

GSR3系列电子式过载继电器 GSR3Range Electric Overload Relay

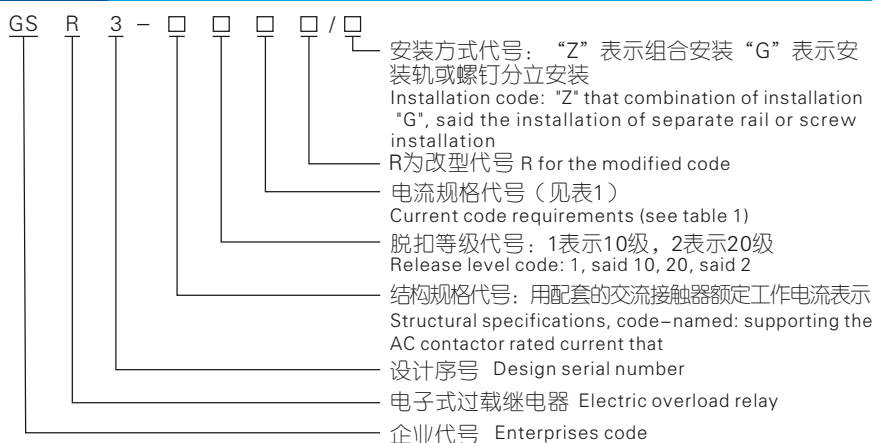
一、用途 APPLICATION

GSR3系列电子式过载继电器适用于交流50Hz（或60Hz）、额定工作电压至660V，额定工作电流至95A的电路中作三相交流电动机的过载、断相及三相不平衡保护之用。可与交流接触器组成电动机起动器。

GSR3 range electric overload relay is used in AC 50Hz/60Hz, rated work voltage is up to 660V, rated work current is up to 95A, for protect AC motor against overload, phase-breaking and 3-phase unbalance, can combine with AC contactor into motor starter.



二、型号及含义 TYPE AND MEANING



三、产品主要特点及技术参数 STRUCTURE FEATURE AND TECHNICAL PARAMETERS

- 主要特点 feature
 - △ 产品内装三相电流互感器，可对交流电动机进行有效的保护；
Current transformer of 3-phases in the products, can go on effective protection of AC contactor
 - △ 用单片微处理器进行实时数据处理，使产品可靠性增强；
Contents SCM microprocessors, can intelligent control;
 - △ 具有脱扣等级10级和20级两种反时限保护等性；
With release grade class 10 and class 20 of anti-time protection function;
 - △ 产品内部建立了与电动机的热保护曲线相一致的数学模型，可以有效的保护电动机；
With same thermal protection curve mathematical model between internal of overload relay and motor;
 - △ 具有工作状态指示灯（表2）； With status display (as table 2);
 - △ 外型精美，可以直接与GSC3系列或GSC1系列接触器插接使用；GSC3-09/25R附加独立安装座，可安装在标准卡轨上或直接用螺钉安装。
Beautiful appearance, can used directly plugged with GSC3 or GSC1, GSC3-09/25R series AC contactor; When added independent block, can be installed in standard rail track or screw directly.
 - △ 使用温度范围较宽； The use range quite wide;
 - △ 节能； Energy saving
 - △ 过载保护：按反时限特性曲线动作；

Overload protection: anti-curve time limit for action;

△ 断相保护: 电机带负载运行, 断相时2秒内脱扣;

Open-phase Protection: electric load with running off with time release within 2 seconds;

△ 堵转保护: 根据反时限特性动作。Block-reverse protection: act according anti-time.

