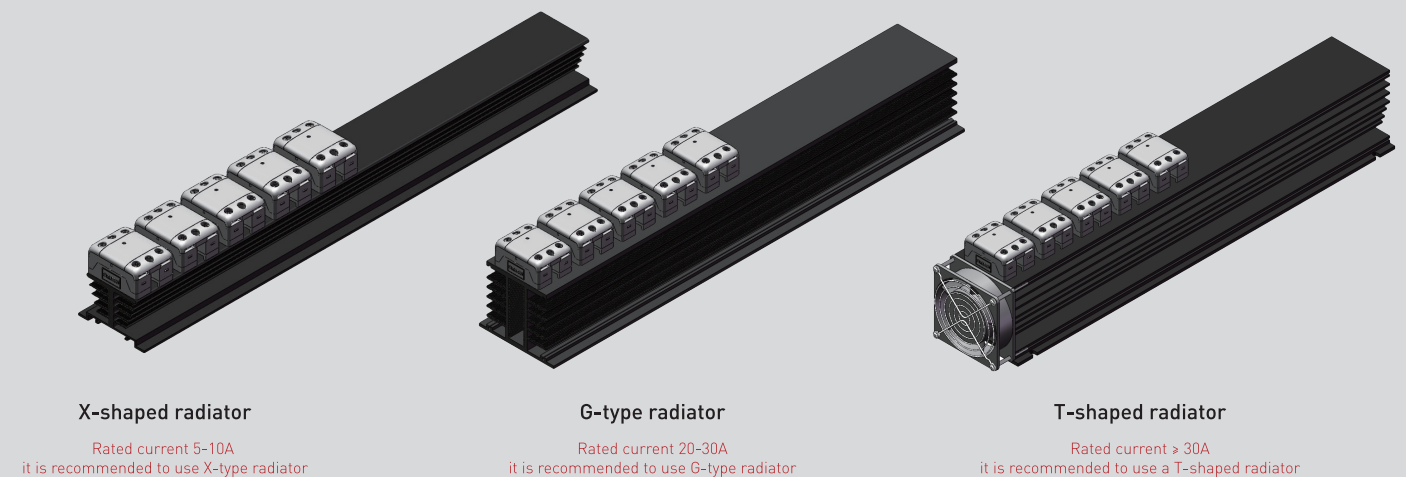
Product dimension diagram



Product wiring diagram



Recommended radiator model



Note: Fans can be optionally installed, and other specifications of heat sinks can be assembled by contacting our business for communication.

Scan now to delve into the advanced technology and extensive applications of Golden Electric in the USA. Instant access to our official website for more up-to-date product information!



GSP48XXDA/AA/DD

Anti slip solid-state relay

GOLDEN solid-state relay



Appearance patent



Configure anti misoperation transparent cover



High temperature flame-retardant material



Imported high-performance chips



Running indicator light display

Product purpose

Widely used in automation control fields such as electric furnace heating constant temperature systems, CNC machinery, plastic machinery, food machinery, packaging machinery, textile machinery, petrochemical equipment, entertainment facilities, etc., suitable for various resistive, inductive, and capacitive loads.

Product Advantages

VO grade flame retardant - safer and more reliable, stronger isolation - high-precision imported optocoupler, no sparking - no mechanical electric shock action, silent and noiseless - no noise interference during operation, built-in MOV clamp for high-frequency voltage - safe and worry free, first-line brand thyristor - reduces power consumption.

