

GSRQ1系列电动机软起动器

GSRQ1 Series Motor Soft Starter

——配电器产品名录 2013

安全 智能 环保



CE UL CCC TÜV CB RoHS
ISO9001 ISO14001 OHSAS18001

GSRQ1系列电动机软起动器

>> 用途 APPLICATION

GSRQ1系列电动机软起动器产品适用于交流50Hz，额定工作电压分别为380V、690V，额定绝缘电压为690V，电机功率从7.5kW到630kW三相异步鼠笼式电动机的起动和保护。广泛应用于泵类、风机类、输送类及压缩机等负载场合。它减轻了电动机起动及停止带来的电流浪涌对电网的冲击，能更有效的缓冲对电动机械的损伤，延长电动机使用寿命及满足各种负载不同起动方式和要求。友好的人机交互界面、LCD液晶汉显。

GSRQ1 series motor soft starter product is suitable for AC 50Hz, rated operational voltage respectively for 380V, 690 V, rated insulation voltage is 690V, motor power from 7.5kW to 630kW three phase asynchronous squirrel-cage motor starting and protection. Widely used in pumps, fans, conveying and compressor etc load occasion. It relieves the motor start and stop brought current surge impact on power grid, can be more effective buffer to electric mechanical damage, prolong service life of motor and meet various load different starting ways and requirements. The friendly human-computer interaction interface, LCD liquid crystal Chinese character display.

可实现堵转、欠压、缺相、晶闸管过热保护、起动、运行热过载保护等功能。全程监测电流及负载参数，具有电机综合保护功能。

Can realize stall, undervoltage, lack of phase, thyristor overheating protection, start and operation thermal overload protection function. The whole monitoring current and load parameters, with motor comprehensive protection function.

>> 采用标准及认证情况

ADOPT STANDARD AND AUTHENTICATION SITUATION

- 产品符合标准GB14048.6及IEC60947-4-2;

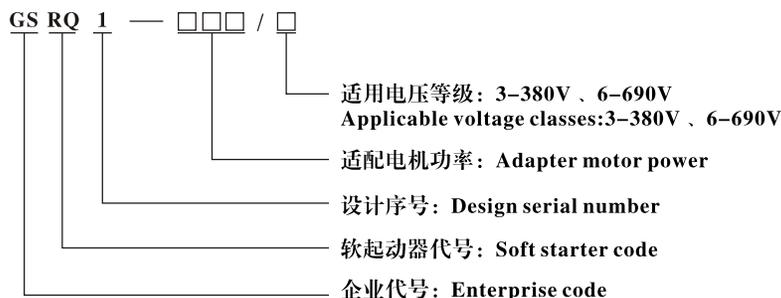
The products conform to standard GB14048.6及 IEC60947-4-2;

- 获得CCC认证;

Acquired CCC certification ;

>> 型号及含义 MODEL AND MEANING

- 型号及含义 TYPE AND MEANING



>> 工作原理 OPERATING PRINCIPLE

它主要由三相交流调压电路和控制电路构成。其基本原理是调压电路利用晶闸管的移相控制原理，通过控制晶闸管的导通角，改变其输出电压，通过调压方式来控制起动电流和起动转矩；控制电路按预定的不同起动方式，通过检测主电路的反馈电流，控制其输出电压，防止电机发生喘振现象。

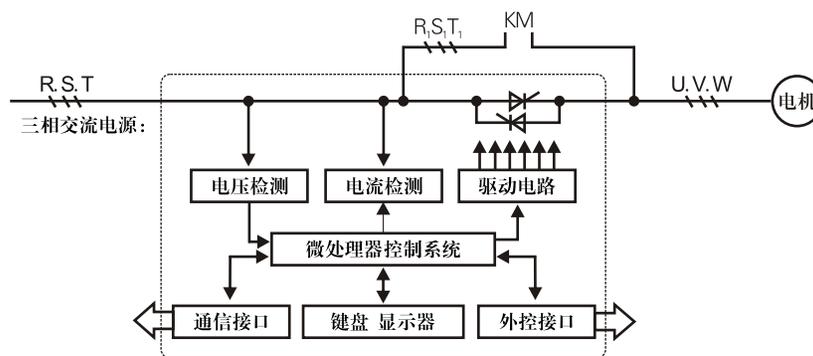
It mainly consists of three phase AC voltage regulation circuit and control circuit. Its basic principle is the voltage regulation circuit using thyristor phase shift control principle, through control conduction angle of the thyristor, change its output voltage, through pressure regulating mode to control starting current and starting torque; control circuit according to scheduled different starting mode, through testing feedback current of main circuit and control its output voltage, prevent motor happen surge phenomenon.