△ 相不平衡保护: 相不平衡度为35%以上, 2分钟内动作

Phase imbalance protection: the rate of phase imbalance is above 35%, act in 2s

$$\text{不平衡度} = \frac{\text{任意最大相} - \text{任意最小相}}{\text{三相平均值}} \times 100\%$$

$$\text{Rate of phase imbalance} = \frac{\text{aximum of current} - \text{minimum of current}}{\text{average of 3-phase current}} \times 100\%$$

△ 热记忆功能: 能够模拟记忆电机的过热积累, 对电机启动、运行、过载及分断中连续造成的发热进行累积记忆。能够对反复性过载进行保护, 同时还能模拟电机的热发散。(复位后热量累积自动清除)

Thermal memory function: can simulate memory heat accumulation of motor, cumulative memory continuous heat caused by motor starter、operation、overload and breaking. Can protect repeated overload, and also can simulate motor thermal.(Restore later, quantity of heat has been accumulated automatic clear away.)

■ 过载继电器的电流规格及其整定电流调节范围

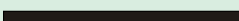

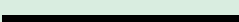
Overload relay current character and setting current adjusting area 表(table)1

型号 Type	脱扣等级 release	整定电流范围 setting current (A)	(SCPD)RT16 熔断器 A		配套交流接触器 型号 AC contactor from a complete set type
			aM	gG	
GSR3-09106(R)	10	1~1.6	2	4	GSR3系列配套于GSC1-09/25 GSR3 range from a complete set type GSC1-09/25
GSR3-09206(R)	20				
GSR3-09107(R)	10	1.6~2.5	4	6	
GSR3-09207(R)	20				
GSR3-09108(R)	10	2.5~4	6	10	
GSR3-09208(R)	20				
GSR3-09110(R)	10	4~6	8	16	
GSR3-09210(R)	20				
GSR3-09112(R)	10	5.5~8	12	20	
GSR3-09212(R)	20				
GSR3-09114(R)	10	7~10	12	20	GSR3-R改型系列配套于GSC3-09/25 GSR3-R range of change type a complete set type GSC3-09/25
GSR3-09214(R)	20				
GSR3-12116(R)	10	9~13	16	25	
GSR3-12216(R)	20				
GSR3-18121(R)	10	12~18	20	35	
GSR3-18221(R)	20				
GSR3-25122(R)	10	17~25	25	50	
GSR3-25222(R)	20				

GSR3-40153	10	23~32	40	63	GSC1-40/95 GSC3-40/95
GSR3-40253	20				
GSR3-40155	10	30~40	63	100	
GSR3-40255	20				
GSR3-50157	10	37~50	63	100	
GSR3-50257	20				
GSR3-65159	10	48~65	63	100	
GSR3-65259	20				
GSR3-80161	10	55~70	80	125	
GSR3-80261	20				
GSR3-95163	10	63~80	80	125	
GSR3-95263	20				
GSR3-95165	10	80~95	100	160	
GSR3-95265	20				

■ 工作状态指示 Working instructions

表(table)2

正常工作时 Normal working hours		绿色常亮 Green always right
过载时 When overload		绿色1秒间隔闪烁 Green 1 second intervals flicker
脱扣时 When release		红色常亮 Red always right