Product Naming Rules

G

GOLDEN

S

Solid State Relay

P

P: Square shape

Load voltage
24:40-240VAC
48:40-530VAC
66:40-660VAC

LOAD
05:5A
...
80:80A

A/D

Control signal
D:4-32VDC
A:90-280VAC

A/D

A:AC output
D:DC output

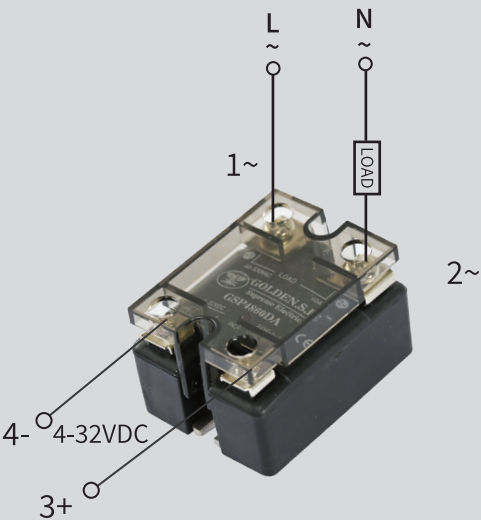
Product Selection Table

Product model	Load voltage	LOAD	Isolation Voltage	Insulation voltage	Control voltage	Action status indication
GSP4805DA	40-530VAC	05A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication
GSP4810DA	40-530VAC	10A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication
GSP4815DA	40-530VAC	15A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication
GSP4820DA	40-530VAC	20A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication
GSP4825DA	40-530VAC	25A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication
GSP4840DA	40-530VAC	40A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication
GSP4860DA	40-530VAC	60A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication
GSP4880DA	40-530VAC	80A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication

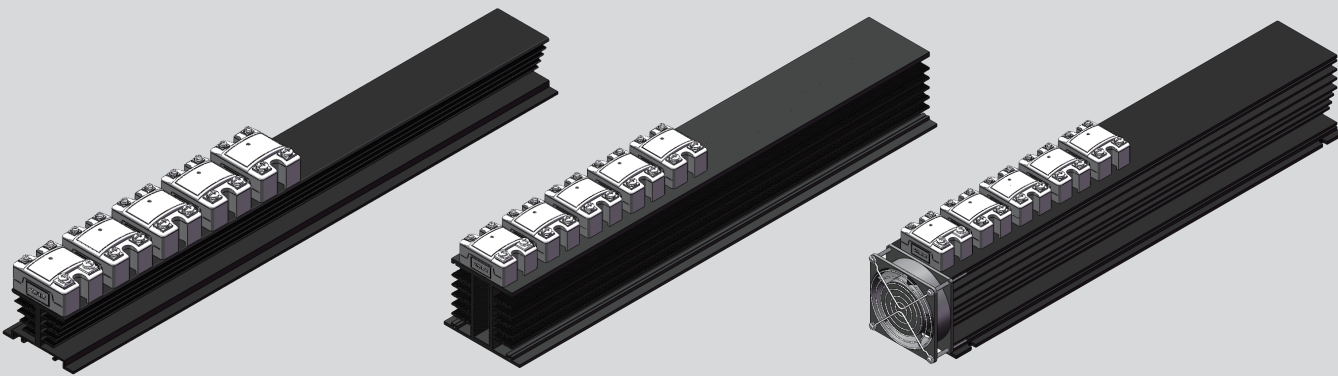
Product parameters

Product wiring diagram

Product wiring diagram	
Control voltage: 4-32VDC	Turn-off voltage: 1VDC
Turn-on voltage: 4VDC	Control Current: 6-25mA (built-in constant current circuit)
Minimum conduction current: 0.1A	Maximum on state pressure drop: 1.5VAC
Maximum off state current: 10mA	Critical rise rate of off state voltage: 500V/us
Maximum conduction time: Random type 10ms Zero crossing type 1/2周期+1ms AC control 40ms	
Maximum shutdown time: DC control 10ms AC control 40ms	
Operating Frequency: 45-65HZ	Minimum isolation voltage: Between input and output ≥ 2500VAC
Minimum insulation voltage: Input and output on the motherboard ≥ 2500VAC	
Insulation resistance: 1000MΩ(500VDC)	Ambient Temperature: -40~80℃



Recommended radiator model



X-shaped radiator

Rated current 5-10A
it is recommended to use X-type radiator

G-type radiator

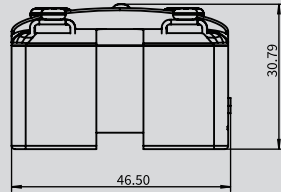
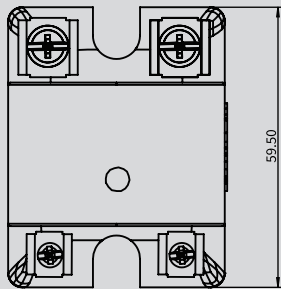
Rated current 20-30A
it is recommended to use G-type radiator