当软起动器在电动机达到预期起动状态时，将通过旁路控制输出信号控制旁路接触器吸合，电动机进入旁路运行状态起动完成。软起动器自动关闭晶闸管的触发脉冲。如果用户设定了软停车功能，在停车时，软起动器将先开通晶闸管，然后断开旁路接触器，再逐渐减小晶闸管的导通角，使电机慢慢停下来，达到软停车目的。

When the soft starter in the motor to achieve expected starting state, will be through bypass control output signal control bypass contactor closed, the motor into the bypass operation state starting finish. The soft starter automatically shut off trigger pulse of the thyristor. If users set soft stop function, when parking, the soft starter will first opened the thyristor, and then disconnect the bypass contactor, decreased gradually the conduction angle of the thyristor, make the motor slowly stop, to achieve soft parking purpose.

△ 下图为GSRQ1系列电动机软起动器原理示意图：

The following picture shows GSRQ1 range motor soft starter principle diagram:



>> 结构、性能特点

STRUCTURE AND PERFORMANCE CHARACTERISTICS

GSRQ1系列电动机软起动器与同类产品相比具有明显优势：

GSRQ1 range motor soft starter compared with similar products have obvious advantages:

■ 结构特点Structural features

△ 对电机提供平滑、渐进的起动过程，减少机械损伤，降低设备运行成本。

GSRQ1系列电动机软起动器

For the motor provide smooth, gradual starting process, reduce mechanical damage, reduce equipment operation cost.

- △ 采用高性能微处理器作为核心控制器件，智能化程度高。

Using high performance microprocessor as core control devices, intelligent degree is high.

- △ 提供不同负载特性软停车和制动停车功能。

Provide different load characteristic soft parking and brake stop function.

- △ 具有实时监控、安全保护和自诊断功能。

With real time monitoring, safety protection and self-diagnostic function.

- △ 采用中文液晶显示，视觉清晰美观。

The adoption of Chinese LCD display, visual clear and beautiful.

- △ 可分离式操作面板，方便用户一体化或分离操作需求。

Detachable operation panel, convenient for user integration or separation operation requirements.

- △ GSRQ1系列产品，相比同类产品，同等功率体积更小化。

GSRQ1 range products, compared with similar products, the smaller volume of the same power.

- △ 塑壳式采用全包式结构，上、下壳体设计成可拆卸挂钩结构；两端设计了散热回流孔，不仅外观大方，而且辅助散热效果良好，产品的外壳防护等级达到IP20。

Moulded Case adopts full package type structure, upper and lower shell designed to removably hook structure; both ends designed cooling reflux hole, not only appearance generous, but also auxiliary cooling effect is good, the product shell protection level achieve IP20.

- △ 塑壳式采用M10六方孔接线螺钉，使接线更可靠，接线能力到达50mm²。

Moulded Case adopts M10 six square hole connection screw, make the connection more reliable, connection ability reach 50mm².

■ 性能优势：Performance advantage:

- △ 丰富的起动方式，适用于各种不同类型的负载。

Rich starting mode, applicable to all kinds of different types loads.

- △ 采用电流真有效值测量控制技术

Using current real effective value measure control technology.

- △ 完备的系统保护功能 Complete system protection function.

- △ 人性化智能旁路控制技术 Human intelligence bypass control technology.

- △ 极强的抗干扰能力 Strong antijamming ability.

- △ 真正的断相不失控技术 Real phase failure not out of control technology.

- △ 远程控制操纵技术中心 Remote control manipulation technology center.

- △ 友好的人机交互界面 The friendly human-computer interaction interface.

- △ 独有的抗“偷停”、“偷起”技术

Unique resistance to "steal stop", "steal start" technology.

- △ 杜绝电机“喘振”现象 Put an end to motor "surge" phenomenon.

- △ 多次历史故障回显功能，便于故障查询。

Many historical fault echo function, easy fault query.

- △ 内置温度传感器，可靠控制产品温升在设定范围工作。

Built-in temperature sensor, reliable control product temperature rise in setting range work.

