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MGR®

MGR-1D48- □

直流控制交流固态继电器

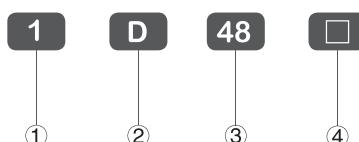
DC controlled AC Solid State relay



◎ 产品参数 Product parameter

- ◆ 额定电流: 10A-150Amps
- ◆ 额定电压: 24-480VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有过零启动（阻性负载）或随机性启动
(感性负载或相位控制)
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 透明保护盖为用户提供额外保护
- ◆ Rated current: 10A-150Amps
- ◆ Rated voltage: 24-480VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With zero startup (resistive load) or randomstarting (inductive load or phase control)
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer
- ◆ Transparent protective cover provides users with additional protection

◎ 型号含义 Type meaning



- ① 单相 Single phase
- ② 控制电压 3-32VDC Control voltage 3-32VDC
- ③ 操作电压 24-480VAC Operating voltage 24-480VAC
- ④ 10A, 20A, 25A, 30A, 40A, 50A, 60A, 75A, 80A, 90A, 100A, 120A, 150A

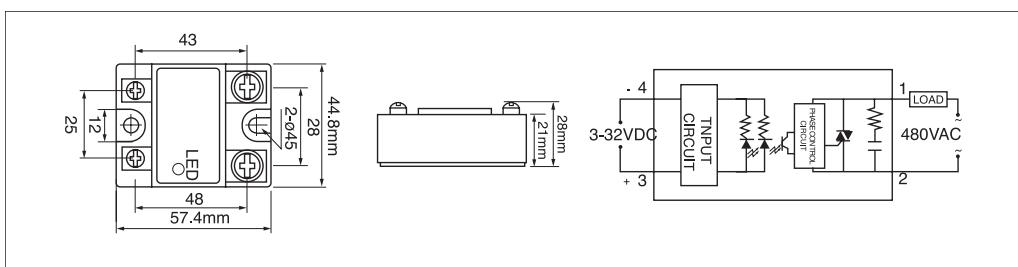
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6-1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6-1.9 times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-1D69- □

直流控制交流固态继电器

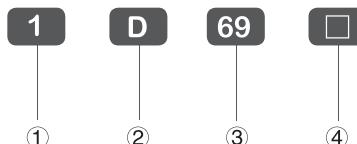
DC controlled AC Solid State relay



◎ 产品参数 Product parameter

- ◆ 额定电流: 10A-150Amps
- ◆ 额定电压: 690VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有过零启动（阻性负载）或随机性启动
(感性负载或相位控制)
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 透明保护盖为用户提供额外保护
- ◆ Rated current: 10A-150Amps
- ◆ Rated voltage: 690VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With zero startup (resistive load) or randomstarting (inductive load or phase control)
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer
- ◆ Transparent protective cover provides users with additional protection

◎ 型号含义 Type meaning



① 单相 Single phase

② 控制电压 3-32VDC Control voltage 3-32VDC

③ 操作电压 690VAC Operating voltage 690VAC

④ 10A, 20A, 25A, 30A, 40A, 50A, 60A, 75A, 80A,
90A, 100A, 120A, 150A

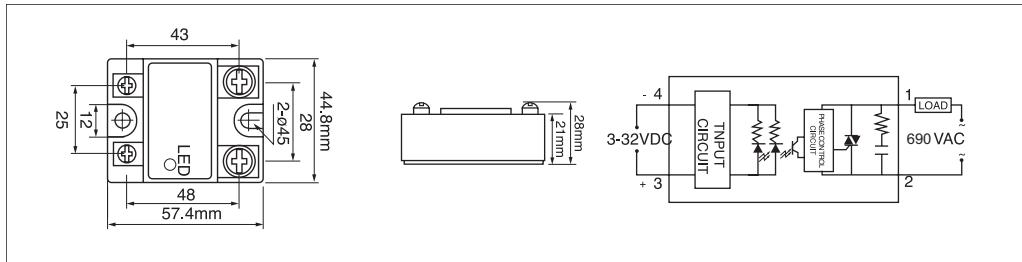
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6-1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6-1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-1D120- □

直流控制交流固态继电器

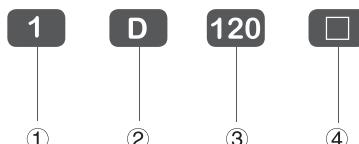
DC controlled AC Solid State relay



◎ 产品参数 Product parameter

- ◆ 额定电流: 10A-150Amps
- ◆ 额定电压: 1200VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有过零启动（阻性负载）或随机性启动
(感性负载或相位控制)
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 透明保护盖为用户提供额外保护
- ◆ Rated current: 10A-150Amps
- ◆ Rated voltage: 1200VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With zero startup (resistive load) or randomstarting (inductive load or phase control)
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer
- ◆ Transparent protective cover provides users with additional protection

◎ 型号含义 Type meaning



① 单相 Single phase

② 控制电压 3-32VDC Control voltage 3-32VDC

③ 操作电压 1200VAC Operating voltage 1200VAC

④ 10A, 20A, 25A, 30A, 40A, 50A, 60A, 75A, 80A,
90A, 100A, 120A, 150A

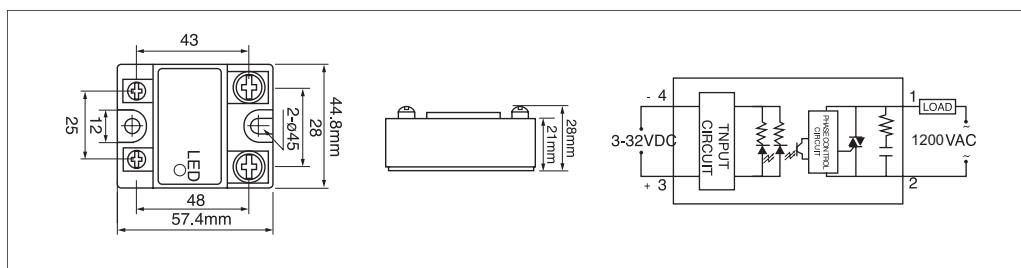
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为
负载电压的 1.6-1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus
fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a
varistor, value of 1.6-1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-1D48 □ P

随机型固态继电器

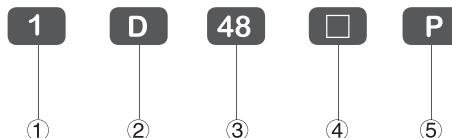
With Type Solid State Relay



◎ 产品参数 Product parameter

- ◆ 额定电流: 10A-150Amps
- ◆ 额定电压: 24-480VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有过零启动（阻性负载）或随机性启动
(感性负载或相位控制)
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 透明保护盖为用户提供额外保护
- ◆ Rated current: 10A-150Amps
- ◆ Rated voltage: 24-480VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With zero startup (resistive load) or random starting (inductive load or phase control)
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer
- ◆ Transparent protective cover provides users with additional protection

◎ 型号含义 Type meaning



- ① 单相 Single phase
- ② 控制电压 4-8VDC Control voltage 4-8VDC
- ③ 操作电压 24-480VAC Operating voltage 24-480VAC
- ④ 10A, 20A, 25A, 30A, 40A, 50A, 60A, 75A, 80A, 90A, 100A, 120A, 150A
- ⑤ 随机型 Random

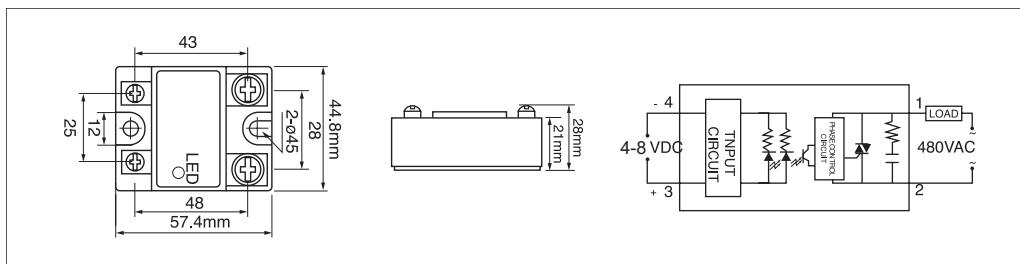
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6-1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6-1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-1A48- □

交流固态继电器

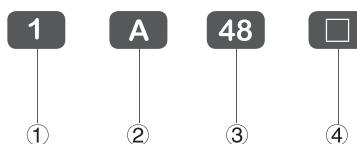
AC Solid State Relay



◎ 产品参数 Product parameter

- ◆ 额定电流: 10A-150Amps
- ◆ 额定电压: 24-480VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有过零启动（阻性负载）或随机性启动（感性负载或相位控制）
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 透明保护盖为用户提供额外保护
- ◆ Rated current: 10A-150Amps
- ◆ Rated voltage: 24-480VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With zero startup (resistive load) or randomstarting (inductive load or phase control)
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer
- ◆ Transparent protective cover provides users with additional protection

◎ 型号含义 Type meaning



① 单相 Single phase

② 控制电压 85-265VAC Control voltage 85-265VAC

③ 操作电压 24-480VAC

Operating voltage 24-480VAC

④ 10A, 20A, 25A, 30A, 40A, 50A, 60A, 75A, 80A, 90A, 100A, 120A, 150A

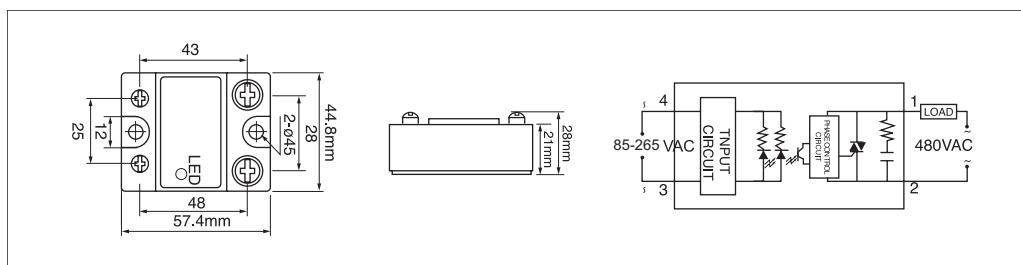
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6-1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6-1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR -1A69- □

交流固态继电器

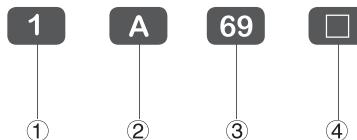
AC Solid State Relay



◎ 产品参数 Product parameter

- ◆ 额定电流: 10A-150Amps
- ◆ 额定电压: 690VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有过零启动（阻性负载）或随机性启动
(感性负载或相位控制)
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 透明保护盖为用户提供额外保护
- ◆ Rated current: 10A-150Amps
- ◆ Rated voltage: 690VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With zero startup (resistive load) or randomstarting (inductive load or phase control)
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer
- ◆ Transparent protective cover provides users with additional protection

◎ 型号含义 Type meaning



① 单相 Single phase

② 控制电压 85–265VAC Control voltage 85–265VAC

③ 操作电压 690VAC

Operating voltage 690VAC

④ 10A, 20A, 25A, 30A, 40A, 50A, 60A, 75A, 80A,
90A, 100A, 120A, 150A

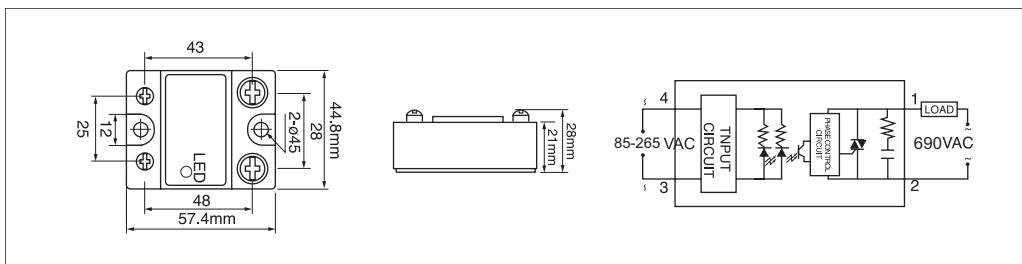
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6–1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6–1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-1A120- □

交流固态继电器

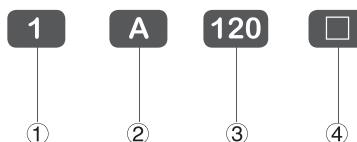
AC Solid State Relay



◎ 产品参数 Product parameter

- ◆ 额定电流: 10A-150Amps
- ◆ 额定电压: 1200VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有过零启动（阻性负载）或随机性启动（感性负载或相位控制）
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 透明保护盖为用户提供额外保护
- ◆ Rated current: 10A-150Amps
- ◆ Rated voltage: 1200VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With zero startup (resistive load) or randomstarting (inductive load or phase control)
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer
- ◆ Transparent protective cover provides users with additional protection

◎ 型号含义 Type meaning



① 单相 Single phase

② 控制电压 85-265VAC Control voltage 85-265VAC

③ 操作电压 1200VAC

Operating voltage 1200VAC

④ 10A, 20A, 25A, 30A, 40A, 50A, 60A, 75A, 80A, 90A, 100A, 120A, 150A

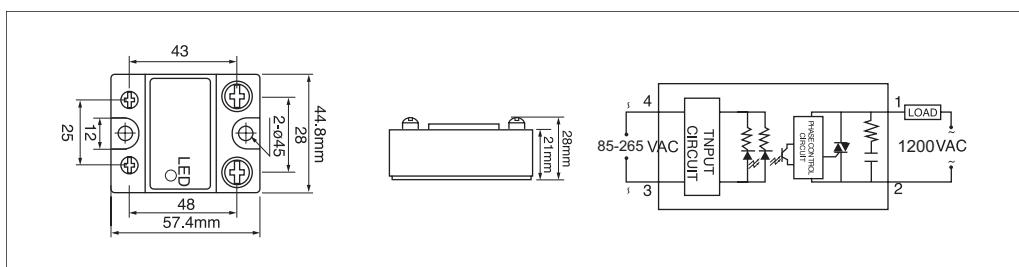
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6-1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6-1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-1 DD48D- □

直流固态继电器

DC solid state relay

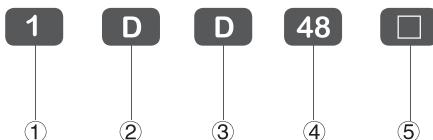


直流固态继电器 DC solid state relay

◎ 产品概述 Product overview

- ◆ 直流固态继电器易并联，适合大电流应用场合
- ◆ 额定电流：10A~100Amps
- ◆ 额定电压：48VDC
- ◆ 低输出断态泄漏电流
- ◆ 低阻抗 MOSFET 输出，最大限度减少总功耗
- ◆ 适合阻性负载和感性负载（如电机和 EMR/ 电磁线圈等感性负载必须加装抑制二极管）
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 透明保护盖为用户提供额外保护
- ◆ DC solid state relay easy parallel connection, suitable for high current applications
- ◆ Rated current: 10A~100Amps
- ◆ Rated voltage: 48VDC
- ◆ Low output off-leakage current
- ◆ Low impedance MOSFET output, minimizing total power
- ◆ Suitable for resistance load and inductive load (such as motor and the EMR/solenoid inductive loads must be retro-fitting of suppressors)
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer
- ◆ Transparent protective cover provides users with additional protection

◎ 型号含义 Type meaning



- ① 1 路 1-channel
- ② 控制电压 3~32VDC Control voltage 3~32VDC
- ③ 直流控直流 Direct current control
- ④ 操作电压 48VDC Operating voltage 48VDC
- ⑤ 10A, 20A, 25A, 30A, 40A, 50A, 60A, 75A, 80A, 90A, 100A