■ 技术参数 Technical parameters

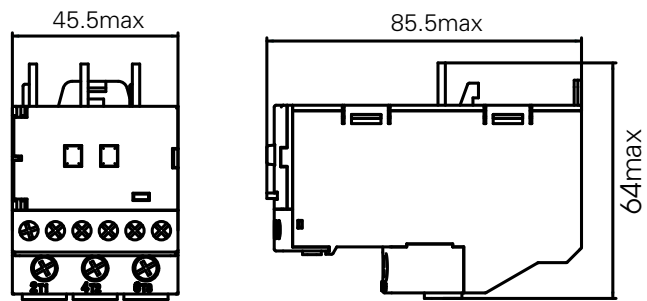
表(table)3

电流整定范围 setting current (A)	GSR3-09/25(R)	1~1.6、1.6~205、2.5~4、4~6、5.5~8、7~10、9~13、12~18、17~25	
	GSR3-40/95	23~32、32~40、37~50、48~65、55~70、63~80、80~95	
复位性能 Reset function		复位按钮按下后立即复位 Reset rightly when pull down the reset button	
检测功能 Detection function		检测按钮按下后立即脱扣 after detection botton is pressed immediately restore	
误差范围 Error area	电流current	± 5%	
	时间time	± 5%	
电源电压Us Supply voltage		Ac220v	
辅助触头 Auxiliary contact	触头形式 contact feature	1对常开触头one pair normally open contact (97、98) 和1对常闭触头one pair normally closed (95、96)	
	触头容量 Contact capacity	0.47A 380V AC-15; 0.75A 220V AC-15; 0.15A 220V DV-13; 0.27A 110V DC-13;	
额定绝缘电压Ui		主回路: 690V	辅助回路: 380V
周围空气温度(°C) Ambient temperature	正常工作温度 Normally work temperature	~25°C~+60°C	
	储存温度 Storage temperature	~25°C~+75°C	

海拔(m)elevation	≤2000m					
大气条件 environment	温度为+40°C时, 空气相对湿度不超过50%, +20°C时最大相对湿度不超过90% Not exceeding 50% at the maximum ambient temperature +40°C, humidity up to 90% at the ambient temperature 20°C.					
外壳防护等级 Out frame protect grade	Ip20					
安装类别 Installing grade	安装类别III Installing grade: class III					
污染等级 Pollution grade	微观环境污染等级为“污染等级3” class 3 in micro environment					
符合标准 standard	IEC60947-4、GB14048.4					
接线能力 Wiring ability	非预制端头软线(mm ²) There is not soft line of prefabricate end	主回路 Main cycle	GSR3-09/25(R)	1根 1/4	辅助回路 Auxiliary return way	1根 0.75/1.5
				2根 1/4		
	有预制端头软线(mm ²) There is soft line of prefabricate end	主回路 Main cycle	GSR3-09/25(R)	1根 1/2.5	辅助回路 Auxiliary return way	1根 0.75/1.5
				2根 1/2.5		
	非预制端头硬线(mm ²) There is not soft line of prefabricate end	主回路 Main cycle	GSR3-09/25(R)	1根 1/4	辅助回路 Auxiliary return way	1根 0.75/1.5
				2根 1/4		
		GSR3-40/95	1根 4/50	辅助回路 Auxiliary return way	2根 0.75/1.5	
			2根 4/25			