T-shaped radiator

Rated current ≥ 30A
it is recommended to use a T-shaped radiator

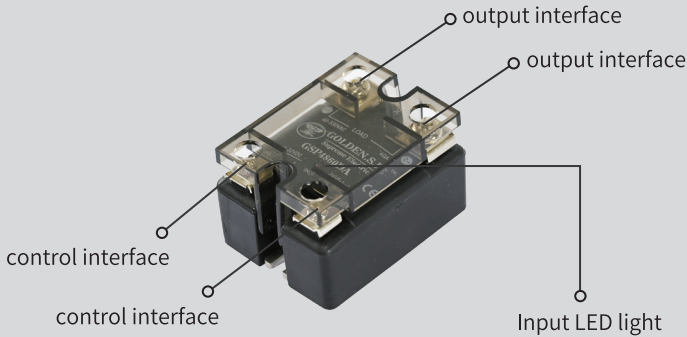
Note: Fans can be optionally installed, and other specifications of heat sinks can be assembled by contacting our business for communication.

Product dimension diagram



Dimensions (unit: mm)

59.5mm*46.5mm*30.79mm



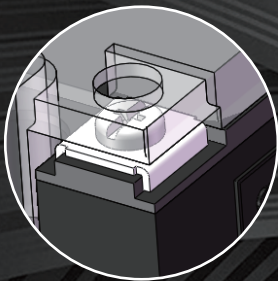
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GSP48XXDA/AA/DA

Anti slip solid-state relay

GOLDEN solid-state relay



Anti slip design



Appearance patent



Configure anti misoperation transparent cover



High temperature flame-retardant material



Imported high-performance chips



Running indicator light display

Product purpose

Widely used in automation control fields such as electric furnace heating constant temperature systems, CNC machinery, plastic machinery, food machinery, packaging machinery, textile machinery, petrochemical equipment, entertainment facilities, etc., suitable for various resistive, inductive, and capacitive loads.

Product Advantages

VO grade flame retardant - safer and more reliable, stronger isolation - high-precision imported optocoupler, no sparking - no mechanical electric shock action, silent and noiseless - no noise interference during operation, built-in MOV clamp for high-frequency voltage - safe and worry free, first-line brand thyristor - reduces power consumption.