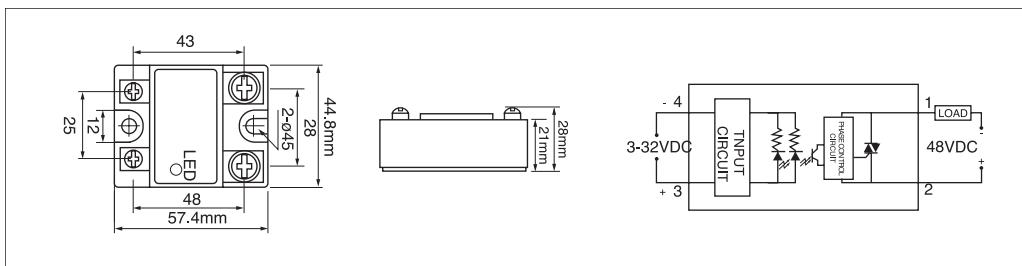
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 务必在输出端并接二极管, 取值为负载电源 1.6~1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. Be sure to take a diode at the output end, which is 1.6 to 1.9 times the load power.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-1 DD220D- □

直流固态继电器

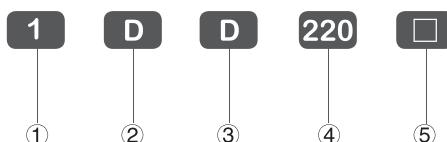
DC solid state relay



◎ 产品概述 Product overview

- ◆ 直流固态继电器易并联，适合大电流应用场合
- ◆ 额定电流：10A~100Amps
- ◆ 额定电压：24~220VDC
- ◆ 低输出断态泄漏电流
- ◆ 低阻抗 MOSFET 输出，最大限度减少总功耗
- ◆ 适合阻性负载和感性负载（如电机和 EMR/ 电磁线圈等感性负载必须加装抑制二极管）
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 透明保护盖为用户提供额外保护
- ◆ DC solid state relay easy parallel connection, suitable for high current applications
- ◆ Rated current: 10A~100Amps
- ◆ Rated voltage: 24~220VDC
- ◆ Low output off-leakage current
- ◆ Low impedance MOSFET output, minimizing total power
- ◆ Suitable for resistance load and inductive load (such as motor and the EMR/solenoid inductive loads must be retro-fitting of suppressors)
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer
- ◆ Transparent protective cover provides users with additional protection

◎ 型号含义 Type meaning



① 1 路 1-channel

② 控制电压 3~32VDC Control voltage 3~32VDC

③ 直流控直流 Direct current control

④ 操作电压 24~220VDC

Operating voltage 24~220VDC

⑤ 10A, 20A, 25A, 30A, 40A, 50A, 60A, 75A, 80A, 90A, 100A

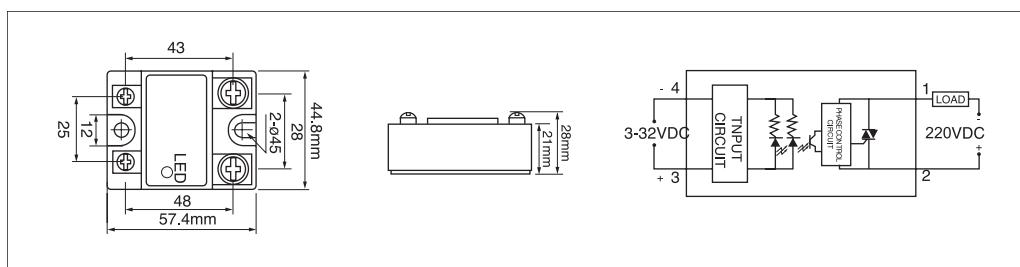
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 务必在输出端并接一二极管, 取值为负载电源 1.6~1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. Be sure to take a diode at the output end, which is 1.6 to 1.9 times the load power.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-1DD60D- □

直流固态继电器

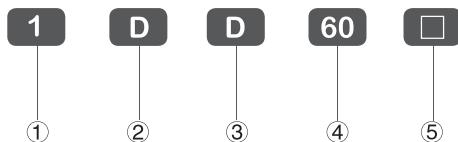
DC solid state relay



◎ 产品概述 Product overview

- ◆ 直流固态继电器易并联，适合大电流应用场合
- ◆ 额定电流：200A–600Amps
- ◆ 额定电压：5–60VDC
- ◆ 低输出断态泄漏电流
- ◆ 低阻抗 MOSFET 输出，最大限度减少总功耗
- ◆ 适合阻性负载和感性负载（如电机和 EMR/ 电磁线圈等感性负载必须加装抑制二极管）
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 透明保护盖为用户提供额外保护
- ◆ DC solid state relay easy parallel connection, suitable for high current applications
- ◆ Rated current: 200A–600Amps
- ◆ Rated voltage: 5–60VDC
- ◆ Low output off-leakage current
- ◆ Low impedance MOSFET output, minimizing total power
- ◆ Suitable for resistance load and inductive load (such as motor and the EMR/solenoid inductive loads must be retro-fitting of suppressors)
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer
- ◆ Transparent protective cover provides users with additional protection

◎ 型号含义 Type meaning



① 1 路 1-channel

② 控制电压 3–32VDC Control voltage 3–32VDC

③ 直流控直流 Direct current control

④ 操作电压 5–60VDC

Operating voltage 5–60VDC

⑤ 200A, 300A, 400A, 600A

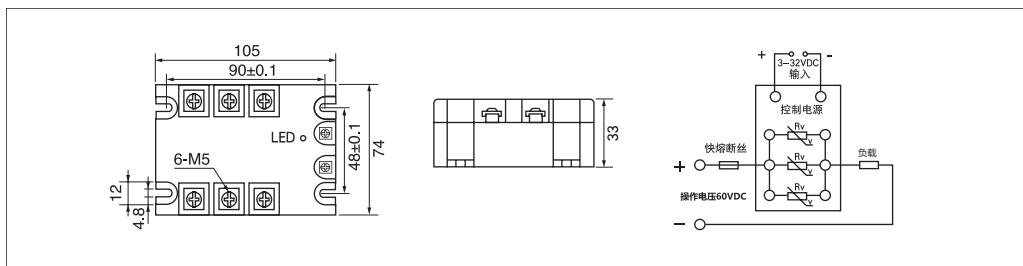
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 务必在输出端并接二极管, 取值为负载电源 1.6–1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. Be sure to take a diode at the output end, which is 1.6 to 1.9 times the load power.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR®

MGR-H3100Z

工业级交流固态继电器（基本型）

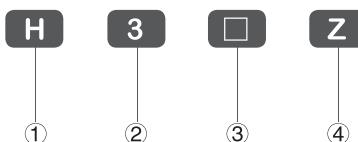
Industrial grade AC solid state relays (Basic type)



◎ 产品概述 Product overview

- ◆ 额定电流: 40A-125Amps
- ◆ 额定电压: 480VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ Rated current: 40A-125Amps
- ◆ Rated voltage: 480VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer

◎ 型号含义 Type meaning



- ① 长条形 Elongated
- ② 操作电压 480VAC
Operating voltage 480VAC
- ③ 40A, 60A, 80A, 100A, 120A, 125A
- ④ 过零型 The zero type

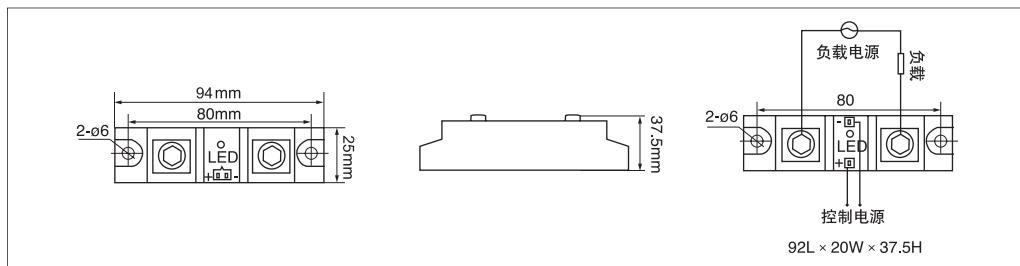
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6-1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6-1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-H6100Z

工业级交流固态继电器（增强型）

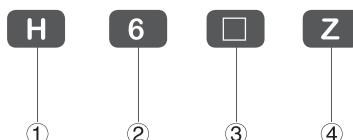
Industrial grade AC solid state relays
(Enhanced)



◎ 产品概述 Product overview

- ◆ 额定电流: 40A-125Amps
- ◆ 额定电压: 690VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ Rated current: 40A-125Amps
- ◆ Rated voltage: 690VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer

◎ 型号含义 Type meaning



- ① 长条形 Elongated
- ② 操作电压 690VAC
Operating voltage 690VAC
- ③ 40A, 60A, 80A, 100A, 120A, 125A
- ④ 过零型 The zero type

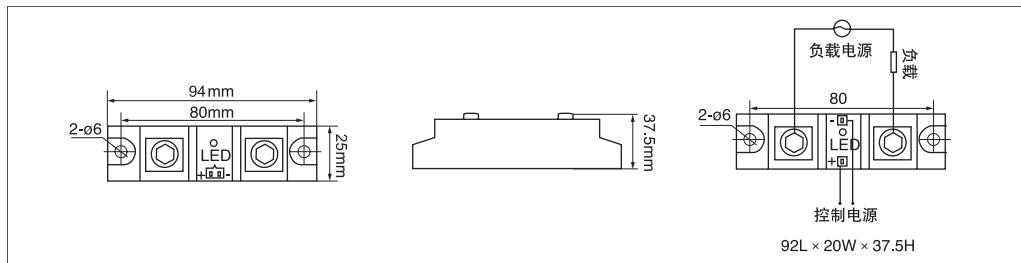
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6-1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6-1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-H12100Z

工业级交流固态继电器 (高压型)

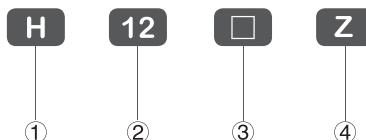
Industrial grade AC solid state relays
(high pressure)



◎ 产品概述 Product overview

- ◆ 额定电流: 40A-125Amps
- ◆ 额定电压: 1200VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用, 性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ Rated current: 40A-125Amps
- ◆ Rated voltage: 1200VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer

◎ 型号含义 Type meaning



- ① 长条形 Elongated
- ② 操作电压 1200VAC
Operating voltage 1200VAC
- ③ 40A, 60A, 80A, 100A, 120A, 125A
- ④ 过零型 The zero type

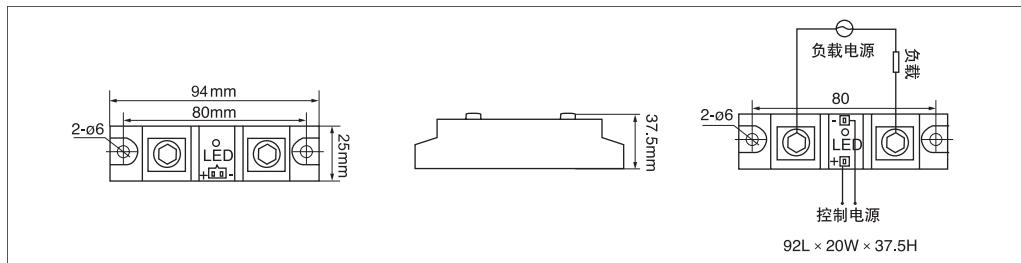
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6-1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6-1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-H3200Z

工业级交流固态继电器（基本型）

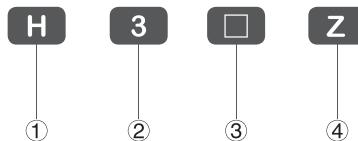
Industrial grade AC solid state relays
(Basic type)



◎ 产品概述 Product overview

- ◆ 额定电流: 150A-400Amps
- ◆ 额定电压: 480VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ Rated current: 150A-400Amps
- ◆ Rated voltage: 480VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer

◎ 型号含义 Type meaning



- ① 长条形 Elongated
- ② 操作电压 480VAC
Operating voltage 480VAC
- ③ 150A, 200A, 250A, 300A, 400A
- ④ 过零型 The zero type

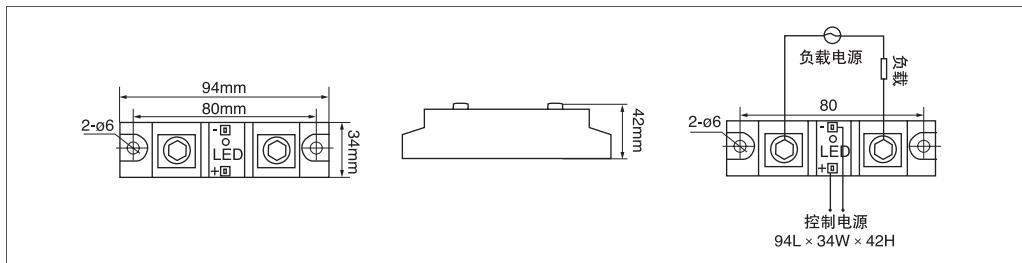
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6-1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6-1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR®

MGR-H6200Z

工业级交流固态继电器（增强型）

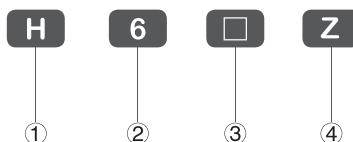
Industrial grade AC solid state relays (Enhanced)



◎ 产品概述 Product overview

- ◆ 额定电流: 150A-400Amps
- ◆ 额定电压: 690VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ Rated current: 150A-400Amps
- ◆ Rated voltage: 690VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer

◎ 型号含义 Type meaning



① 长条形 Elongated

② 操作电压 690VAC

Operating voltage 690VAC

③ 150A, 200A, 250A, 300A, 400A

④ 过零型 The zero type

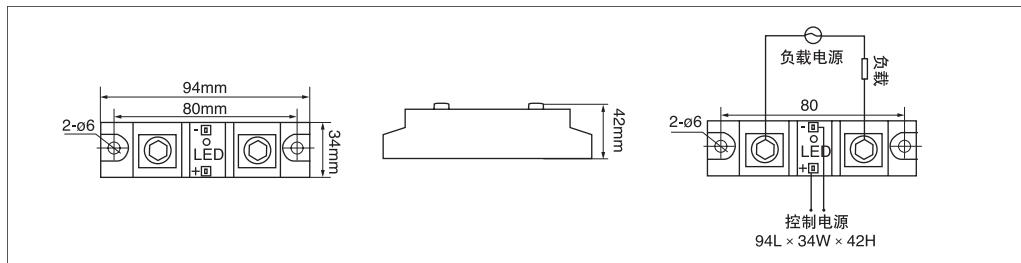
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6-1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6-1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-H12200Z

工业级交流固态继电器 (高压型)

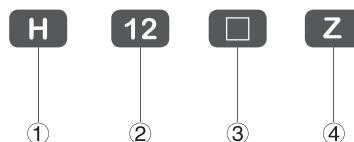
Industrial grade AC solid state relays
(High pressure type)



◎ 产品概述 Product overview

- ◆ 额定电流: 150A–400Amps
- ◆ 额定电压: 1200VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ Rated current: 150A–400Amps
- ◆ Rated voltage: 1200VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer

◎ 型号含义 Type meaning



- ① 长条形 Elongated
- ② 操作电压 1200VAC
Operating voltage 1200VAC
- ③ 150A, 200A, 250A, 300A, 400A
- ④ 过零型 The zero type

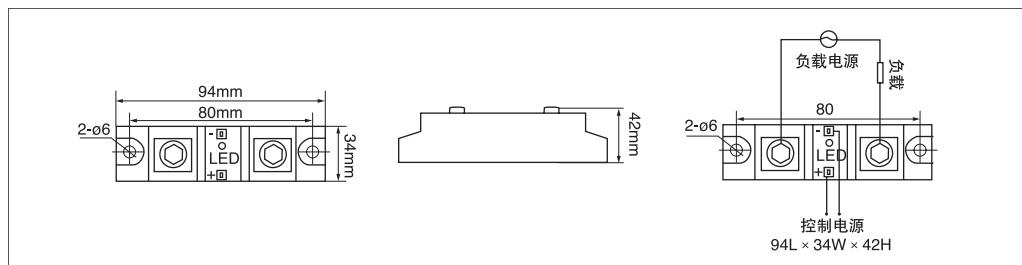
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6–1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6–1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram

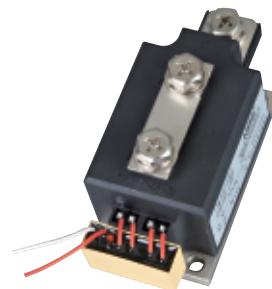


MGR®

MGR-H3400Z

工业级交流固态继电器（基本型）

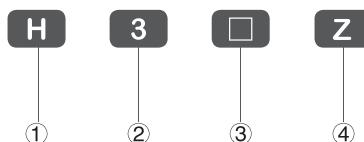
Industrial grade AC solid state relays (Basic type)



◎ 产品概述 Product overview

- ◆ 额定电流: 400A–500Amps
- ◆ 额定电压: 480VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ Rated current: 400A–500Amps
- ◆ Rated voltage: 480VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer

◎ 型号含义 Type meaning



- ① 长条形 Elongated
② 操作电压 480VAC
Operating voltage 480VAC
③ 400A, 500A
④ 过零型 The zero type

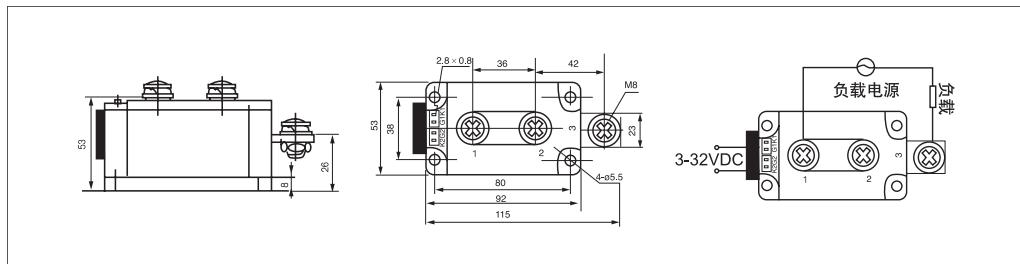
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6–1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6–1.9 times times the load voltage.