■ 功能优势：Function advantage:



△ 为适应不同负载，GSRQ1系列电动机软起动器通常具备以下十一种起动方式：

In order to adapt to different load, GSRQ1 range motor soft starter usually have the following 11 kinds of starting ways:

1、点动 Inching	2、斜坡 Slope	3、限流 Current-limiting	4、斜坡+限流 Slope+ Current-limiting
5、斜坡+软停 Slope+ Soft stop	6、限流+软停 Current-limiting+ Soft stop	7、斜坡+限流+软停 Slope+ Current-limiting+ Soft stop	8、突跳+斜坡 Step + Slope
9、突跳+斜坡+限流 Step+Slope+ Current-limiting	10、突跳+斜坡+软停 Step + Slope + Soft stop	11、突跳+斜坡+限流+软停 Step + Slope + Current-limiting + Soft stop	

△ 在线运行，实时监控，具有电机综合保护功能：

Online operation, real-time monitoring, with motor comprehensive protection function:

① 电压断相保护 Voltage phase failure protection	② 电机热过载保护 Motor thermal overload protection	③ 电流不平衡保护 Current imbalance protection
④ 过热保护 Overheating protection	⑤ 电源电压欠压保护 Power supply voltage under-voltage protection	⑥ 堵转保护 Stall protection

△ 可查询累计起动次数。Can query accumulated starting times.

△ 可实时显示软起动器自身的工作温度。

Can real-time display soft starter own working temperature.

△ 冷却风机起停受温度传感器控制，能有效降低机器的故障率。

Cooling fan start-stop by temperature sensor control, can effectively reduce failure rate of the machine.

△ 支持RS485接口的外接键盘和远程控制装置。

Support RS485 interface external keyboard and remote control device.

△ 具有4-20mA模拟信号输出端口。

With 4-20mA analog signal output port.

△ 具备8次历史故障及故障发生时的起动次数查询功能。

Have 8 times history fault and fault occurs starting time query function.

△ 可显示相序，查询各相电流和电网频率。

It can display phase sequence, query each phase current and power grid frequency.

△ 支持标准的modbus工业现场总线协议（客户在订货时需说明）。

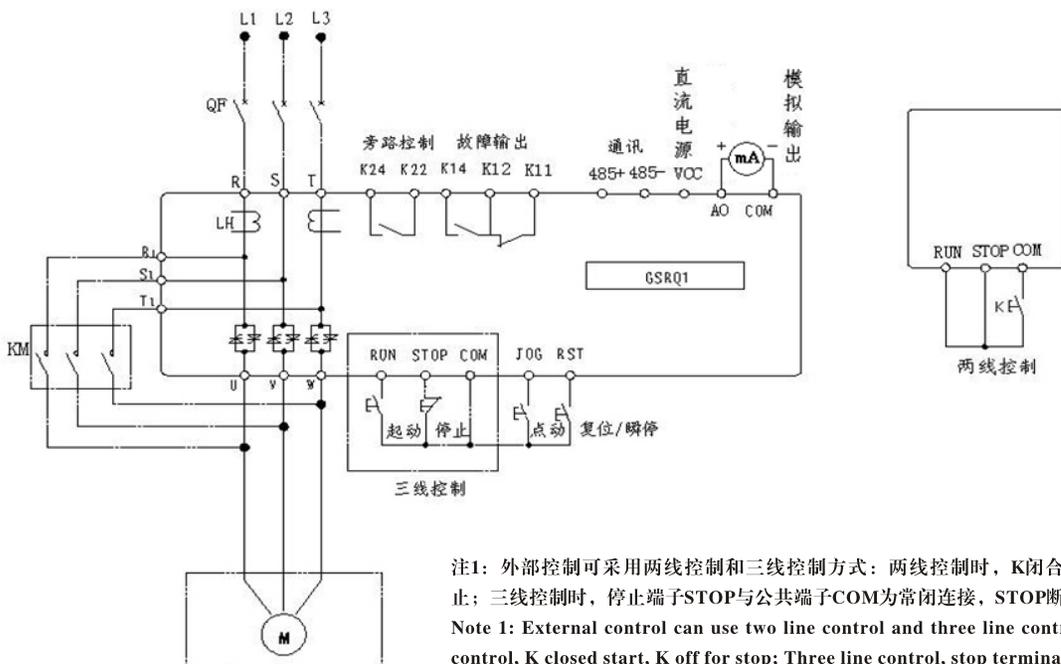
Support standard modbus industrial field bus protocol (customers in order to explain when ordering).