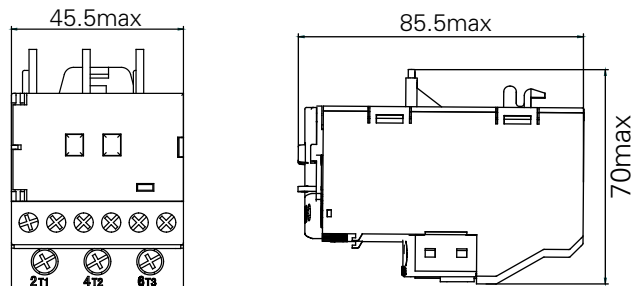
四、外型与安装尺寸 OUTLINE AND INSTALLATION SIZE

△ GSR3-09/25R 外型尺寸 GSR3-09/25R Outline And Installation Size



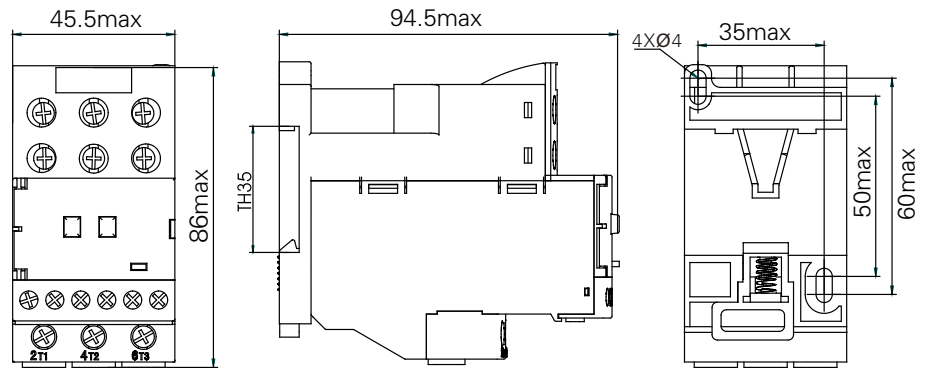
图(Picture)1

△ GSR3-09/25 外型尺寸 GSR3-09/25 Outline And Installation Size



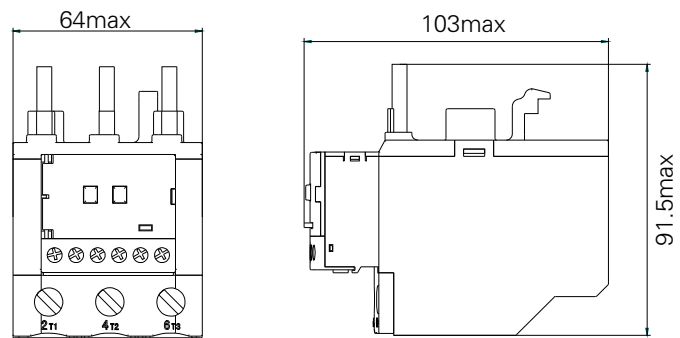
图(Picture)2

△ 与独立安装座配合安装尺寸(图3)



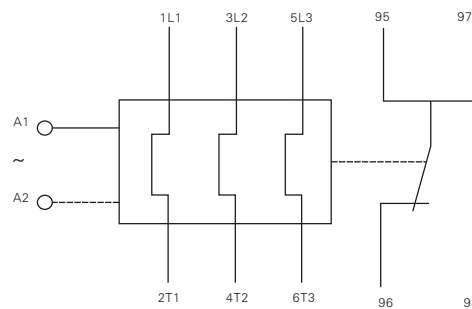
图(Picture)3

△ GSR3-40/95外型尺寸(图4) GSR3-40/95 Outline And Installation Size



图(Picture)4

**五、主电路、电源电路和辅助电路接线端子标志及接线图
MAIN CIRCUIT, POWER CIRCUIT AND AUXILIARY CIRCUIT
WIRING BLOCK OF SIGNS AND WIRING PICTURE**



六、使用注意事项 USE POINT FOR ATTENTION

- △ 使用时必须接AC220V控制电源； Use must connect AC220V of control power;
- △ 产品在接通AC220V控制电源后，若要调整整定电流，那么调整后必须按一下复位按钮，使产品清除掉原来记录的数据，才能重新进入到调整后采集的数据进行运行；

When the product connect AC220V of control power ,if need adjust setting current,then adjust after the reset button must click to enable the product to

clear out the original recorded data can be adjusted to re-enter the data collected to run;

△ 产品在过载运行中一旦复位，累积的热量自动清除；

The product in overload operation once the reset, automatic get rid of the accumulated quantity of heat.

△ 产品只能在交流电路中使用。the product only can be used in AC arcuit.

七、订货须知 ORDER NOTICE

■ 用户用货须指明： need remark following content:

△ 产品型号、名称； full type、 name

△ 脱扣等级（10级或20级）； release grade (class 10 or class 20)

△ 整定电流调节范围； setting current adjusting area

△ 安装方式（组合安装或独立安装） installation way

△ 定货数量。 order volume

例如： GSR3-25122/G 100台 Example: GSR3-25122/G 100sets

表示脱扣等级为10级，整定电流范围为17~25A，安装方式为卡轨安装或螺钉独立安装，订购数量为100台电子式过载继电器。

Means the release grade is class 10, setting current area is 17-25A, installation way is independent installation by rail track or screw, order 100 sets.