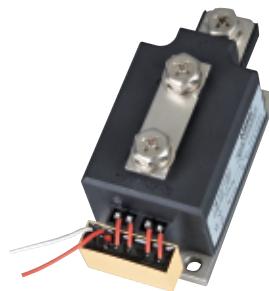
◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-H6400Z

工业级交流固态继电器（增强型）

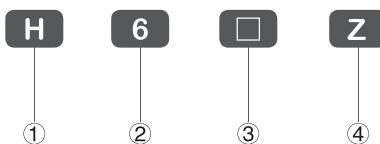
Industrial grade AC solid state relays
(Enhanced)



◎ 产品概述 Product overview

- ◆ 额定电流: 400A–500Amps
- ◆ 额定电压: 690VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ Rated current: 400A–500Amps
- ◆ Rated voltage: 690VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer

◎ 型号含义 Type meaning



- ① 长条形 Elongated
- ② 操作电压 690VAC
Operating voltage 690VAC
- ③ 400A, 500A
- ④ 过零型 The zero type

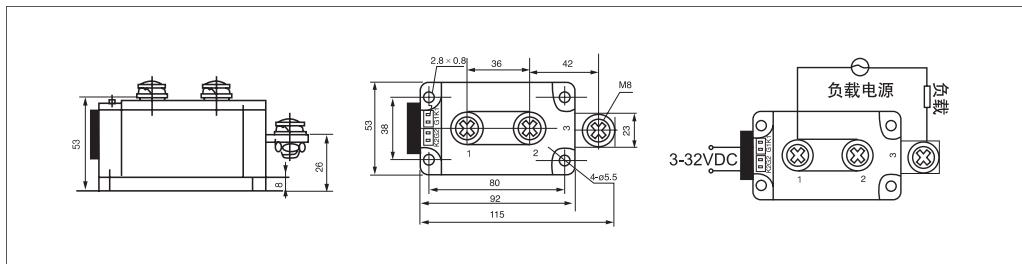
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6–1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6–1.9 times times the load voltage.

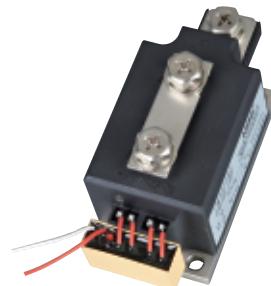
◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-H12400Z

工业级交流固态继电器（高压型）

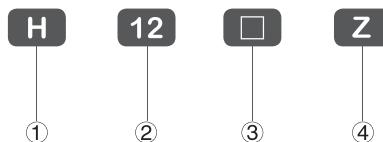
Industrial grade AC solid state relays (High pressure type)



◎ 产品概述 Product overview

- ◆ 额定电流: 400A–500Amps
- ◆ 额定电压: 1200VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ Rated current: 400A–500Amps
- ◆ Rated voltage: 1200VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer

◎ 型号含义 Type meaning



- ① 长条形 Elongated
② 操作电压 1200VAC
Operating voltage 1200VAC

③ 400A, 500A

④ 过零型

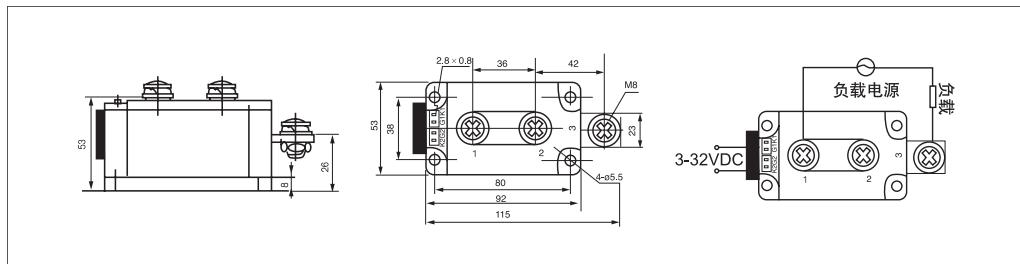
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6–1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6–1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-H3100-P

工业级交流固态继电器（基本型）

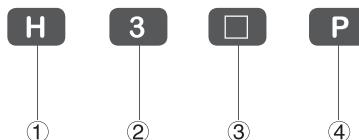
Industrial grade AC solid state relays
(Basic type)



◎ 产品概述 Product overview

- ◆ 额定电流: 40A~125Amps
- ◆ 额定电压: 480VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 具有随机性能，导通迅速
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ Rated current: 40A~125Amps
- ◆ Rated voltage: 480VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ With random performance, the guide is fast
- ◆ R-C contains the standard output buffer

◎ 型号含义 Type meaning



- ① 长条形 Elongated
- ② 操作电压 480VAC
Operating voltage 480VAC
- ③ 40A,60A,80A, 100A, 120A,125A
- ④ 随机型 Random type

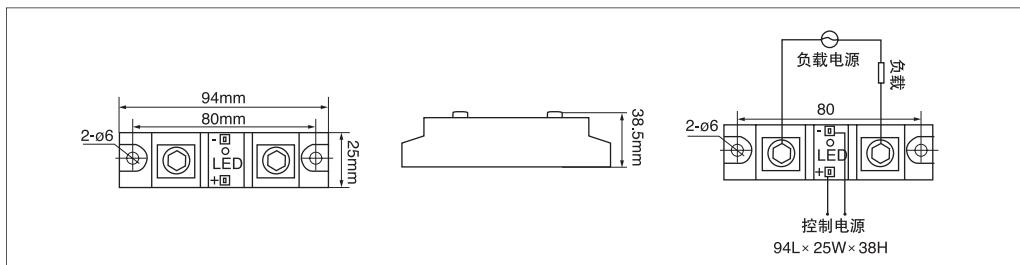
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6~1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6~1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR®

MGR-H3200-P

工业级交流固态继电器（增强型）

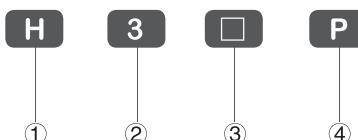
Industrial grade AC solid state relays (Enhanced)



◎ 产品概述 Product overview

- ◆ 额定电流: 150A–400Amps
- ◆ 额定电压: 480VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 具有随机性能，导通迅速
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ Rated current: 150–400Amps
- ◆ Rated voltage: 480VAC
- ◆ Back-to-back SCR output for commercial–heavy industry–level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ With random performance, the guide is fast
- ◆ R-C contains the standard output buffer

◎ 型号含义 Type meaning



① 长条形 Elongated

② 操作电压 480VAC

Operating voltage 480VAC

③ 150A, 200A, 300A, 400A

④ 随机型 Random type

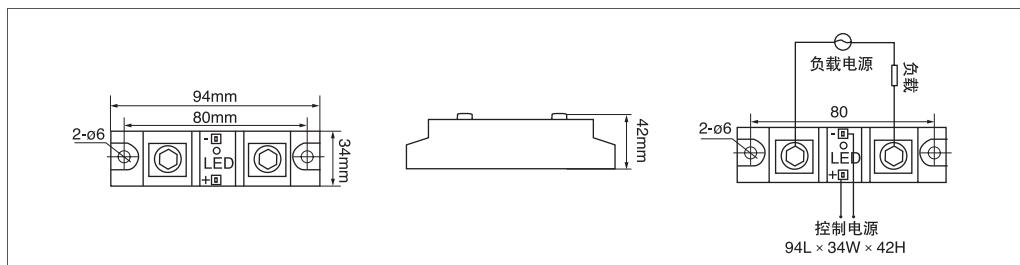
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6–1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6–1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-AH3100Z

工业级交流固态继电器（基本型）

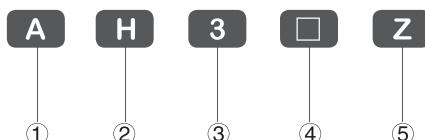
Industrial grade AC solid state relays
(Basic type)



◎ 产品概述 Product overview

- ◆ 额定电流: 40A-125Amps
- ◆ 额定电压: 480VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ Rated current: 40A-125Amps
- ◆ Rated voltage: 480VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer

◎ 型号含义 Type meaning



- ① 控制电压 85-265VAC
Control voltage 85-265VAC
- ② 长条形 Elongated
- ③ 操作电压 480VAC
Operating voltage 480VAC
- ④ 40A, 60A, 80A, 100A, 120A, 125A
- ⑤ 过零型 The zero type

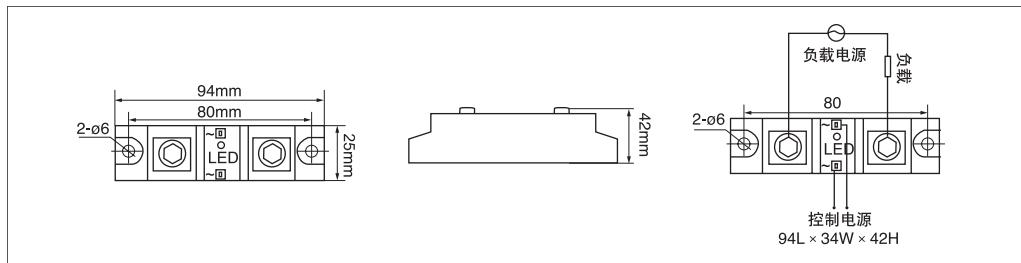
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6-1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6-1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-AH6100Z

工业级交流固态继电器（增强型）

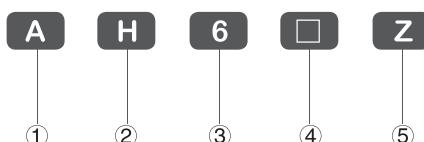
Industrial grade AC solid state relays
(Enhanced)



◎ 产品概述 Product overview

- ◆ 额定电流: 40A-125Amps
- ◆ 额定电压: 690VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ Rated current: 40A-125amps
- ◆ Rated voltage: 690VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer

◎ 型号含义 Type meaning



- ① 控制电压 85–265VAC
Control voltage 85–265VAC
- ② 长条形 Elongated
- ③ 操作电压 690VAC
Operating voltage 690VAC
- ④ 40A, 60A, 80A, 100A, 120A, 125A
- ⑤ 过零型 The zero type

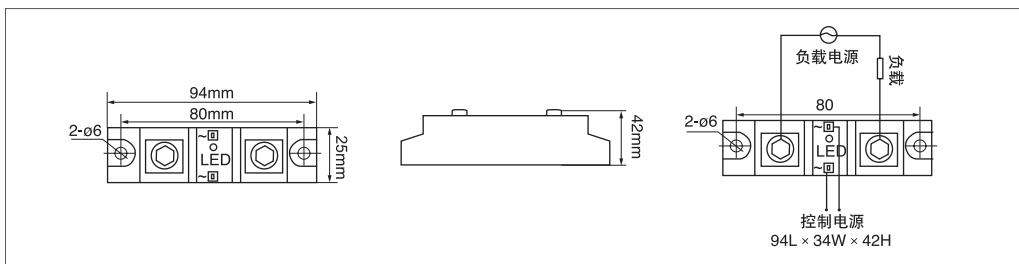
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6–1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6–1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-AH12100Z

工业级交流固态继电器 (高压型)

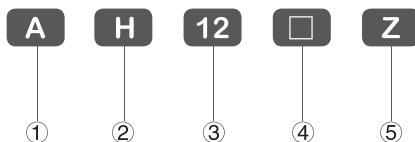
Industrial grade AC solid state relays
(High pressure type)



◎ 产品概述 Product overview

- ◆ 额定电流: 40A-125Amps
- ◆ 额定电压: 1200VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用, 性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ Rated current: 40A-125Amps
- ◆ Rated voltage: 1200VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer

◎ 型号含义 Type meaning



- ① 控制电压 85–265VAC
Control voltage 85–265VAC
- ② 长条形 Elongated
- ③ 操作电压 1200VAC
Operating voltage 1200VAC
- ④ 40A, 60A, 80A, 100A, 120A, 125A
- ⑤ 过零型 The zero type

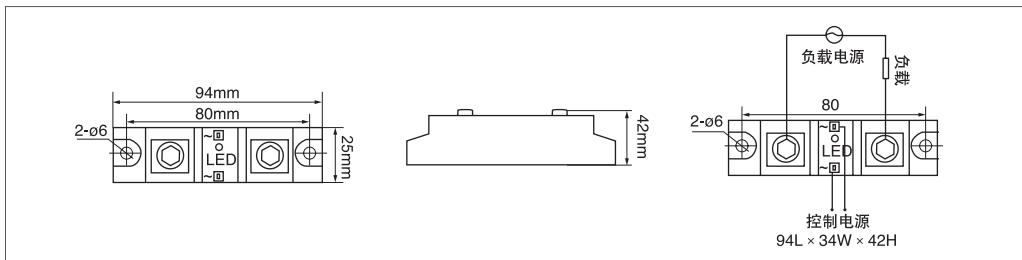
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6–1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6–1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-AH3200Z

工业级交流固态继电器（基本型）

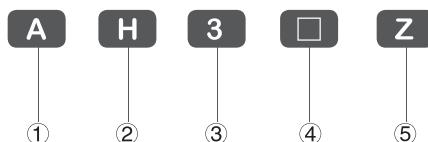
Industrial grade AC solid state relays
(Basic type)



◎ 产品概述 Product overview

- ◆ 额定电流: 150A~400Amps
- ◆ 额定电压: 480VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ Rated current: 150A~400Amps
- ◆ Rated voltage: 480VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer

◎ 型号含义 Type meaning



- ① 控制电压 85~265VAC
Control voltage 85~265VAC
- ② 长条形 Elongated
- ③ 操作电压 480VAC
Operating voltage 480VAC
- ④ 150A, 200A, 250A, 300A, 400A
- ⑤ 过零型 The zero type

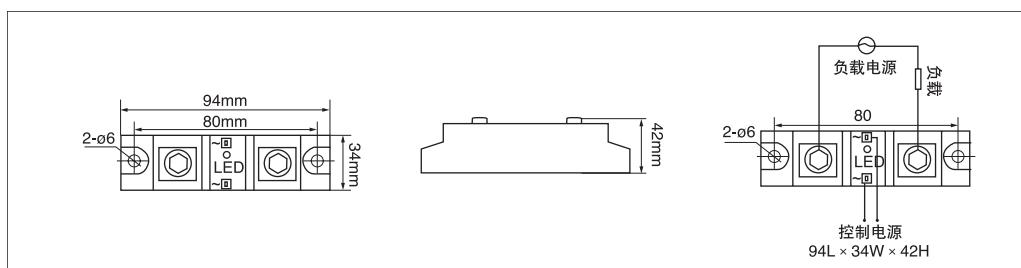
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6~1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6~1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-AH6200Z