>> 主要技术参数 MAIN PERFORMANCE PARAMETER

GSRQ1系列电动机软起动器

型号规格 Model and specification		GSRQ1-008 ~ GSRQ1-075	GSRQ1-090 ~ GSRQ1-160	GSRQ1-185 ~ GSRQ1-315	GSRQ1-400 ~ GSRQ1-450	GSRQ1-500 ~ GSRQ1-630
参数Parameters						
额定绝缘电压 (Ui) V Rated insulation voltage (Ui) V		690				
极数Number of poles		3P				
使用类别Use classes		AC-53b				
额定冲击耐受电压 (kV) Rated impulse withstand voltage (kV)		2.5				
主电路 Main circuit	约定发热电流Ith (A) Conventional thermal current Ith (A)	18、30、45、60、 75、90、110、150	180、220、260、320	365、400、480、 550、620	720、850	1000、1200
	额定工作电压Ue (V) Rated operational voltage Ue (V)	AC 380、AC 690				
	额定工作电流Ie (A) Rated operational current Ie (A)	18、30、45、60、 75、90、110、150	180、220、260、320	365、400、480、 550、620	720、850	1000、1200
	适配电机功率P (kW) Adapter motor power P (kW)	7.5、15、22、30、 37、45、55、75	90、110、132、160	185、200、250、 280、315	400、450	500、630
控制电路 Control circuit	额定绝缘电压(Ui)V Rated insulation voltage (Ui)V	AC 380				
	额定控制电源电压(Us) Rated control power supply voltage(Us) 或Or	AC 220				
	额定控制电路电压(Uc)V Rated control circuit voltage(Uc)V					

>> 接线图 WIRING DIAGRAM



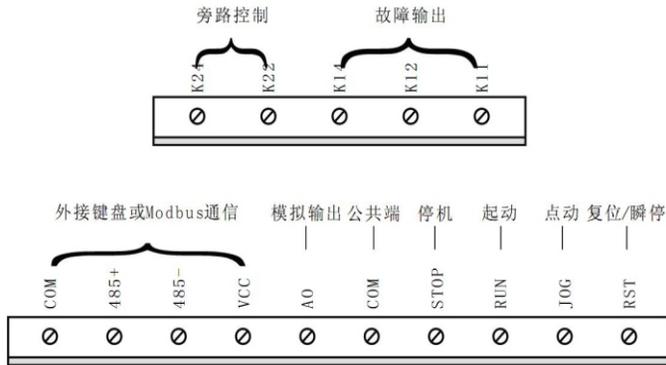
注1: 外部控制可采用两线控制和三线控制方式: 两线控制时, K闭合起动, K断开为停止; 三线控制时, 停止端子STOP与公共端子COM为常闭连接, STOP断开为停止。

Note 1: External control can use two line control and three line control mode: two line control, K closed start, K off for stop; Three line control, stop terminal STOP and public terminal COM for normally closed connection, STOP off for stop.

注2: 当起动控制方式设定为外控使能时, 而外控端子STOP与COM处于开路状态, 键盘和485串口控制起停无效。

Note 2: When start control mode set to external control enabled, and external control terminal STOP and COM in open circuit state, keyboard and 485 serial port control start-stop invalid.

>> 接线端子标志 TERMINAL MARKS



GSRQ1系列电动机软起动器预留有专门的外接口，共有15个外部接线端子，其排列详见上图。这可为用户实现外部信号控制及远距离操作提供方便。

GSRQ1 range motor soft starter obligate special external interface, a total of 15 external terminals, its arrangement see above picture. This can be for user to achieve external signal control and remote operation convenience.

△ 外控端子对照表（见表2）

端子号 Terminal number		端子名称 Terminal name		说明 Explain			
主电路 Main circuit	R.S.T	交流电源输入端子 AC power input terminal		通过断路器接三相交流电源 Through circuit breaker connect three phase AC power supply			
	R1.S1.T1	外接旁路接触器专用端子 External bypass contactor special terminal		参照基本接线图 Reference to basic wiring diagram			
	U.V.W	软起动输出端子 Soft start output terminal		接三相异步电动机 Connect three phase asynchronous motor			
控制电路 Control circuit	数字输入 Digital Input	RUN	外部起动电机控制端子 External start motor control terminal		RUN和COM短接即可外控启动 RUN and COM Short circuit can external control start		
		STOP	外部停止电机运行控制端子 External stop motor running control terminals		STOP和COM断开即可外控停止 STOP and COM Off can external control stop		
		JOG	外部点动电机控制端子 External inching motor control terminal		JOG和COM短接即可实现点动 JOG and COM Short circuit inching can be realized		
		RST	外部复位/瞬停端子 External reset/Instantaneous stop terminal		RST和COM短接即可实现： RST and COM Short circuit can be realized: ①故障复位 Fault reset ②瞬停控制（软停过程中的及时停车） Instantaneous stop control (soft stop process to stop in time)		
	继电器输出 Relay output	K14	常开 Normally open	故障输出端子 Fault output terminal	故障时 Failure	k14-k12闭合 K11-k12断开	
		K11	常闭 Normally closed		触点容量 Contact capacity	AC:5A/250V DC:10A/30V	
		K12	公共 Public			起动完成后 Start achieve	K24-k22闭合
		K24	常开 Normally open	外接旁路器控制端子 External bypass control terminals	触点容量 Contact capacity		AC:5A/250V DC:10A/30V
		K22	公共 Public				
	通讯接口 Communication interface	AO	4-20mA输出端子 4-20MA Output terminal		驱动负载能力600欧(详见用户手册 Drive load capacity 600 europe (See user manual))		
485+		485差分信号正端 485 Differential signal positive terminal		速率 Rate: 1200bps 2400bps 4800bps 9600bps 19200bps			
485-		485差分信号负端 485 Differential signal negative terminal					
电源 Power	COM	外部控制信号的公用端子 External control signal of common terminal		内部电源参考点 nternal power reference point			
	VCC	直流电源输出端子 DC power supply output terminal		外控键盘专用电源 External control keyboard special power supply			