Product Naming Rules

G

GOLDEN

S

Solid State Relay

P

P: Square shape

Load voltage
24:40-240VAC
48:40-530VAC
66:40-660VAC

LOAD
05:5A
...
80:80A

A/D

Control signal
D:4-32VDC
A:90-280VAC

A/D

A:AC output
D:DC output

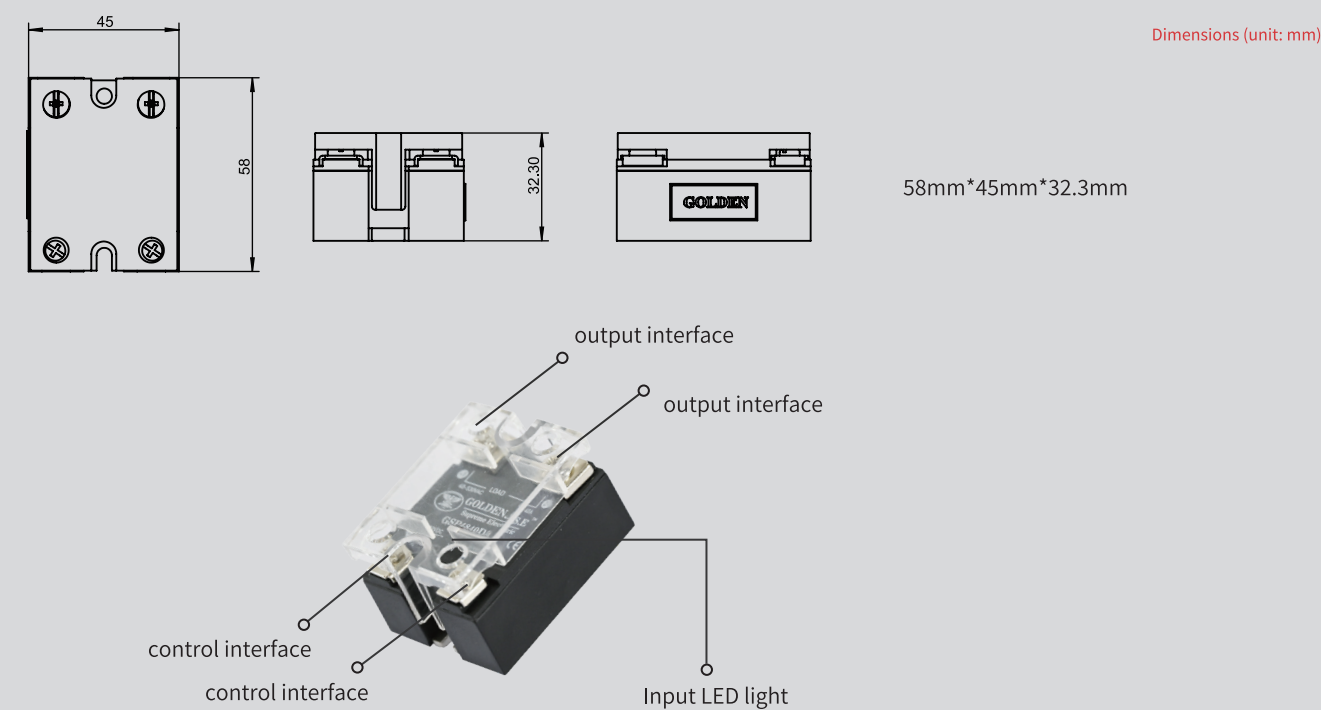
Product Selection Table

Product model	Load voltage	LOAD	Isolation Voltage	Insulation voltage	Control voltage	Action status indication
GSP4805DA	40-530VAC	05A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication
GSP4810DA	40-530VAC	10A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication
GSP4815DA	40-530VAC	15A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication
GSP4820DA	40-530VAC	20A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication
GSP4825DA	40-530VAC	25A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication
GSP4840DA	40-530VAC	40A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication
GSP4860DA	40-530VAC	60A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication
GSP4880DA	40-530VAC	80A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication

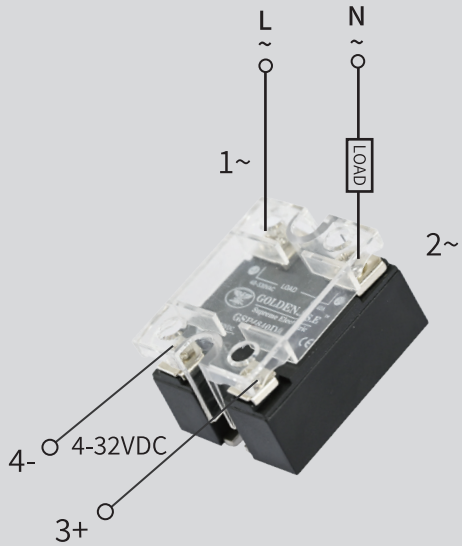
Product parameters

Product wiring diagram	
Control voltage: 4-32VDC	Turn-off voltage: 1VDC
Turn-on voltage: 4VDC	Control Current: 6-25mA (built-in constant current circuit)
Minimum conduction current: 0.1A	Maximum on state pressure drop: 1.5VAC
Maximum off state current: 10mA	Critical rise rate of off state voltage: 500V/us
Maximum conduction time: Random type 10ms Zero crossing type 1/2周期+1ms AC control 40ms	
Maximum shutdown time: DC control 10ms AC control 40ms	
Operating Frequency: 45-65HZ	Minimum isolation voltage: Between input and output ≥ 2500VAC
Minimum insulation voltage: Input and output on the motherboard ≥ 2500VAC	
Insulation resistance: 1000MΩ(500VDC)	Ambient Temperature: -40~80℃