工业级交流固态继电器（增强型）

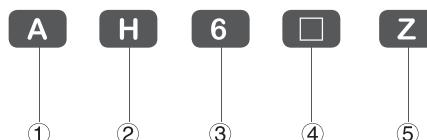
Industrial grade AC solid state relays
(Enhanced)



◎ 产品概述 Product overview

- ◆ 额定电流: 150A–400Amps
- ◆ 额定电压: 690VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ Rated current: 150A–400Amps
- ◆ Rated voltage: 690VAC
- ◆ Back-to-back SCR output for commercial–heavy industry–level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer

◎ 型号含义 Type meaning



- ① 控制电压 85–265VAC
Control voltage 85–265VAC
- ② 长条形 Elongated
- ③ 操作电压 690VAC
Operating voltage 690VAC
- ④ 150A, 200A, 250A, 300A, 400A
- ⑤ 过零型 The zero type

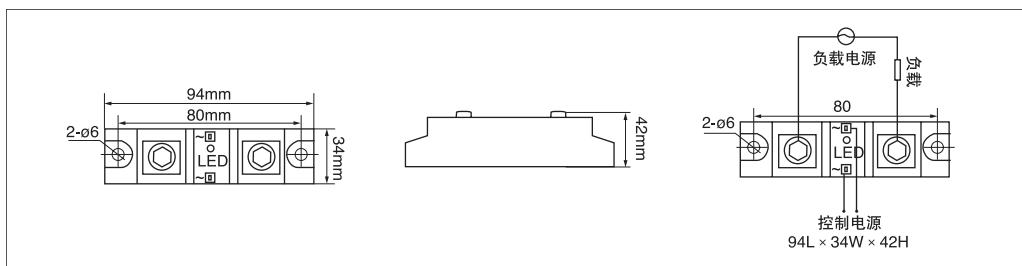
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6–1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6–1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-AH12200Z

工业级交流固态继电器（高压型）

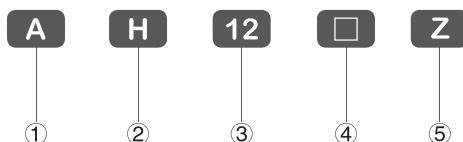
Industrial grade AC solid state relays
(High pressure type)



◎ 产品概述 Product overview

- ◆ 额定电流: 150A–400Amps
- ◆ 额定电压: 1200VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ Rated current: 150A–400Amps
- ◆ Rated voltage: 1200VAC
- ◆ Back-to-back SCR output for commercial–heavy industry–level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer

◎ 型号含义 Type meaning



- ① 控制电压 85–265VAC
Control voltage 85–265VAC
- ② 长条形 Elongated
- ③ 操作电压 1200VAC
Operating voltage 1200VAC
- ④ 150A, 200A, 250A, 300A, 400A
- ⑤ 过零型 The zero type

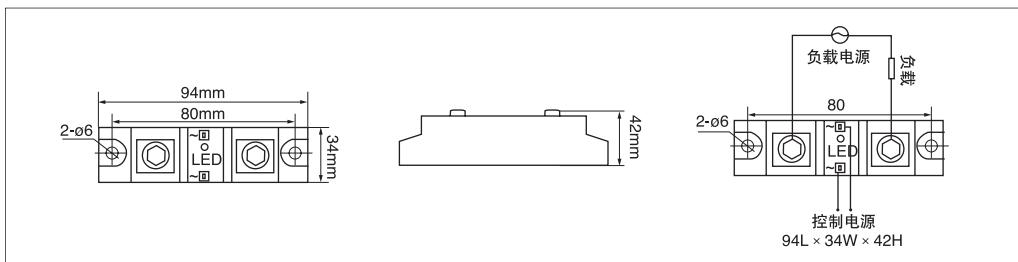
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6–1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6–1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-AH3400Z

工业级交流固态继电器（基本型）

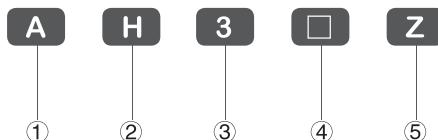
Industrial grade AC solid state relays
(Basic type)



◎ 产品概述 Product overview

- ◆ 额定电流: 400A–500Amps
- ◆ 额定电压: 480VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ Rated current: 400A–500Amps
- ◆ Rated voltage: 480VAC
- ◆ Back-to-back SCR output for commercial–heavy industry–level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off–leakage current
- ◆ Low output on–State voltage drop
- ◆ With LED lights indicating
- ◆ R–C contains the standard output buffer

◎ 型号含义 Type meaning



- ① 控制电压 85–265VAC
Control voltage 85–265VAC
- ② 长条形 Elongated
- ③ 操作电压 480VAC
Operating voltage 480VAC
- ④ 400A, 500A
- ⑤ 过零型 The zero type

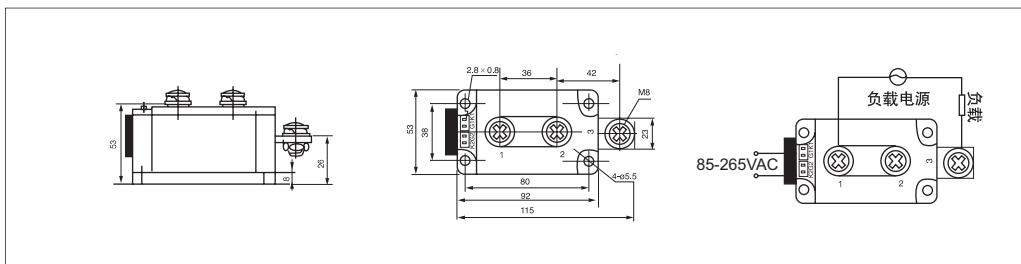
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6–1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6–1.9 times times the load voltage.

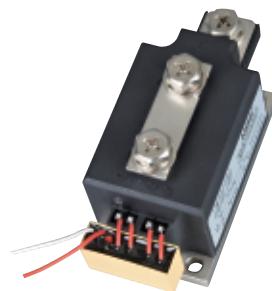
◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-AH6400Z

工业级交流固态继电器（增强型）

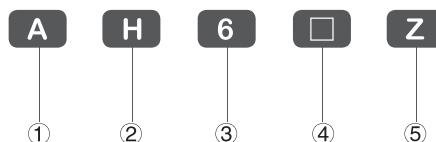
Industrial grade AC solid state relays (Enhanced)



◎ 产品概述 Product overview

- ◆ 额定电流: 400A–500Amps
- ◆ 额定电压: 690VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ Rated current: 400A–500Amps
- ◆ Rated voltage: 690VAC
- ◆ Back-to-back SCR output for commercial–heavy industry–level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer

◎ 型号含义 Type meaning



- ① 控制电压 85–265VAC
Control voltage 85–265VAC
- ② 长条形 Elongated
- ③ 操作电压 690VAC
Operating voltage 690VAC
- ④ 400A, 500A
- ⑤ 过零型 The zero type

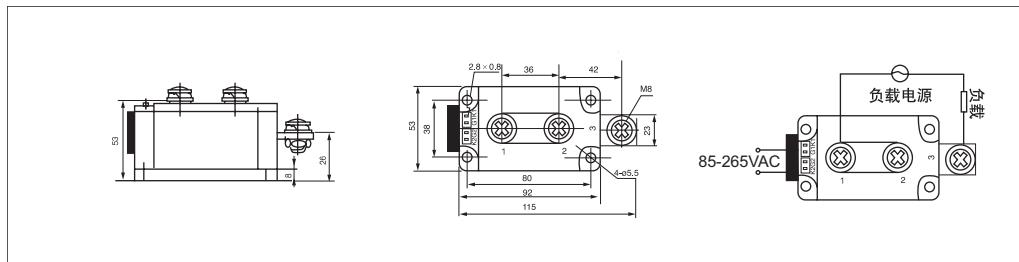
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6–1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6–1.9 times times the load voltage.

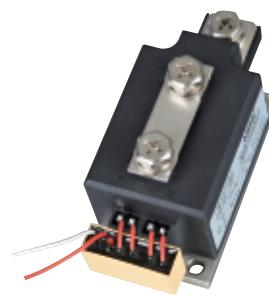
◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-AH12400Z

工业级交流固态继电器（高压型）

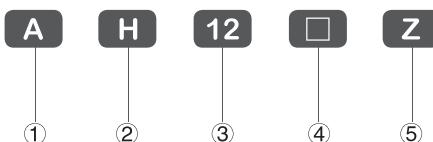
Industrial grade AC solid state relays
(High pressure type)



◎ 产品概述 Product overview

- ◆ 额定电流: 400A–500Amps
- ◆ 额定电压: 1200VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ Rated current: 400A–500Amps
- ◆ Rated voltage: 1200VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer

◎ 型号含义 Type meaning



- ① 控制电压 85–265VAC
Control voltage 85–265VAC
- ② 长条形 Elongated
- ③ 操作电压 1200VAC
Operating voltage 1200VAC
- ④ 400A, 500A
- ⑤ 过零型 The zero type

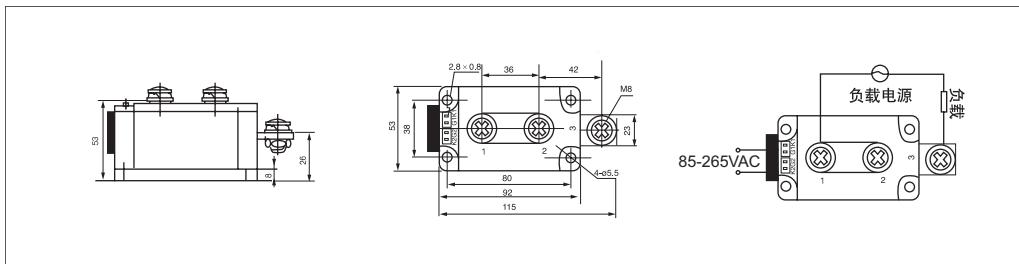
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6–1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6–1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-3 032 38 □ Z

三相交流固态继电器（基本型）

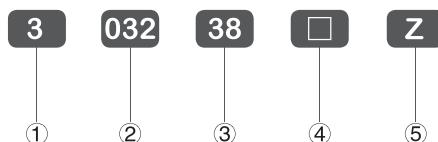
Three-phases AC solid state relays
(basic type)



◎ 产品概述 Product overview

- ◆ 额定电流: 10A-200Amps
- ◆ 额定电压: 380VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 透明保护盖为用户提供额外保护
- ◆ Rated current: 10A-200Amps
- ◆ Rated voltage: 380VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer
- ◆ Transparent protective cover provides users with additional protection

◎ 型号含义 Type meaning



- ① 三相 Three-phase
- ② 控制电压 3-32VDC
Control voltage 3-32VDC
- ③ 操作电压 380VAC
Operating voltage 380VAC
- ④ 10A, 15A, 20A, 25A, 30A, 40A, 50A, 60A, 75A,
80A, 100A, 120A, 150A, 200A
- ⑤ 过零型 The zero type

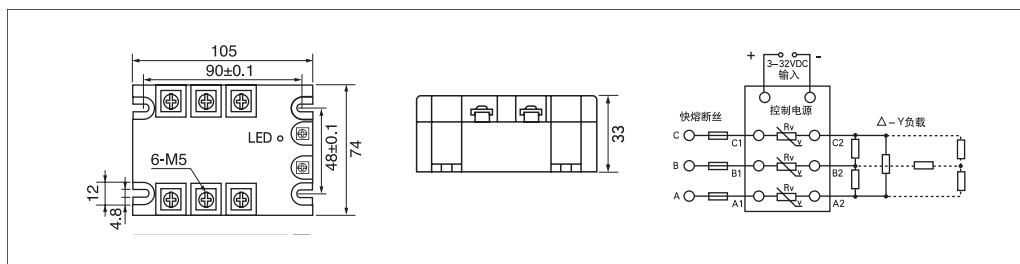
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6-1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6-1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-3 032 48 □ Z

三相交流固态继电器（增强型）

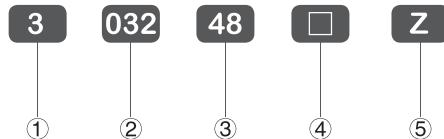
Three-phases AC solid state relays
(enhanced)



◎ 产品概述 Product overview

- ◆ 额定电流: 10A-200Amps
- ◆ 额定电压: 480VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 透明保护盖为用户提供额外保护
- ◆ Rated current: 10A-200Amps
- ◆ Rated voltage: 480VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer
- ◆ Transparent protective cover provides users with additional protection

◎ 型号含义 Type meaning



- ① 三相 Three-phase
- ② 控制电压 3-32VDC
Control voltage 3-32VDC
- ③ 操作电压 480VAC
Operating voltage 480VAC
- ④ 10A, 15A, 20A, 25A, 30A, 40A, 50A, 60A, 75A,
80A, 100A, 120A, 150A, 200A
- ⑤ 过零型 The zero type

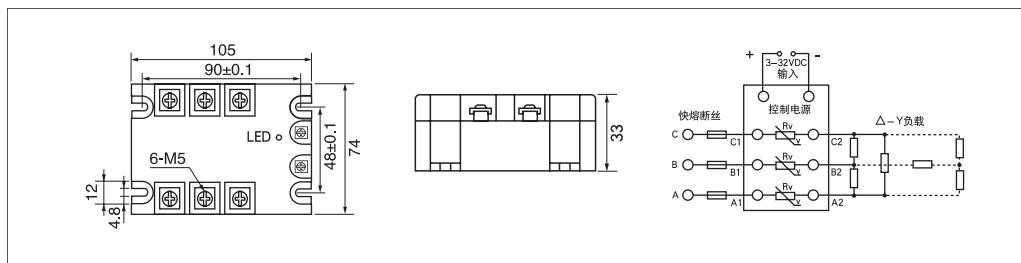
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6-1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6-1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-3 032 120 □ Z

三相交流固态继电器（高压型）

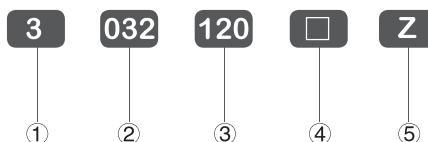
Three-phases AC solid state relays
(High pressure type)



◎ 产品概述 Product overview

- ◆ 额定电流: 10A-200Amps
- ◆ 额定电压: 1200VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 透明保护盖为用户提供额外保护
- ◆ Rated current: 10A-200Amps
- ◆ Rated voltage: 1200VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer
- ◆ Transparent protective cover provides users with additional protection

◎ 型号含义 Type meaning



- ① 三相 Three-phase
- ② 控制电压 3-32VDC
Control voltage 3-32VDC
- ③ 操作电压 1200VAC
Operating voltage 1200VAC
- ④ 10A, 15A, 20A, 25A, 30A, 40A, 50A, 60A, 75A, 80A, 100A, 120A, 150A, 200A
- ⑤ 过零型 The zero type

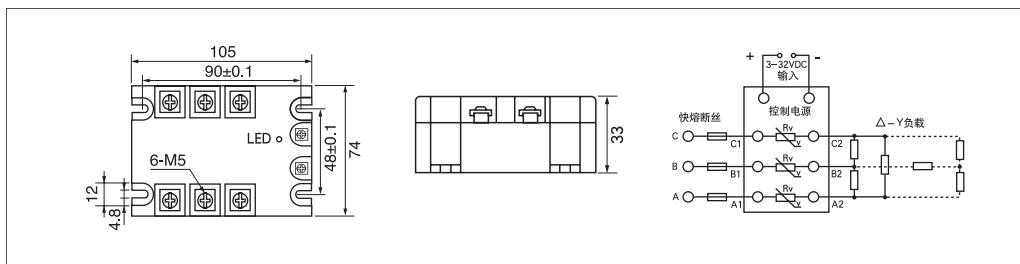
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6-1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6-1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-3 A38 □ Z

三相交流固态继电器（基本型）

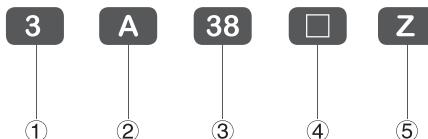
Three-phases AC solid state relays
(basic type)