GSRQ1系列电动机软起动器

>> 操作键盘 OPERATING KEYBOARD



- 开始** --当电机处于待机状态时,按**开始**键可使电机按预先设置的方式起动运行。
- 停止** --当电机处于起动或旁路运行状态时,按**停止**键使软起动器返回到待机状态;当软起动器处于待机状态时,按下**停止**键并保持5s钟,可查阅历史故障记录。
- 设置** --在待机状态下,按**设置**键与**▲**键或**设置**键组合使用可进入用户参数设置状态;在起动或旁路运行状态,按下**设置**键可显示A相工作电流。
- ▲** --在编辑状态下,按**▲**键可增大待修改数据,在起动或旁路运行状态,按下**▲**键可显示B相工作电流。
- ▼** --在编辑状态下,按**▼**键可减小待修改数据,在起动或旁路运行状态,按下**▼**键可显示C相工作电流。
- 复位** --在编辑状态下,按**复位**键可退出参数设置状态,并保存修改后的数据,返回到待机状态。在故障保护状态下,按**复位**键可返回到待机状态,在软停过程中与**停止**键组合使用,可实现电机的瞬停。

>> 参数及设定范围 (见表3)

PARAMETER AND SETTING RANGE (SEE TABLE 3)

名称 Name	参数设定范围及含义 Parameter setting range and meaning	出厂值 Factory value
起动方式选择 Start mode selection	0-点动 0-Inching 1-斜坡 1-Slope 2-限流 2-Current-limiting 3-斜坡+限流 3-Slope + Current-limiting 4-斜坡+软停 4-Slope + Soft stop 5-限流+软停 5-Current-limiting+Soft stop 6-斜坡+限流+软停 6-Slope+Current-limiting+ Soft stop 7-突跳+斜坡 7- Step + Slope 8-突跳+斜坡+限流 8- Step + Slope + Current-limiting 9-突跳+斜坡+软停 9- Step + Slope + Soft stop 10-突跳+斜坡+限流+软停 10- Step + Slope + Current-limiting + Soft stop	2-限流 2- Current-limiting
突跳电压Step voltage	电网电压的40 ~ 100 % Power grid voltage 40 ~ 100 %	50 %
突跳时间Step time	2 ~ 200ms	20ms
斜坡初始电压 Slope initial voltage	电网电压的0-50 % Power grid voltage 0 ~ 50 %	25 %
斜坡起动时间 Slope start time	1 ~ 200s	30s
起动限流值 Start current limiting value	软起动器额定电流的100 ~ 500 % Soft starter rated current 100 ~ 500 %	300 %
限流起动保护时间 Current limiting start protection time	1 ~ 200s	30s
软停车基值电压 Soft park base value voltage	50 ~ 100 %	70 %
软停车断开电压 Soft stop off voltage	0 ~ 40 %	15 %
软停车时间 Soft stop time	1 ~ 30s	5s
点动电压 Inching voltage	电网电压的0 ~ 100 % Power grid voltage 0 ~ 100 %	30 %