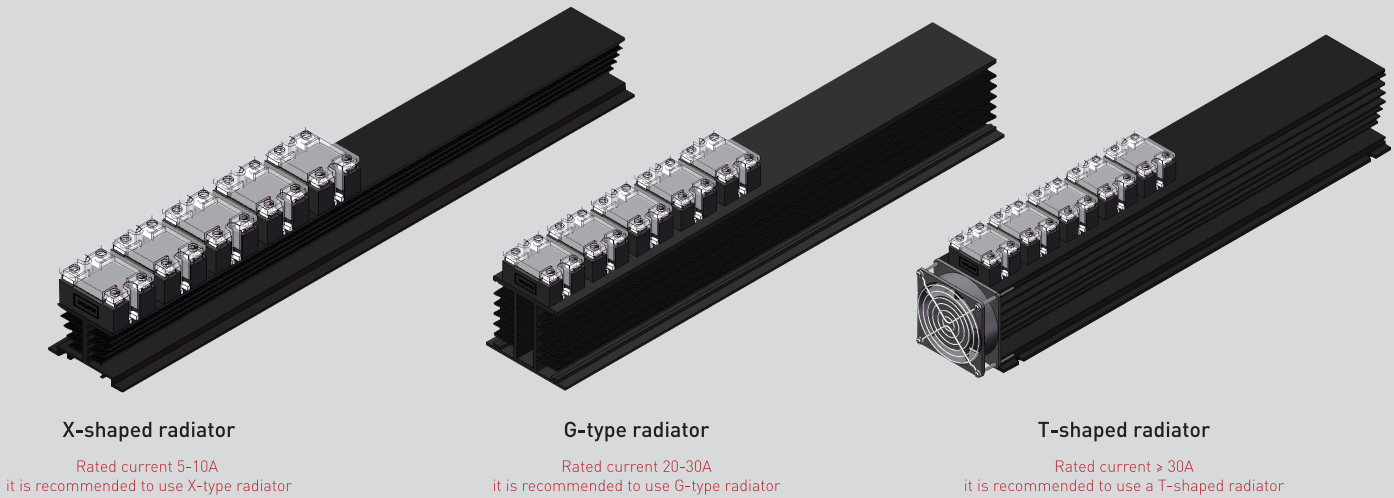
Product dimension diagram



Product wiring diagram



Recommended radiator model



Note: Fans can be optionally installed, and other specifications of heat sinks can be assembled by contacting our business for communication.

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GST48XXDA/AA/ DD

Communication flip type solid-state relay

GOLDEN solid-state relay



Appearance patent



Flip design



High temperature flame-retardant material



Imported high-performance chips



Running indicator light display

Product purpose

This series of products is widely used in automation control fields such as electric furnace heating constant temperature systems, CNC machinery, plastic machinery, food machinery, packaging machinery, textile machinery, petrochemical equipment, entertainment facilities, etc.

Product Advantages

VO grade flame retardant - safer and more reliable, stronger isolation - high-precision imported optocoupler, no sparking - no mechanical electric shock action, silent and noiseless - no noise interference during operation, built-in MOV clamp for high-frequency voltage - safe and worry free, first-line brand thyristor - reduces power consumption.

Product Naming Rules

G	S	T	**	**	A/D	A/D
GOLDEN	Solid State Relay	T: Flip cover strip type	Load voltage 24:40-240VAC 48:40-530VAC 66:40-660VAC	LOAD 10:10A ... 80:80A	Control signal D:4-32VDC A:90-280VAC	A:AC output D:DC output