◎ 产品概述 Product overview

- ◆ 额定电流: 10A-200Amps
- ◆ 额定电压: 380VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 透明保护盖为用户提供额外保护
- ◆ Rated current: 10A-200Amps
- ◆ Rated voltage: 380VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer
- ◆ Transparent protective cover provides users with additional protection

◎ 型号含义 Type meaning



- ① 三相 Three-phase
- ② 控制电压 85-265VAC
Control voltage 85-265VAC
- ③ 操作电压 380VAC
Operating voltage 380VAC
- ④ 10A, 15A, 20A, 25A, 30A, 40A, 50A, 60A, 75A,
80A, 100A, 120A, 150A, 200A
- ⑤ 过零型 The zero type

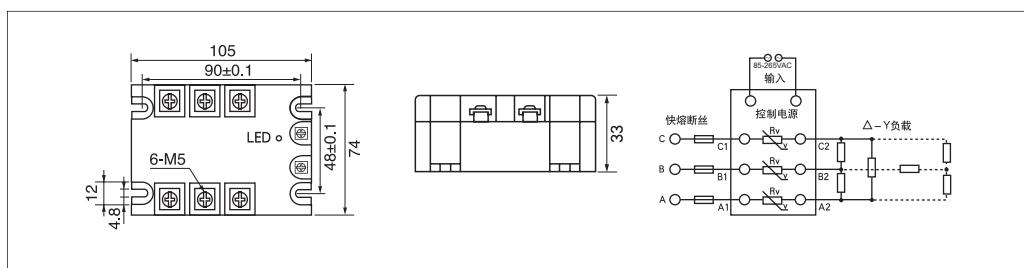
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6-1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6-1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-3 A48 □ Z

三相交流固态继电器（增强型）

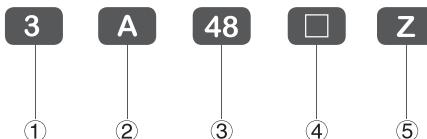
Three-phases AC solid state relays
(Enhanced)



◎ 产品概述 Product overview

- ◆ 额定电流: 10A-200Amps
- ◆ 额定电压: 480VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 透明保护盖为用户提供额外保护
- ◆ Rated current: 10A-200Amps
- ◆ Rated voltage: 480VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer
- ◆ Transparent protective cover provides users with additional protection

◎ 型号含义 Type meaning



- ① 三相 Three-phase
- ② 控制电压 85-265VAC
Control voltage 85-265VAC
- ③ 操作电压 480VAC
Operating voltage 480VAC
- ④ 10A, 15A, 20A, 25A, 30A, 40A, 50A, 60A, 75A, 80A, 100A, 120A
- ⑤ 过零型 The zero type

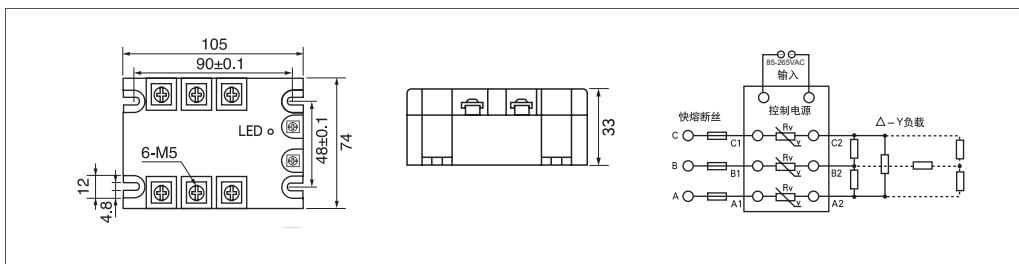
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6-1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6-1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-3 A120 □ Z

三相交流固态继电器 (高压型)

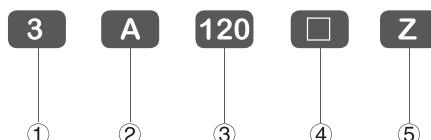
Three-phases AC solid state relays
(High pressure)



◎ 产品概述 Product overview

- ◆ 额定电流: 10A-200Amps
- ◆ 额定电压: 1200VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用, 性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 透明保护盖为用户提供额外保护
- ◆ Rated current: 10A-200Amps
- ◆ Rated voltage: 1200VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer
- ◆ Transparent protective cover provides users with additional protection

◎ 型号含义 Type meaning



- ① 三相 Three-phase
- ② 控制电压 85-265VAC
Control voltage 85-265VAC
- ③ 操作电压 1200VAC
Operating voltage 1200VAC
- ④ 10A, 15A, 20A, 25A, 30A, 40A, 50A, 60A, 75A, 80A, 100A, 120A
- ⑤ 过零型 The zero type

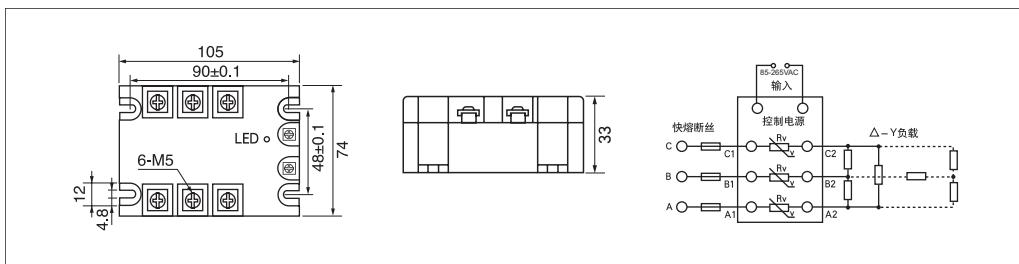
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6-1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6-1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram





MGR-H3100Z-3

工业级组合三相交流固态继电器 (基本型)

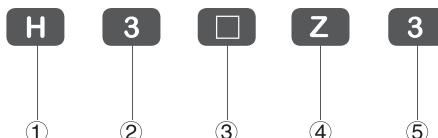
Industrial-grade three-phase ac solid relay(basic type)



◎ 产品概述 Product overview

- ◆ 额定电流: 40A-125Amps
- ◆ 额定电压: 440VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用, 性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 配备标准形材工业散热器及轴流风机, 散热效果显著
- ◆ 具有过热温控保护
- ◆ Rated current: 40A-125Amps
- ◆ Rated voltage: 440VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer
- ◆ Equipped with standard material industrial radiator and axial-flow fan and cooling effect
- ◆ It has overheating temperature control protection

◎ 型号含义 Type meaning



① 长条形 Elongated

② 操作电压 480VAC
Operating voltage 480VAC

③ 40A, 60A, 80A, 100A, 120A, 125A

④ 过零型 The zero type

⑤ 组合三相 Combination of three phase

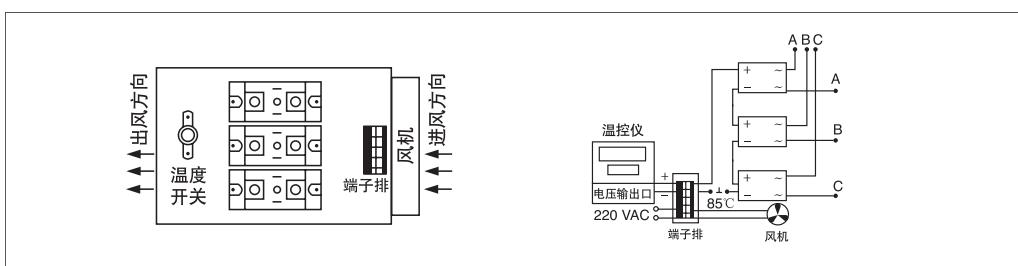
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6-1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6-1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-H6100Z-3

工业级组合三相交流固态继电器 (增强型)

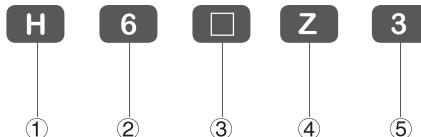
Industrial-grade three-phase ac solid relay(enhanced)



◎ 产品概述 Product overview

- ◆ 额定电流: 40A-125Amps
- ◆ 额定电压: 690VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 配备标准形材工业散热器及轴流风机，散热效果显著
- ◆ 具有过热温控保护
- ◆ Rated current: 40A-125Amps
- ◆ Rated voltage: 690VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer
- ◆ Equipped with standard material industrial radiator and axial-flow fan and cooling effect
- ◆ It has overheating temperature control protection

◎ 型号含义 Type meaning



- ① 长条形 Elongated
- ② 操作电压 690VAC
Operating voltage 690VAC
- ③ 40A, 60A, 80A, 100A, 120A, 125A
- ④ 过零型 The zero type
- ⑤ 组合三相 Combination of three phase

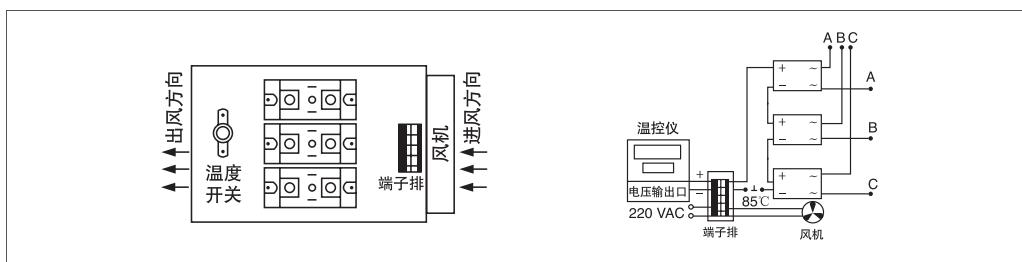
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6-1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6-1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR®

MGR-H12100Z-3

工业级组合三相交流固态继电器 (高压型)

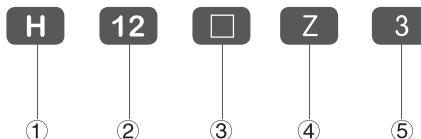
Industrial-grade three-phase ac solid relay (high-voltage type)



◎ 产品概述 Product overview

- ◆ 额定电流: 40A-125Amps
- ◆ 额定电压: 1200VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用, 性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 配备标准形材工业散热器及轴流风机, 散热效果显著
- ◆ 具有过热温控保护
- ◆ Rated current: 40A-125Amps
- ◆ Rated voltage: 1200VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer
- ◆ Equipped with standard material industrial radiator and axial-flow fan and cooling effect
- ◆ It has overheating temperature control protection

◎ 型号含义 Type meaning



- ① 长条形 Elongated
 ② 操作电压 1200VAC
 Operating voltage 1200VAC
 ③ 40A, 60A, 80A, 100A, 120A, 125A
 ④ 过零型 The zero type
 ⑤ 组合三相 Combination of three phase

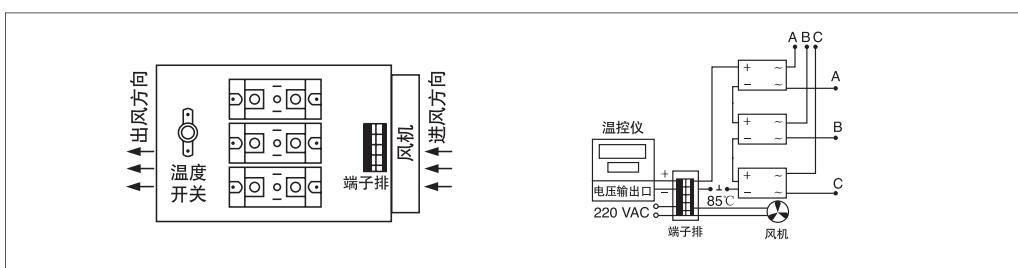
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6-1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6-1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-AH3100Z-3

工业级组合三相交流固态继电器(基本型)

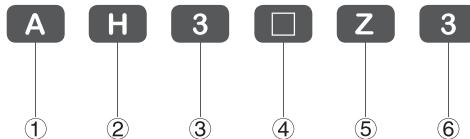
Industrial-grade three-phase ac solid relay(basic type)



◎ 产品概述 Product overview

- ◆ 额定电流: 40A-125Amps
- ◆ 额定电压: 480VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用, 性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 配备标准形材工业散热器及轴流风机, 散热效果显著
- ◆ 具有过热温控保护
- ◆ Rated current: 40A-125Amps
- ◆ Rated voltage: 480VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer
- ◆ Equipped with standard material industrial radiator and axial-flow fan and cooling effect
- ◆ It has overheating temperature control protection

◎ 型号含义 Type meaning



- ① 控制电压 85-265VAC
Control voltage 85-265VAC
- ② 长条形 Elongated
- ③ 操作电压 480VAC
Operating voltage 480VAC
- ④ 40A, 60A, 80A, 100A, 120A, 125A
- ⑤ 过零型 The zero type
- ⑥ 组合三相 Combination of three phase

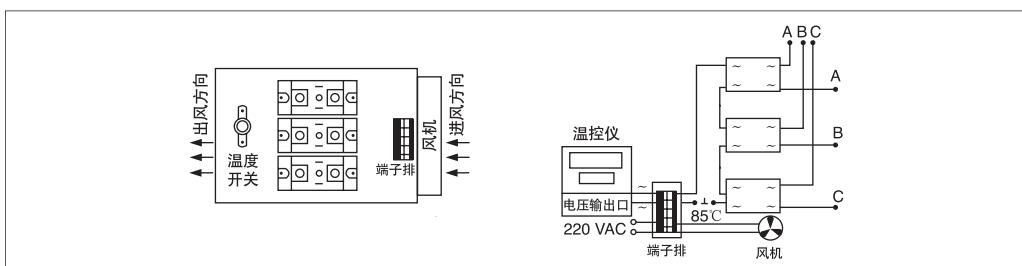
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6-1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6-1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR®

MGR-AH6100Z-3

工业级组合三相交流固态继电器 (增强型)

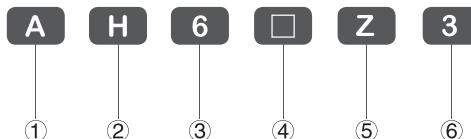
Industrial-grade three-phase ac solid relay(enhanced)



◎ 产品概述 Product overview

- ◆ 额定电流: 40A-125Amps
- ◆ 额定电压: 690VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 配备标准形材工业散热器及轴流风机，散热效果显著
- ◆ 具有过热温控保护
- ◆ Rated current: 40A~125Amps
- ◆ Rated voltage: 690VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer
- ◆ Equipped with standard material industrial radiator and axial-flow fan and cooling effect
- ◆ It has overheating temperature control protection

◎ 型号含义 Type meaning



① 控制电压 85~265VAC

Control voltage 85~265VAC

② 长条形 Elongated

③ 操作电压 690VAC

Operating voltage 690VAC

④ 40A, 60A, 80A, 100A, 120A, 125A

⑤ 过零型 The zero type

⑥ 组合三相 Combination of three phase

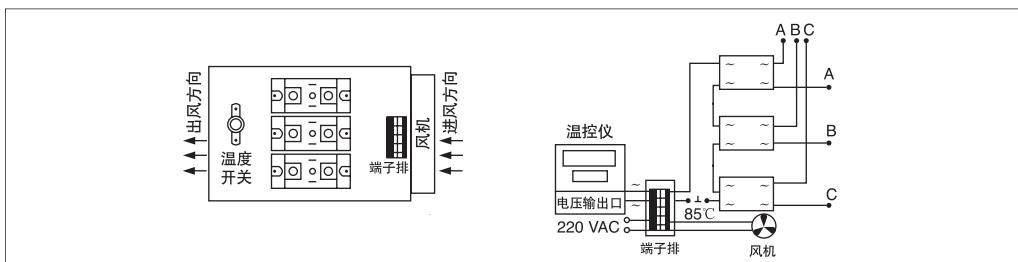
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6~1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6~1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-AH12100Z-3

工业级组合三相交流固态继电器 (高压型)

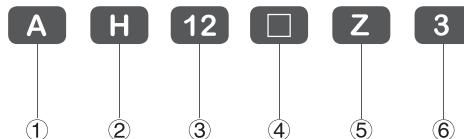
Industrial-grade three-phase ac solid relay (high-voltage type)