启动控制方式 Start control mode	0 – 键盘、外控485串口均无效 0 – Keyboard, external 485 control are invalid 1 – 键盘有效 1 – Keyboard effective 2 – 外控有效 2 – External control effective 3 – 键盘、外控均有效 3 – Keyboard, external control are invalid 4 – 485串口有效 4 – 485 Serial effective 5 – 485串口、键盘有效 5 – 485 Serial port、 keyboard effective 6 – 485串口、外控有效 6 – 485 Serial port、 external control effective 7 – 485串口、键盘有效、外控有效 7 – 485 Serial port、 keyboard effective, external control effective	1 – 键盘有效 1 – Keyboard effective
软起动器额定输出电流 Soft starter rated output current	随用户修改变化 By user modify change	铭牌标称功率对应的电流值 Nameplate nominal power corresponding current value
电流不平衡保护 Current imbalance protection	10 ~ 60%	30%
启动热过载保护等级 Start thermal overload protection level	0 ~ 16 (0: 关闭保护) 0 ~ 16 (0: Close protection)	0
运行热过载保护等级 Operation thermal overload protection level	1 ~ 8	3
晶闸管过热保护温度 Thyristor overheating protection temperature	70 ~ 99℃	85℃
电流振荡抑制系数 Current oscillation suppression coefficient	0 ~ 7 (0: 关闭抑制) 0 ~ 7 (0: Closed inhibition)	4
欠压保护功能 Under voltage protection function	0: 关闭 1: 使能 0: Close 1: Enabled	1
堵转保护 Stall protection	$2.0I_c \sim 6.0I_c$	6.0
本机通讯地址 The machine address	1 ~ 247	1
通讯数据格式 Communication data format	0 ~ 17	1: (E, 8,1) for RTU
波特率选择 Baud rate choice	0:1200bps 1:2400bps 2:4800bps 3:9600bps 4:19200bps 5:38400bps	4

>> 工作条件和安装条件

WORKING CONDITION AND INSTALLATION CONDITION

■ 供电电源：市电、自备电、柴油发电机组。

Power supply: mains, autonomous power supply, diesel-electric set.

■ 三相交流：380V、690V（-20%，+15%），50Hz。

Three phase current: 380V、690V（-20%，+15%），50Hz.

■ 适用电机：三相鼠笼式异步电动机。

Applicable motor: three phase squirrel cage induction motor.

■ 启动频度：标准产品建议每小时启停不超过15次（根据负载）。

Start frequency: standard product is suggested start and stop not more than 15 times per hour (according to load).

GSRQ1系列电动机软起动器

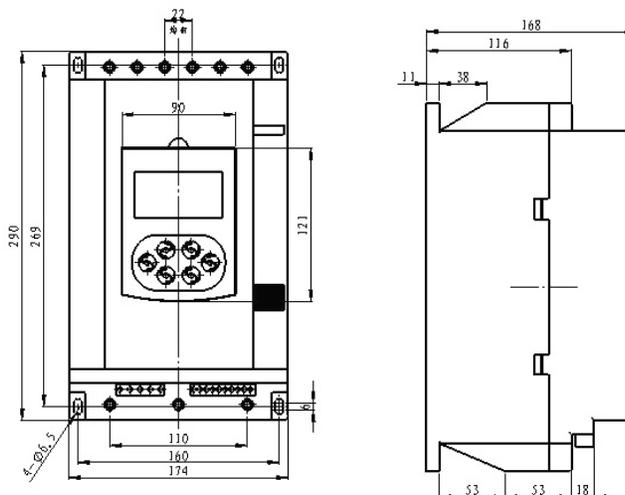
- 冷却方式：标准型为自然风冷。Cooling mode: standard form for natural air cooling.
- 防护等级：IP00 Protection level: Ip00
- 环境条件：环境温度在-25℃ ~ 40℃之间，湿度≤95%（20℃ ± 5℃），无凝露；无易燃、易爆、腐蚀性气体。无导电性尘埃；室内安装，通风良好；震动小于0.5g。海拔超过2000米，应相应降低容量使用。根据电机的实际额定电流，在降容使用时请重置软起动器的额定输出，以保证各种控制参数和故障保护的准确。
Environment condition: Ambient temperature between -25℃ ~ 40℃, humidity ≤ 95% (20℃ ± 5℃), nodew; No inflammable, explosive, corrosive gas.No electrical conductivity dust;Indoor installations, draughty; vibration is less than 0.5 g.More than 2000 meters above sea level, should be reduced capacity use. According to the motor actual rated current, when drop capacity use please reset rated output of soft starter, in order to ensure various control parameters and fault protection accurate.
- 安装方式：垂直安装 Installation: installed vertically
- 接线方式：端子接线 Connection mode: terminal connection
- 适用工作制：断续工作制 Applicable working system: intermittent duty

>> 外形及安装尺寸 (单位: mm)