Product Selection Table

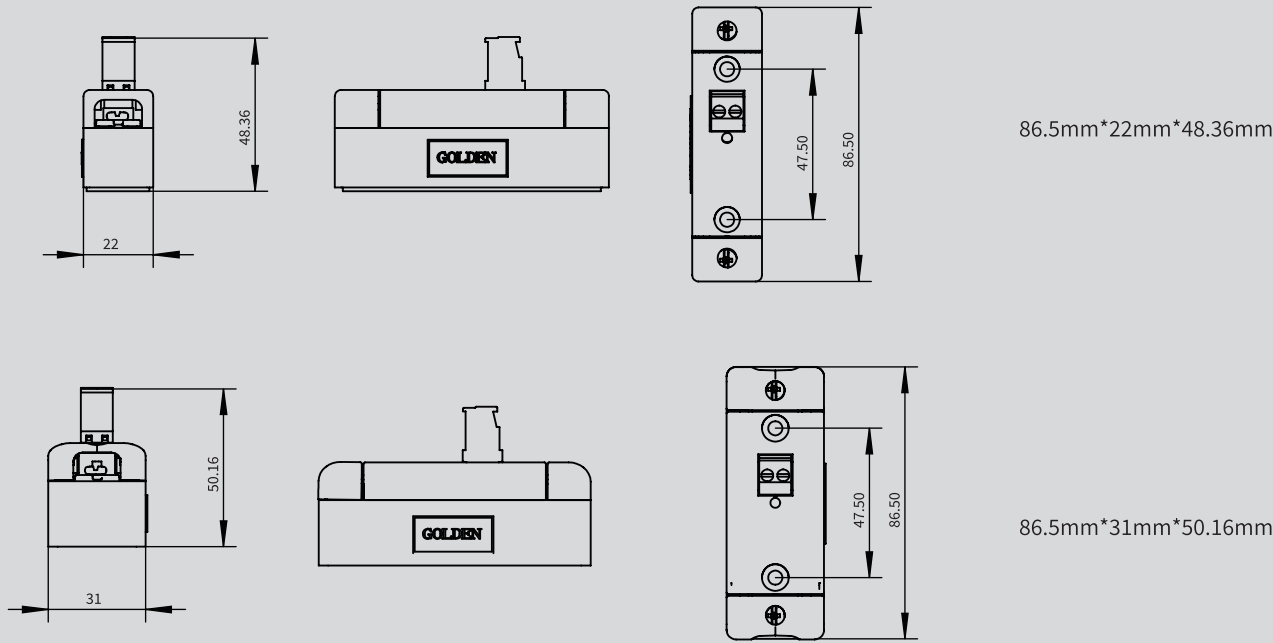
Product model	Load voltage	LOAD	Isolation Voltage	Insulation voltage	Control voltage	Action status indication
GST4810DA	40-530VAC	10A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication
GST4815DA	40-530VAC	15A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication
GST4820DA	40-530VAC	20A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication
GST4825DA	40-530VAC	25A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication
GST4830DA	40-530VAC	30A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication
GST4840DA	40-530VAC	40A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication
GST4860DA	40-530VAC	60A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication
GST4880DA	40-530VAC	80A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication

Product parameters

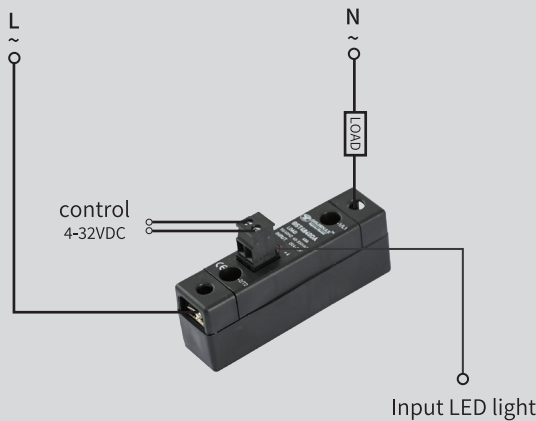
Product wiring diagram	
Control voltage: 4-32VDC	Turn-off voltage: 1VDC
Turn-on voltage: 4VDC	Control Current: 6-25mA (built-in constant current circuit)
Minimum conduction current: 10mA	Maximum on state pressure drop: 1.5VAC
Maximum off state current: 2mA	Critical rise rate of off state voltage: 500V/us
Maximum conduction time: DC control 10ms AC control 40ms	
Maximum shutdown time: DC control 10ms AC control 40ms	
Operating Frequency: 45-65HZ	Minimum isolation voltage: Between input and output ≥ 2500VAC
Minimum insulation voltage: Input and output on the motherboard ≥ 2500VAC	
Insulation resistance: 1000MΩ(500VDC)	Ambient Temperature: -40~80℃

Product dimension diagram

Dimensions (unit: mm)