◎ 产品概述 Product overview

- ◆ 额定电流: 40A-125Amps
- ◆ 额定电压: 1200VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 配备标准形材工业散热器及轴流风机，散热效果显著
- ◆ 具有过热温控保护
- ◆ Rated current: 40A~125Amps
- ◆ Rated voltage: 1200VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer
- ◆ Equipped with standard material industrial radiator and axial-flow fan and cooling effect
- ◆ It has overheating temperature control protection

◎ 型号含义 Type meaning



- ① 控制电压 85~265VAC
Control voltage 85~265VAC
- ② 长条形 Elongated
- ③ 操作电压 1200VAC
Operating voltage 1200VAC
- ④ 40A, 60A, 80A, 100A, 120A, 125A
- ⑤ 过零型 The zero type
- ⑥ 组合三相 Combination of three phase

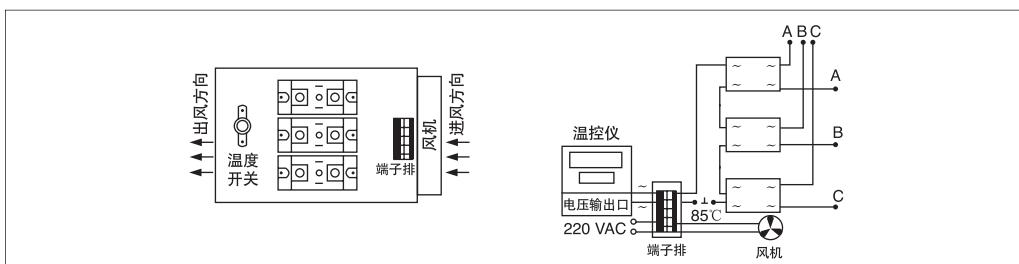
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6~1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6~1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR®

MGR-H3200Z-3

工业级组合三相交流固态继电器（基本型）

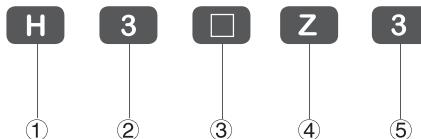
Industrial-grade three-phase ac solid relay(basic type)



◎ 产品概述 Product overview

- ◆ 额定电流: 150A-400Amps
- ◆ 额定电压: 480VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 配备标准形材工业散热器及轴流风机，散热效果显著
- ◆ 具有过热温控保护
- ◆ Rated current: 150A-400Amps
- ◆ Rated voltage: 480VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer
- ◆ Equipped with standard material industrial radiator and axial-flow fan and cooling effect
- ◆ It has overheating temperature control protection

◎ 型号含义 Type meaning



- ① 长条形 Elongated
- ② 操作电压 480VAC
Operating voltage 480VAC
- ③ 150A, 200A, 300A, 400A
- ④ 过零型 The zero type
- ⑤ 组合三相 Combination of three phase

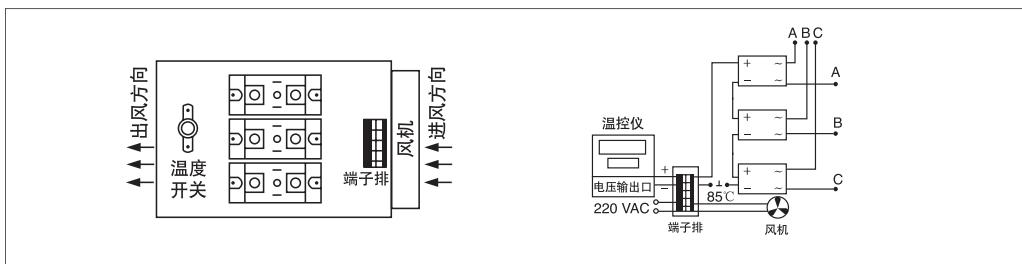
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6-1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6-1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-H6200Z-3

工业级组合三相交流固态继电器（增强型）

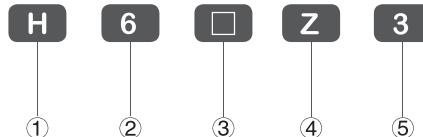
Industrial-grade three-phase ac solid relay(enhanced)



◎ 产品概述 Product overview

- ◆ 额定电流: 150A-400Amps
- ◆ 额定电压: 690VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 配备标准形材工业散热器及轴流风机，散热效果显著
- ◆ 具有过热温控保护
- ◆ Rated current: 150A-400Amps
- ◆ Rated voltage: 690VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer
- ◆ Equipped with standard material industrial radiator and axial-flow fan and cooling effect
- ◆ It has overheating temperature control protection

◎ 型号含义 Type meaning



- ① 长条形 Elongated
- ② 操作电压 690VAC
Operating voltage 690VAC
- ③ 150A, 200A, 300A, 400A
- ④ 过零型 The zero type
- ⑤ 组合三相 Combination of three phase

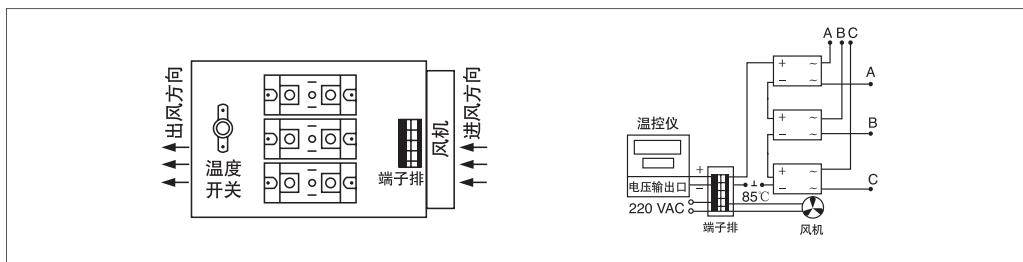
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6-1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6-1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR®

MGR-H12200Z-3

工业级组合三相交流固态继电器（高压型）

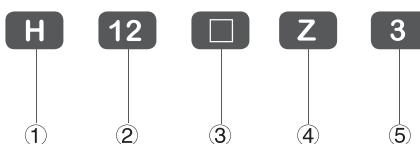
Industrial-grade three-phase ac solid relay (high-voltage type)



◎ 产品概述 Product overview

- ◆ 额定电流: 150A-400Amps
- ◆ 额定电压: 1200VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 配备标准形材工业散热器及轴流风机，散热效果显著
- ◆ 具有过热温控保护
- ◆ Rated current: 150A-400Amps
- ◆ Rated voltage: 1200VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer
- ◆ Equipped with standard material industrial radiator and axial-flow fan and cooling effect
- ◆ It has overheating temperature control protection

◎ 型号含义 Type meaning



- ① 长条形 Elongated
- ② 操作电压 1200VAC
Operating voltage 1200VAC
- ③ 150A, 200A, 300A, 400A
- ④ 过零型 The zero type
- ⑤ 组合三相 Combination of three phase

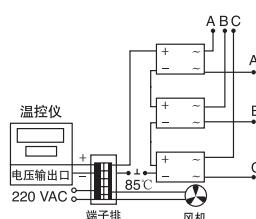
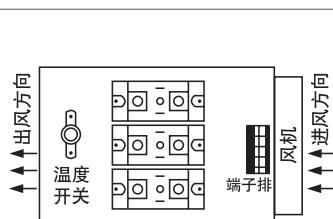
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6-1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6-1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-AH3200Z-3

工业级组合三相交流固态继电器（基本型）

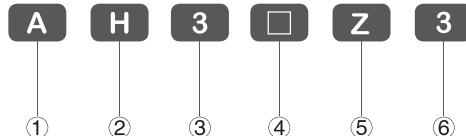
Industrial-grade three-phase ac solid relay(basic type)



◎ 产品概述 Product overview

- ◆ 额定电流: 150A-400Amps
- ◆ 额定电压: 480VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 配备标准形材工业散热器及轴流风机，散热效果显著
- ◆ 具有过热温控保护
- ◆ Rated current: 150A-400Amps
- ◆ Rated voltage: 480VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer
- ◆ Equipped with standard material industrial radiator and axial-flow fan and cooling effect
- ◆ It has overheating temperature control protection

◎ 型号含义 Type meaning



- ① 控制电压 85–265VAC
Control voltage 85–265VAC
- ② 长条形 Elongated
- ③ 操作电压 480VAC
Operating voltage 480VAC
- ④ 150A, 200A, 300A, 400A
- ⑤ 过零型 The zero type
- ⑥ 组合三相 Combination of three phase

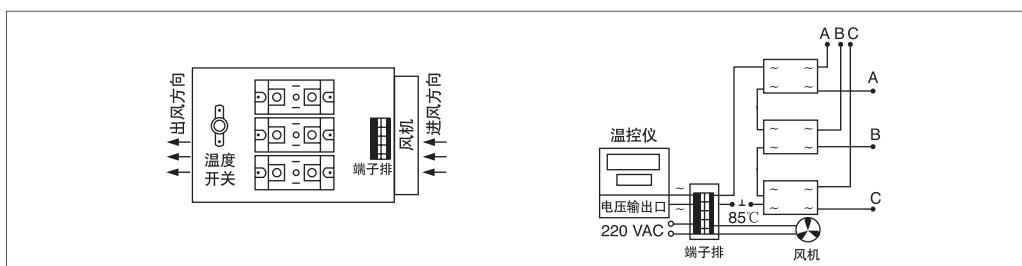
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6–1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6–1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR®

MGR-AH6200Z-3

工业级组合三相交流固态继电器（增强型）

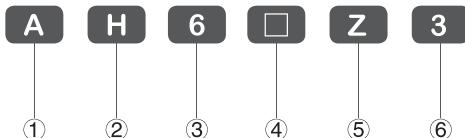
Industrial-grade three-phase ac solid relay(enhanced)



◎ 产品概述 Product overview

- ◆ 额定电流: 150A-400Amps
- ◆ 额定电压: 690VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 配备标准形材工业散热器及轴流风机，散热效果显著
- ◆ 具有过热温控保护
- ◆ Rated current: 150A-400Amps
- ◆ Rated voltage: 690VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer
- ◆ Equipped with standard material industrial radiator and axial-flow fan and cooling effect
- ◆ It has overheating temperature control protection

◎ 型号含义 Type meaning



- ① 控制电压 85–265VAC
Control voltage 85–265VAC
- ② 长条形 Elongated
- ③ 操作电压 690VAC
Operating voltage 690VAC
- ④ 150A, 200A, 300A, 400A
- ⑤ 过零型 The zero type
- ⑥ 组合三相 Combination of three phase

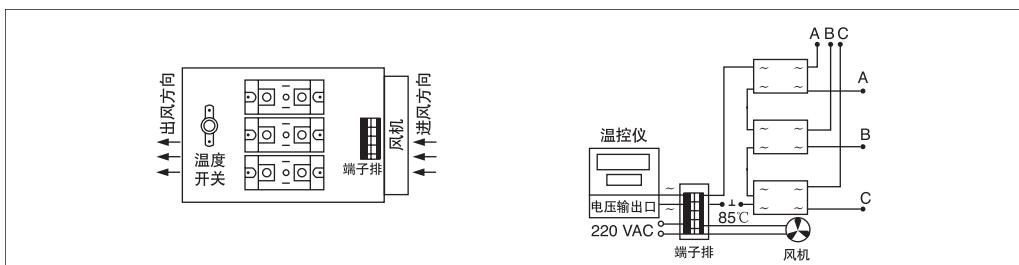
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6–1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6–1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-AH12200Z-3

工业级组合三相交流固态继电器 (高压型)

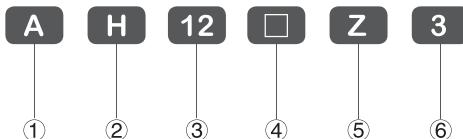
Industrial-grade three-phase ac solid relay (high-voltage type)



◎ 产品概述 Product overview

- ◆ 额定电流: 150A-400Amps
- ◆ 额定电压: 1200VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 配备标准形材工业散热器及轴流风机，散热效果显著
- ◆ 具有过热温控保护
- ◆ Rated current: 150A-400Amps
- ◆ Rated voltage: 1200VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer
- ◆ Equipped with standard material industrial radiator and axial-flow fan and cooling effect
- ◆ It has overheating temperature control protection

◎ 型号含义 Type meaning



- ① 控制电压 85–265VAC
Control voltage 85–265VAC
- ② 长条形 Elongated
- ③ 操作电压 1200VAC
Operating voltage 1200VAC
- ④ 150A, 200A, 300A, 400A
- ⑤ 过零型 The zero type
- ⑥ 组合三相 Combination of three phase

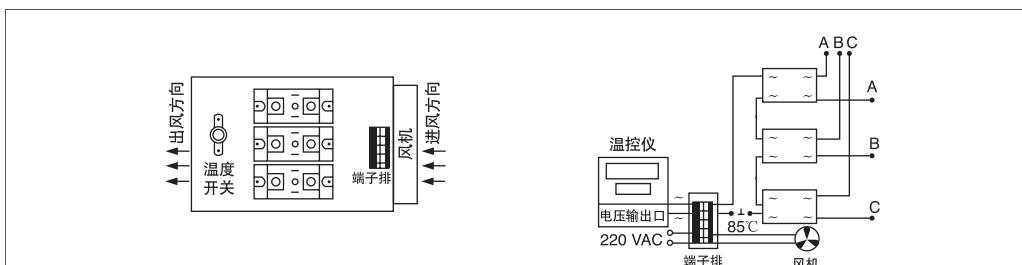
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6–1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6–1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR®

MGR-1 KB48- □

单相交流固态继电器(一开一闭, 特种)

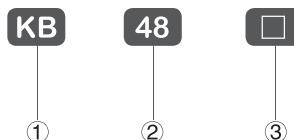
Single-phase AC solid state relays
(open and closed, Special)



◎ 产品概述 Product overview

- ◆ 额定电流: 10A-40Amps
- ◆ 额定电压: 480VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用, 性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 透明保护盖为用户提供额外保护
- ◆ Rated current: 10A-40Amps
- ◆ Rated voltage: 480VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer
- ◆ Transparent protective cover provides users with additional protection

◎ 型号含义 Type meaning



① 常开常闭 Normally open normally closed

② 操作电压 480VAC

Operating voltage 480VAC

③ 10A, 15A, 20A, 25A, 30A, 40A

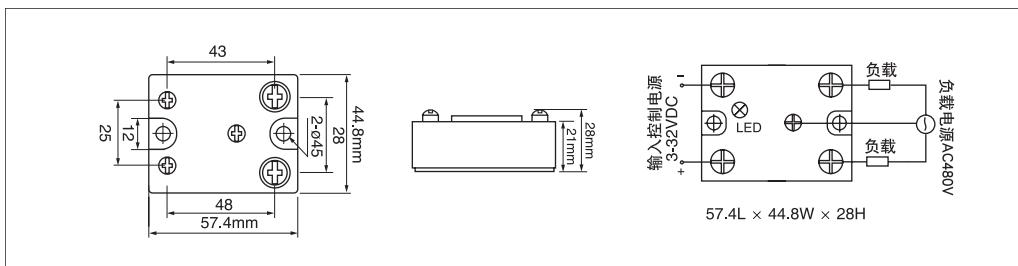
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6-1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6-1.9 times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-1 AKB48- □

单相交流固态继电器(一开一闭,特种)

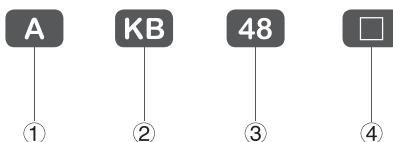
Single-phase AC solid state relays
(open and closed,Special)



◎ 产品概述 Product overview

- ◆ 额定电流: 10A–40Amps
 - ◆ 额定电压: 480VAC
 - ◆ 背靠背 SCR 输出适合商业级重工业级应用, 性能可靠
 - ◆ "超低" 的输入电流
 - ◆ 低输出断态泄漏电流
 - ◆ 低输出通态压降
 - ◆ 具有 LED 灯输出指示
 - ◆ 包含标准输出的 R–C 缓冲器
 - ◆ 透明保护盖为用户提供额外保护
 - ◆ Rated current: 10A–40Amps
 - ◆ Rated voltage: 480VAC
 - ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
 - ◆ "Ultra low" input current
 - ◆ Low output off-leakage current
 - ◆ Low output on-State voltage drop
 - ◆ With LED lights indicating
 - ◆ R–C contains the standard output buffer
 - ◆ Transparent protective cover provides users with additional protection