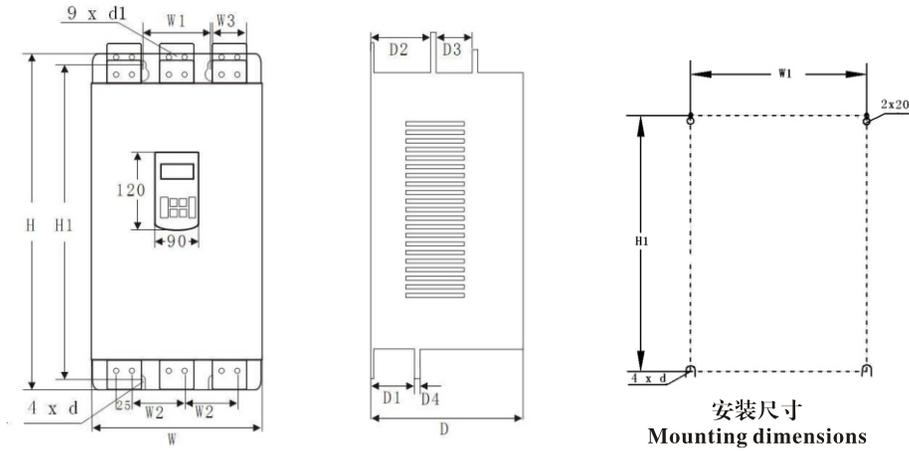
APPEARANCE AND INSTALLATION DIMENSIONS (UNIT:MM)

规格型号 Specifications	外形尺寸 Dimension			安装尺寸 Installation size						铜牌尺寸 Copper medal size				重量 Weight	安装方式 Installation Wall-mounted type
	W	H	D	W1	H1	D1	D2	D3	d	W2	W3	D4	d1		
GSRQ1-090/3 ~GSRQ1-160/3	220	405	200	100	380	73	85	45	φ9	65	30	3	φ11	20	壁挂式
GSRQ1-185/3 ~GSRQ1-315/3	252	483	216	104	455	70	85	45	φ11	77	50	5	φ11	35	
GSRQ1-400/3 ~GSRQ1-450/3	355	550	230	281	520	120	86	51	φ11	108	60	6	φ11	45	
GSRQ1-500/3 ~GSRQ1-630/3	472	650	293	400	617	200	106	65	φ11	105	80	8	φ11	68	