Product wiring diagram



Product temperature curve

1. Our company has made great efforts in product quality and reliability. Improper selection or use of semiconductor power devices used inside solid-state relays can still lead to irreparable damage. Due to voltage fluctuations in the power grid (usually+10%) and differences in inductance and capacitance, a certain safety factor needs to be considered when selecting. For example, the long-term working current of electric heating should not exceed 60% of the rated nominal value of SSR current, and the working current of the motor should not exceed 1/7 of the rated nominal value of SSR current.
2. The temperature of the radiator base plate should not exceed 80 degrees during long-term operation. If the ambient temperature is too high, air cooling should be adopted to accelerate air flow and achieve better heat dissipation effect.
3. To prevent the breakdown and damage of solid-state relays caused by load short circuits or overloading of current and voltage during use, it is strongly recommended to install and use matching fast fuses. For inductive loads, it is necessary to install varistors at the solid-state output terminal, and varistors can be added internally during customization.
4. Solid state relays must ensure sufficient and not exceed the nominal triggering voltage and current values during operation, for example, the control terminal should be "4-32VDC", which means the minimum input voltage should not be less than 4VDC and the maximum should not exceed 32VDC. Therefore, special attention should be paid to meeting the triggering requirements of solid-state relays in series or parallel use.
5. Solid state relays should be stored in a ventilated, dry, and non corrosive gas environment, avoiding moisture, rain, falling, and severe impact.

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GSH48XXDA/AA/DD

Single phase integrated heat dissipation

GOLDEN solid-state relay



CE
Appearance patent

- 

Integrated heat dissipation design
- 

High temperature flame-retardant material
- 

Imported high-performance chips
- 

Running indicator light display

Product purpose

This series of products is widely used in automation control fields such as electric furnace heating constant temperature systems, CNC machinery, plastic machinery, food machinery, packaging machinery, textile machinery, petrochemical equipment, entertainment facilities, etc.

Product Advantages

VO grade flame retardant - safer and more reliable, stronger isolation - high-precision imported optocoupler, no sparking - no mechanical electric shock action, silent and noiseless - no noise interference during operation, built-in MOV clamp for high-frequency voltage - safe and worry free, first-line brand thyristor - reduces power consumption.

Product Naming Rules

G	S	H	**	**	A/D	A/D
GOLDEN	Solid State Relay	H: Integration	Load voltage 24:40-240VAC 48:40-530VAC 66:40-660VAC	LOAD 10:10A ... 80:80A	Control signal D:4-32VDC A:90-280VAC	A:AC output D:DC output