◎ 型号含义 Type meaning



- ① 控制电压 85–265VAC
Control voltage 85–265VAC
 - ② 常开常闭 Normally open normally closed
 - ③ 操作电压 480VAC
Operating voltage 480VAC
 - ④ 10A, 15A, 20A, 25A, 30A, 40A

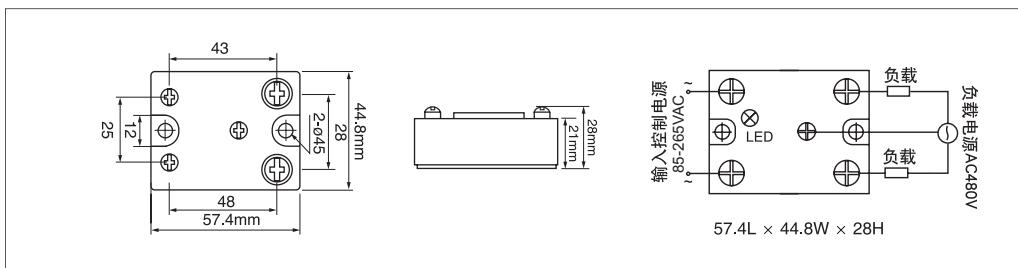
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
 2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6~1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
 2. When using inductive loads, be sure to output and a varistor. value of 1.6–1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram





MGR-1 D48 □ -2H

二组单相交流固态继电器 (特种)

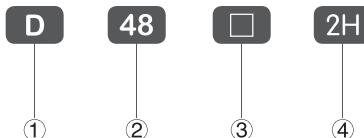
Two groups of single-phase AC solid (Special)



◎ 产品概述 Product overview

- ◆ 二组输入，输出，插片安装
- ◆ 额定电流：10A-40Amps
- ◆ 额定电压：480VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 两组独立通道，自由控制
- ◆ Second set of input, output, insert install
- ◆ Rated current: 10A-40Amps
- ◆ Rated voltage: 480VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer
- ◆ Two independent channel control

◎ 型号含义 Type meaning



- ① 控制电压 3-32VDC
Control voltage 3-32VDC
- ② 操作电压 480VAC
Operating voltage 480VAC
- ③ 10A, 15A, 20A, 25A, 30A, 40A
- ④ 双组 Two group

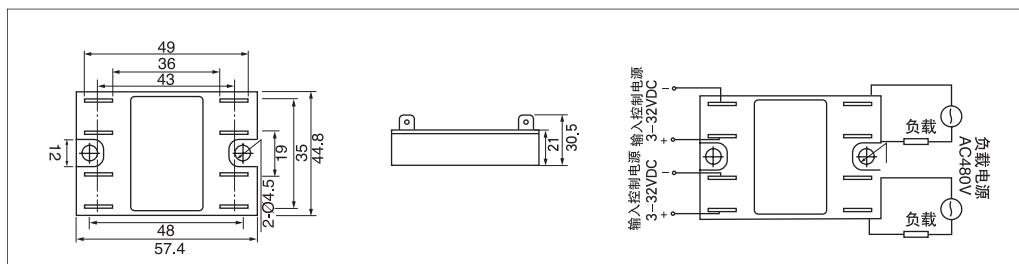
说明：

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6-1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6-1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-1 D48 □ -2T

二组单相交流固态继电器（特种）

Two groups of single-phase AC solid
(Special)

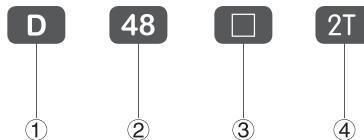


◎ 产品概述 Product overview

- ◆ 二组输入，输出，引线安装
- ◆ 额定电流：10A-40Amps
- ◆ 额定电压：480VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 两组独立通道，自由控制
- ◆ Second set of input, output, insert install
- ◆ Rated current: 10A~40Amps
- ◆ Rated voltage: 480VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer
- ◆ Two independent channel control



◎ 型号含义 Type meaning



- ① 控制电压 3-32VDC
Control voltage 3-32VDC
- ② 操作电压 480VAC
Operating voltage 480VAC
- ③ 10A, 15A, 20A, 25A, 30A, 40A
- ④ 双组端子型 Two group terminal type

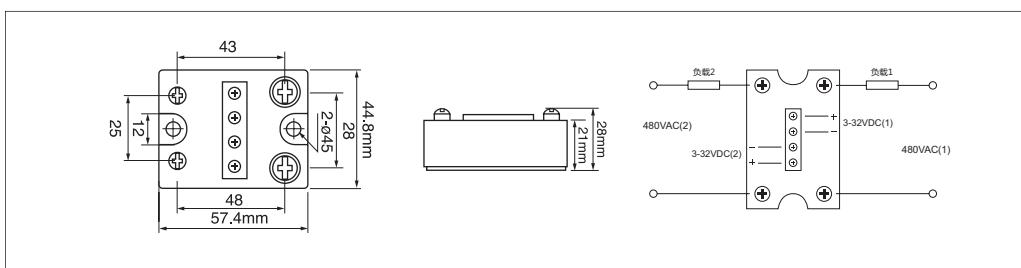
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6~1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6~1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



PN5-10DA

五组单相交流固态继电器（特种）

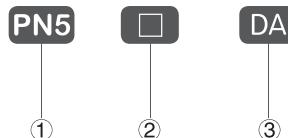
Five groups of single-phase AC solid state relay (Special)



◎ 产品概述 Product overview

- ◆ 五组输入，五组输出
- ◆ 额定电流：5A,10Amps
- ◆ 额定电压：380VAC
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有独立五路 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 五组独立通道，自由控制
- ◆ Five inputs, five outputs
- ◆ Rated current: 5A,10 Amps
- ◆ Rated voltage: 380VAC
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer
- ◆ Five separate channels, control

◎ 型号含义 Type meaning



① 五组 Five groups

② 5A,10A

③ 直流控交流 Dc controlled communication

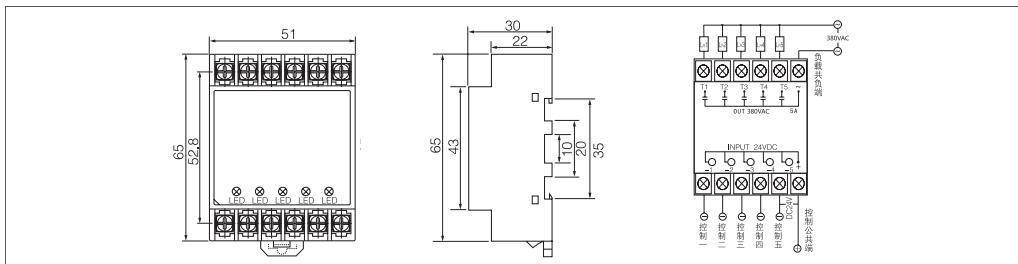
说明：

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6–1.9 倍。

Notes:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6–1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



ST5-5DD

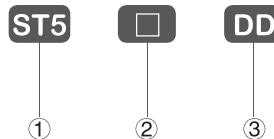
五组直流固态继电器（特种）
Five DC solid state relay (Special)



◎ 产品概述 Product overview

- ◆ 五组输入，五组输出
- ◆ 额定电流：5A,10Amps
- ◆ 额定电压：24VDC
- ◆ 低阻抗 MOSFET 输出，最大限度减少总功耗
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有独立五路 LED 灯输出指示
- ◆ 具有 LED 灯输出指示
- ◆ 五组独立通道，自由控制
- ◆ Five inputs, five outputs
- ◆ Rated current: 5A–10Amps
- ◆ Rated voltage: 24 VDC
- ◆ Low impedance MOSFET output, minimizing total power
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ Independent five LED lights indicating
- ◆ Five separate channels, control

◎ 型号含义 Type meaning

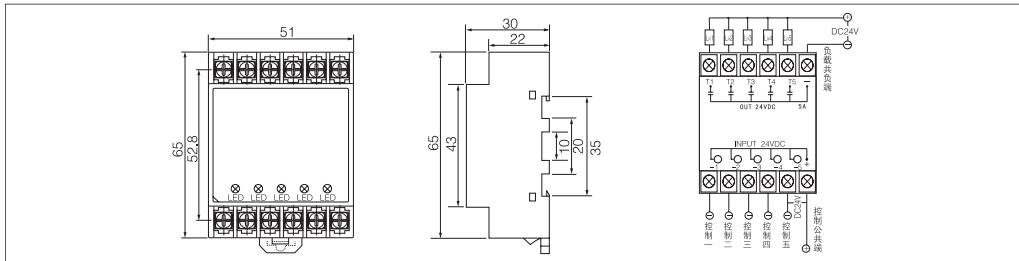


- ① 五组 Five groups
 ② 5A,10A
 ③ 直流控直流 Direct current control

说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
 2. 务必在输出端并接二极管, 取值为负载电源的 1.6–1.9 倍。
- Notes:
1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
 2. When using inductive loads, be sure to output and a varistor, value of 1.6–1.9 times times the load voltage.

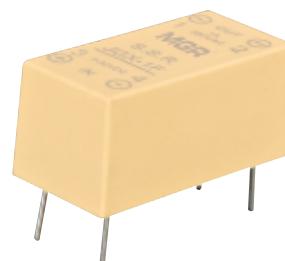
◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



JGX-1F

交流固态继电器 PCB 安装系列

AC solid state relays PCB installation series



◎ 产品概述 Product overview

- ◆ 额定电流: 1Amps
- ◆ 额定电压: 220V/380VAC
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 标准的英规 PCB 安装尺寸
- ◆ Rated current: 1Amps
- ◆ Rated voltage: 220V/380VAC
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ R-C contains the standard output buffer
- ◆ Standard UK standard PCB mounting dimensions

◎ 型号含义 Type meaning

1
①F
②

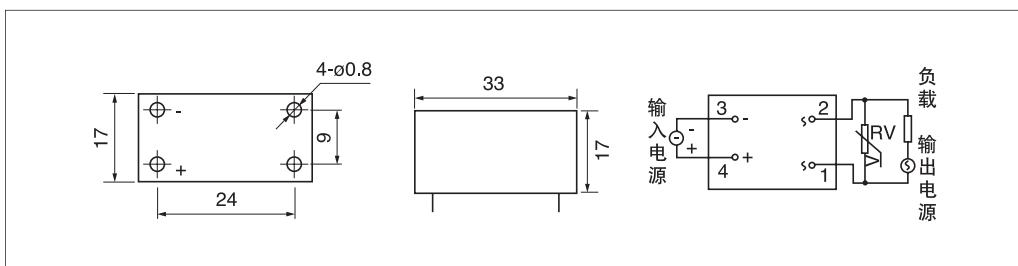
① 1A

② 直流控交流 Dc controlled communication

说明: 常用于空调机, 捆钞机及其它家用电器

Description: commonly used in air conditioners, banknote and other household appliances

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



JGX-5F

交流固态继电器 PCB 安装系列

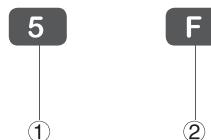
AC solid state relays PCB installation series



◎ 产品概述 Product overview

- ◆ 额定电流: 3A,5Amps
- ◆ 额定电压: 220V/380VAC
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 金属壳体散热效果显著
- ◆ 标准的英规 PCB 安装尺寸
- ◆ Rated current: 3A,5Amps
- ◆ Rated voltage: 220V/380VAC
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ R-C contains the standard output buffer
- ◆ Metal shell cooling effect
- ◆ Standard UK standard PCB mounting dimensions

◎ 型号含义 Type meaning



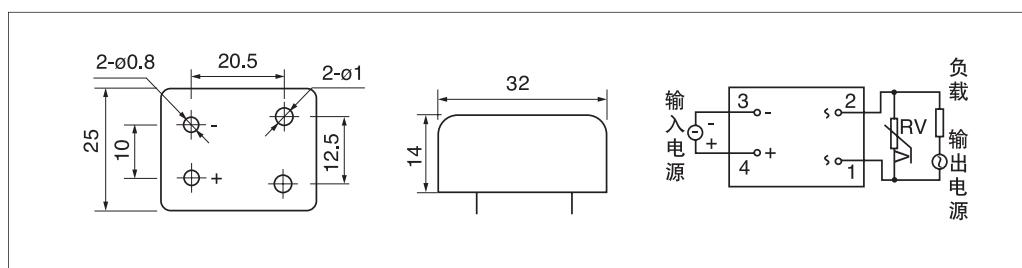
① 3A,5A

② 直流控交流 Dc controlled communication

说明: 常用于空调机, 捆钞机及其它家用电器

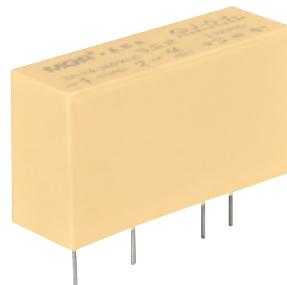
Description: commonly used in air conditioners, banknote and other household appliances

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



GJ-5-L

交流固态继电器 PCB 安装系列
AC solid state relays PCB installation series



◎ 产品概述 Product overview

- ◆ 额定电流: 3A,5Amps
- ◆ 额定电压: 220V/380VAC
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 标准的英规 PCB 安装尺寸
- ◆ Rated current: 3A,5Amps
- ◆ Rated voltage: 220V/380VAC
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ R-C contains the standard output buffer
- ◆ Standard UK standard PCB mounting dimensions

◎ 型号含义 Type meaning



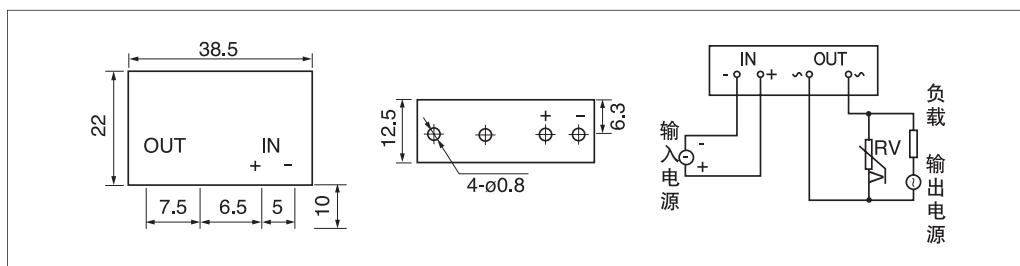
① 3A,5A

② 单排 Single row

说明: 常用于空调机, 捆钞机及其它家用电器

Description: commonly used in air conditioners, banknote and other household appliances

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



JGX-1FA

直流固态继电器 PCB 安装系列

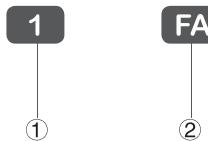
DC solid state relays PCB installation series



◎ 产品概述 Product overview

- ◆ 额定电流: 1Amps
- ◆ 额定电压: 60V–110V–220VDC
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 低阻抗 MOSFET 输出, 最大限度减少总功耗
- ◆ 标准的英规 PCB 安装尺寸
- ◆ Rated current: 1Amps
- ◆ Rated voltage: 60V–110V–220VDC
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ Low impedance MOSFET output,
minimizing total power
- ◆ Standard UK standard PCB mounting
dimensions

◎ 型号含义 Type meaning



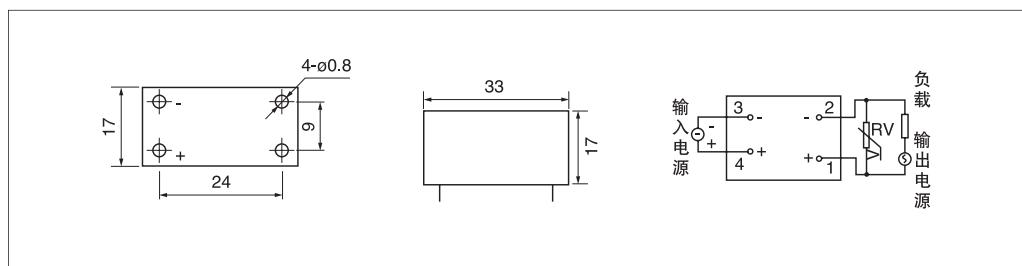
① 1A

② 直流控直流 Direct current control

说明: 常用于空调机, 捆钞机及其它家用电器

Description: commonly used in air conditioners,
banknote and other household appliances