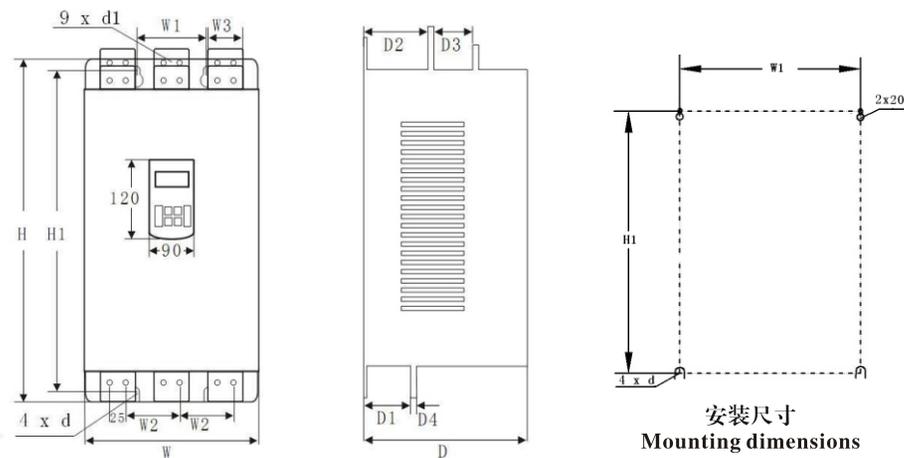
■ GSRQ -080/3 ~ GSRQ1-750/3



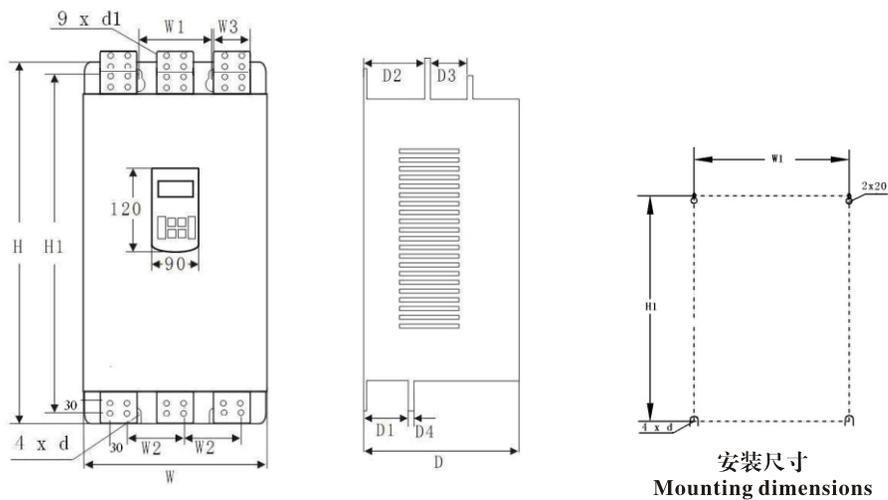
■ GSRQ-090/3 ~ GSRQ1-315/3



■ GSRQ1-400/3 ~ GSRQ1-450/3



■ GSRQ1-500/3 ~ GSRQ1-630/3



GSRQ1系列电动机软起动器

>> 选型规格及型号 SELECTION SPECIFICATIONS AND TYPES

订货型号 Order model	380 V 系列 380 V Range		订货型号 Order model	690 V 系列 690 V Range	
	额定电流 (A) Rated current (A)	适配电机功率 (kW) Adapter motor power (kW)		额定电流 (A) Rated current (A)	适配电机功率 (kW) Adapter motor power (kW)
GSRQ1-008/3	18 A	7.5 kW	GSRQ1-008/6	9 A	7.5 kW
GSRQ1-015/3	30 A	15 kW	GSRQ1-015/6	18 A	15 kW
GSRQ1-022/3	45 A	22 kW	GSRQ1-022/6	25 A	22 kW
GSRQ1-030/3	60 A	30 kW	GSRQ1-030/6	34 A	30 kW
GSRQ1-037/3	75 A	37 kW	GSRQ1-037/6	42 A	37 kW
GSRQ1-045/3	90 A	45 kW	GSRQ1-045/6	49 A	45 kW
GSRQ1-055/3	110 A	55 kW	GSRQ1-055/6	61 A	55 kW
GSRQ1-075/3	150 A	75 kW	GSRQ1-075/6	82 A	75 kW
GSRQ1-090/3	180 A	90 kW	GSRQ1-090/6	98 A	90 kW
GSRQ1-110/3	220 A	110 kW	GSRQ1-110/6	118 A	110 kW
GSRQ1-132/3	260 A	132 kW	GSRQ1-132/6	140 A	132 kW
GSRQ1-160/3	320 A	160 kW	GSRQ1-160/6	170 A	160 kW
GSRQ1-185/3	365 A	185 kW	GSRQ1-185/6	200 A	187 kW
GSRQ1-200/3	400 A	200 kW	GSRQ1-200/6	215 A	200 kW
GSRQ1-250/3	480 A	250 kW	GSRQ1-250/6	274 A	250 kW
GSRQ1-280/3	550 A	280 kW	GSRQ1-280/6	305 A	280 kW
GSRQ1-315/3	620 A	315 kW	GSRQ1-315/6	337 A	320 kW
GSRQ1-400/3	720 A	400 kW	GSRQ1-400/6	410 A	400 kW
GSRQ1-450/3	850 A	450 kW	GSRQ1-450/6	460 A	450 kW
GSRQ1-500/3	1000 A	500 kW	GSRQ1-500/6	542 A	500 kW
GSRQ1-630/3	1200 A	630 kW	GSRQ1-630/6	645 A	630 kW

>> 订货须知 ORDERING INSTRUCTION

■ 订货时需注明：Order should note:

- △ 用户在订货时，请将产品的名称、型号、规格、数量、负载情况及使用条件通知供货方，以便正确选择产品。
When ordering, please notify supplier that name, model, specification, quantity, load condition and use condition of product, in order to correctly choose the product.
- △ 有特殊使用条件或要求的用户，请在订货时向供货方说明，我们会提供完善的服务。
With special service conditions or requirements, please explain to the supplier when ordering, we will

provide perfect service.

△ 订购数量 Order quantity

如：软起动器 GSRQ1-090/3 或GSRQ1-090/6 8台。

For example: Soft starter GSRQ1-090/3 or GSRQ1-090/6 8 sets.

表示GSRQ1-090/3系列电动机软起动器，适配电机功率90kW，额定电流180A，适配电压等级3-380 V,订货数量为8台。

Shows GSRQ1-090/3 range motor soft starter, adapter motor power 90kW, rated current 180A, adapter voltage level 3-380 V, order quantity is 8 sets.

表示GSRQ1-090/6系列电动机软起动器，适配电机功率90kW，额定电流98A，适配电压等级6-690V,订货数量为8台。

Shows GSRQ1-090/6 range motor soft starter, adapter motor power 90kW, rated current 98A, adapter voltage level 6-690V, order quantity is 8 sets.