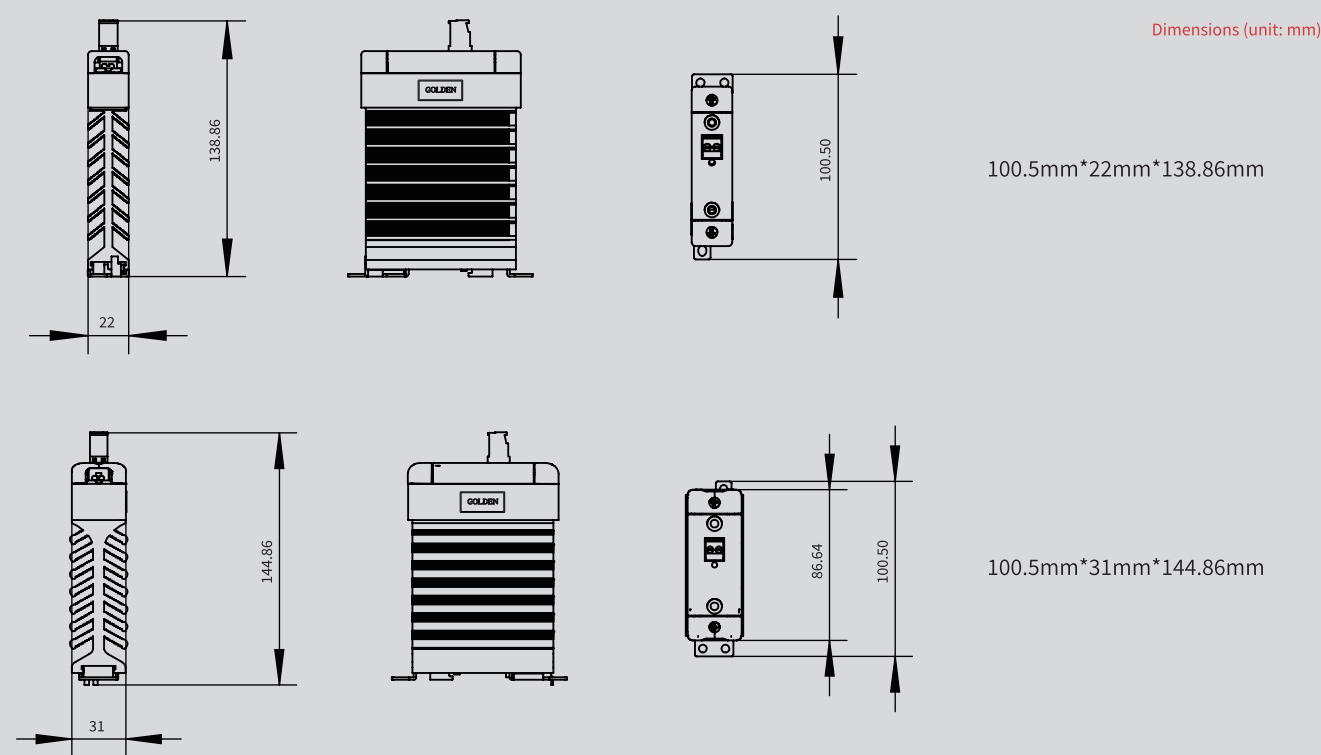
Product Selection Table

Product model	Load voltage	LOAD	Isolation Voltage	Insulation voltage	Control voltage	Action status indication
GSH4810DA	40-530VAC	10A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication
GSH4815DA	40-530VAC	15A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication
GSH4820DA	40-530VAC	20A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication
GSH4825DA	40-530VAC	25A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication
GSH4830DA	40-530VAC	30A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication
GSH4840DA	40-530VAC	40A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication
GSH4860DA	40-530VAC	60A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication
GSH4880DA	40-530VAC	80A	≥2500VAC	≥2500VAC	4-32VDC	Input LED indication

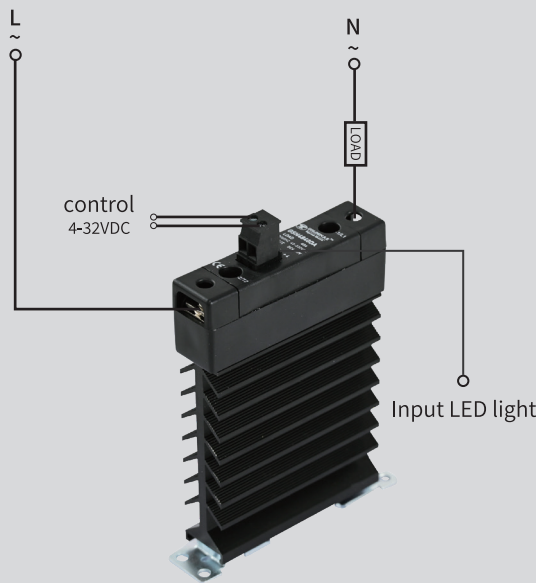
Product parameters

Product wiring diagram	
Control voltage: 4-32VDC	Turn-off voltage: 1VDC
Turn-on voltage: 4VDC	Control Current: 6-25mA (built-in constant current circuit)
Minimum conduction current: 10mA	Maximum on state pressure drop: 1.5VAC
Maximum off state current: 2mA	Critical rise rate of off state voltage: 500V/us
Maximum conduction time: DC control 10ms AC control 40ms	
Maximum shutdown time: DC control 10ms AC control 40ms	
Operating Frequency: 45-65HZ	Minimum isolation voltage: Between input and output ≥ 2500VAC
Minimum insulation voltage: Input and output on the motherboard ≥ 2500VAC	
Insulation resistance: 1000MΩ(500VDC)	Ambient Temperature: -40~80℃

Product dimension diagram



Product wiring diagram



Product temperature curve

1. Our company has made great efforts in product quality and reliability. Improper selection or use of semiconductor power devices used inside solid-state relays can still lead to irreparable damage. Due to voltage fluctuations in the power grid (usually+10%) and differences in inductance and capacitance, a certain safety factor needs to be considered when selecting. For example, the long-term working current of electric heating should not exceed 60% of the rated nominal value of SSR current, and the working current of the motor should not exceed 1/7 of the rated nominal value of SSR current.
2. The temperature of the radiator base plate should not exceed 80 degrees during long-term operation. If the ambient temperature is too high, air cooling should be adopted to accelerate air flow and achieve better heat dissipation effect.
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