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR®

JGX-5FA

直流固态继电器 PCB 安装系列

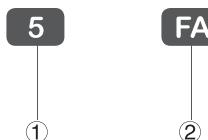
DC solid state relays PCB installation series



◎ 产品概述 Product overview

- ◆ 额定电流: 3A, 5Amps
- ◆ 额定电压: 60V-110V-220VDC
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 低阻抗 MOSFET 输出, 最大限度减少总功耗
- ◆ 金属壳体散热效果显著
- ◆ 标准的英规 PCB 安装尺寸
- ◆ Rated current: 3A, 5Amps
- ◆ Rated voltage: 60V-110V-220VDC
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ Low impedance MOSFET output, minimizing total power
- ◆ Metal shell cooling effect
- ◆ Standard UK standard PCB mounting dimensions

◎ 型号含义 Type meaning



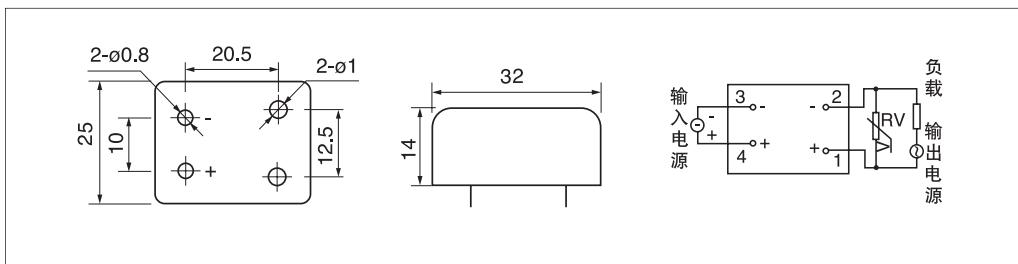
① 3A,5A

② 直流控直流 Direct current control

说明: 常用于空调机, 捆钞机及其它家用电器

Description: commonly used in air conditioners, banknote and other household appliances

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



GJ-5FA-L

直流固态继电器 PCB 安装系列

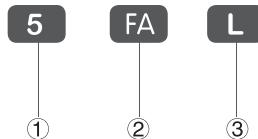
DC solid state relays PCB installation series



◎ 产品概述 Product overview

- ◆ 额定电流: 3A, 5Amps
- ◆ 额定电压: 60V-110V-220VDC
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 低阻抗 MOSFET 输出, 最大限度减少总功耗
- ◆ 金属壳体散热效果显著
- ◆ 标准的英规 PCB 安装尺寸
- ◆ Rated current: 3A, 5Amps
- ◆ Rated voltage: 60V-110V-220VDC
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ Low impedance MOSFET output, minimizing total power
- ◆ Metal shell cooling effect
- ◆ Standard UK standard PCB mounting dimensions

◎ 型号含义 Type meaning

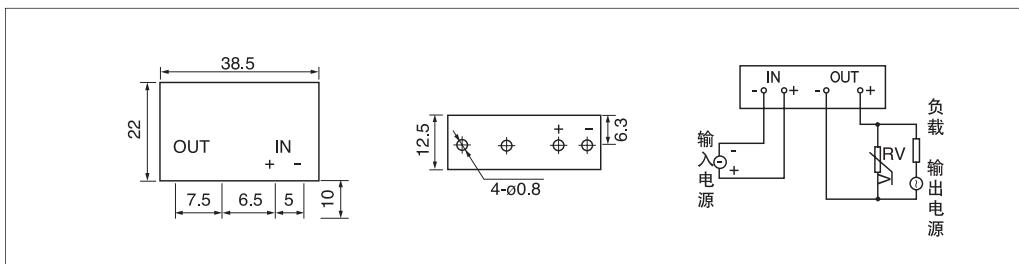


- ① 3A,5A
- ② 直流控直流 Direct current control
- ③ 单排 Single row

说明: 常用于空调机, 捆钞机及其它家用电器

Description: commonly used in air conditioners, banknote and other household appliances

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



JGX- □ -FA

直流固态继电器 PCB 安装系列

DC solid state relays PCB installation series



◎ 产品概述 Product overview

- ◆ 额定电流: 8Amps
- ◆ 额定电压: 5V~220VDC
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 低阻抗 MOSFET 输出, 最大限度减少总功耗
- ◆ 金属壳体散热效果显著
- ◆ 标准的英规 PCB 安装尺寸
- ◆ Rated current: 8Amps
- ◆ Rated voltage: 5V~220VDC
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ Low impedance MOSFET output, minimizing total power
- ◆ Metal shell cooling effect
- ◆ Standard UK standard PCB mounting dimensions

◎ 型号含义 Type meaning



① 8A

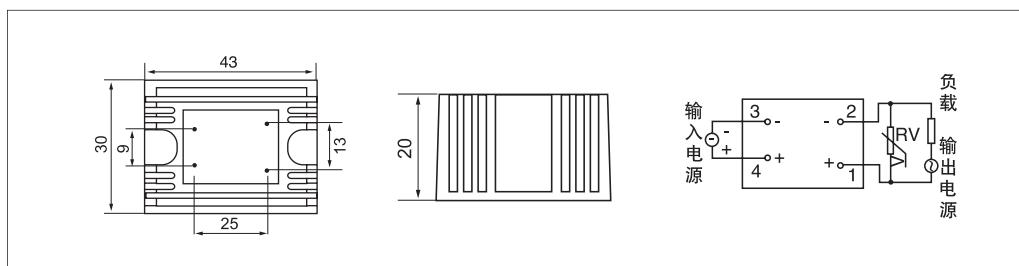


② 直流控直流 Direct current control

说明: 常用于空调机, 捆钞机及其它家用电器

Description: commonly used in air conditioners, banknote and other household appliances

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



JGX-8F

交流固态继电器 PCB 安装系列

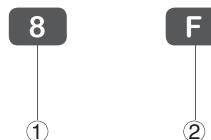
AC solid state relays PCB installation series



◎ 产品概述 Product overview

- ◆ 额定电流: 8Amps
- ◆ 额定电压: 220VAC 或 380VAC
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 金属壳体散热效果显著
- ◆ 标准的英规 PCB 安装尺寸
- ◆ Rated current: 8Amps
- ◆ Rated voltage: 220VAC or 380VAC
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ R-C contains the standard output buffer
- ◆ Metal shell cooling effect
- ◆ Standard UK standard PCB mounting dimensions

◎ 型号含义 Type meaning



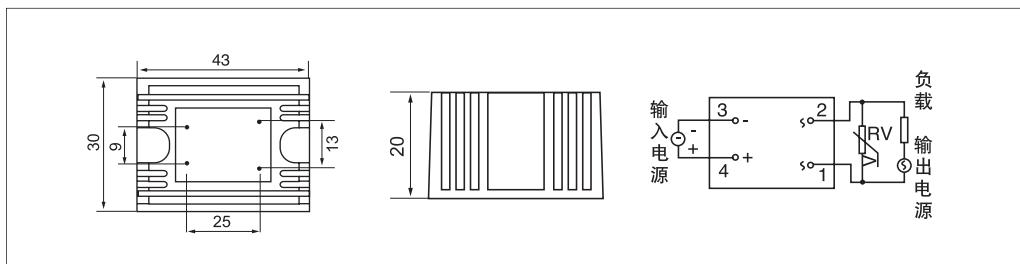
① 8A

② 直流控交流 Dc controlled communication

说明: 常用于空调机, 捆钞机及其它家用电器

Description: commonly used in air conditioners, banknote and other household appliances

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-R □ A

单相交流固态调压器（基本型）

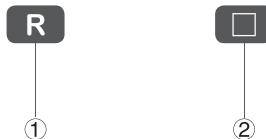
Single-phase AC solid state voltage adjuster (basic type)



◎ 产品概述 Product overview

- ◆ 额定电流: 10A~120Amps
- ◆ 额定电压: 0~220VAC
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 控制方式全兼容, 便于计算机连网调压
- ◆ Rated current: 10A~120Amps
- ◆ Rated voltage: 0~220VAC
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ R-C contains the standard output buffer

◎ 型号含义 Type meaning



① 电位器 (470K)

② 10A, 25A, 40A, 60A, 80A, 100A, 120A

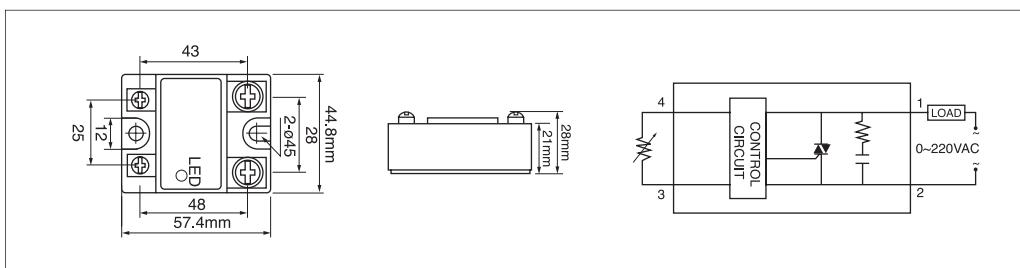
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6~1.9 倍。

Instructions:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6~1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-R □ A

单相交流固态调压器（基本型）

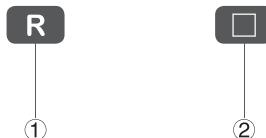
Single-phase AC solid state voltage adjuster (basic type)



◎ 产品概述 Product overview

- ◆ 额定电流: 10A~120Amps
- ◆ 额定电压: 0~380VAC
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 控制方式全兼容, 便于计算机连网调压
- ◆ Rated current: 10A~120Amps
- ◆ Rated voltage: 0~380VAC
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ R-C contains the standard output buffer

◎ 型号含义 Type meaning



① 电位器 (470K)

② 10A, 25A, 40A, 60A, 80A, 100A, 120A

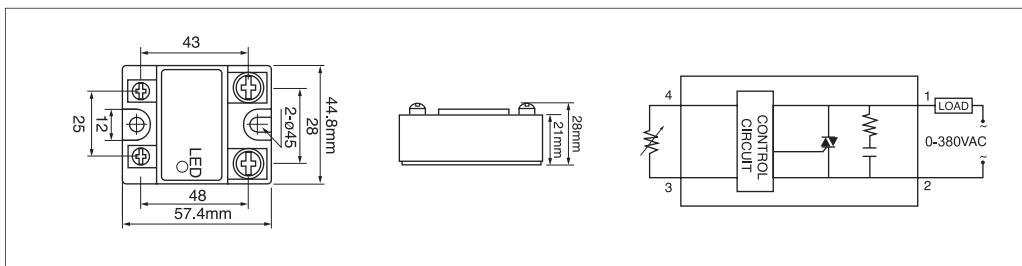
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6~1.9 倍。

Instructions:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6~1.9 times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-R □ A

单相交流固态调压器（基本型）

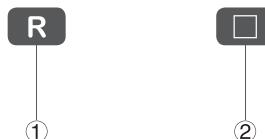
Single-phase AC solid state voltage adjuster (basic type)



◎ 产品概述 Product overview

- ◆ 额定电流: 10A-120Amps
- ◆ 额定电压: 0-480VAC
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 控制方式全兼容, 便于计算机连网调压
- ◆ Rated current: 10A-120Amps
- ◆ Rated voltage: 0-480VAC
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ R-C contains the standard output buffer

◎ 型号含义 Type meaning



- ① 电位器 (470K) DC4-20mA
 ② 10A, 25A, 40A, 60A, 80A, 100A, 120A

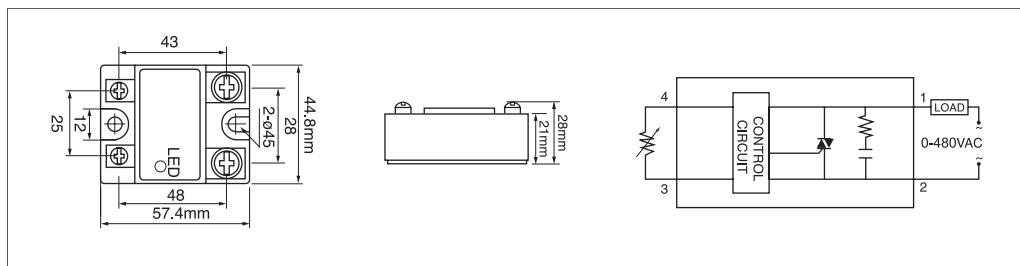
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6-1.9 倍。

Instructions:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6-1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-1 VD24 □ G

单相交流固态调压器

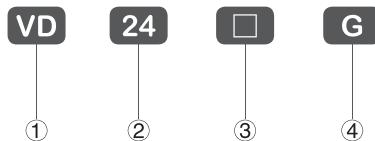
Single-phase AC solid state voltage adjuster



◎ 产品概述 Product overview

- ◆ 额定电流: 10A~120Amps
- ◆ 额定电压: 0~240VAC
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 控制方式全兼容, 便于计算机连网调压
- ◆ Rated current: 10A~120Amps
- ◆ Rated voltage: 0~240VAC
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ R-C contains the standard output buffer

◎ 型号含义 Type meaning



- ① 电压调节 Voltage regulation
- ② 操作电压 0~240VAC
Operating voltage 0~240VAC
- ③ 10A, 25A, 40A, 60A, 80A, 100A, 120A
- ④ E: 0~5V, F: 0~10V, G: 4~20mA

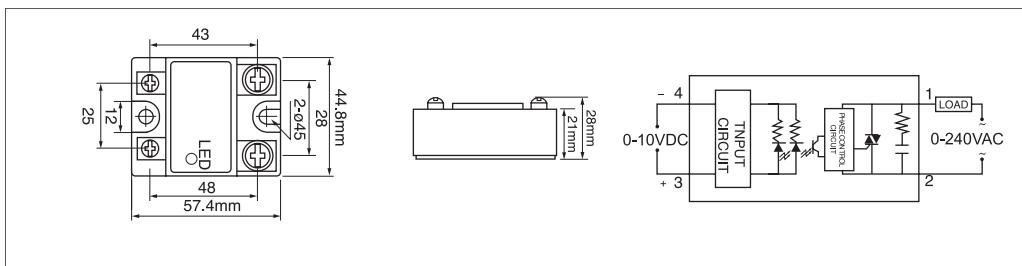
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6~1.9 倍。

Instructions:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6~1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-1 48 □ DV

单相交流固态调压器

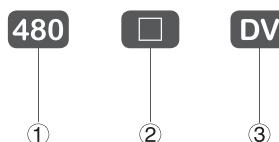
Single-phase AC solid state
voltage adjuster



◎ 产品概述 Product overview

- ◆ 额定电流: 10A–120Amps
- ◆ 额定电压: 0–480VAC
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 控制方式全兼容, 便于计算机连网调压
- ◆ Rated current: 10A–120Amps
- ◆ Rated voltage: 0–480VAC
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ R-C contains the standard output buffer

◎ 型号含义 Type meaning



- ① 操作电压 0–480VAC
Operating voltage 0–480VAC
- ② 10A, 25A, 40A, 60A, 80A, 100A, 120A
- ③ 脉冲信号 The pulse signal

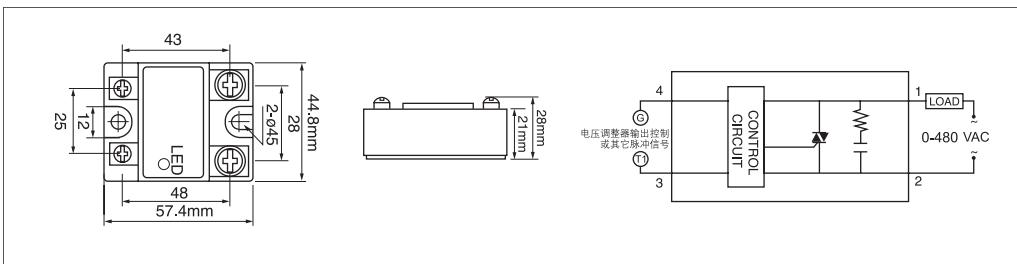
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6–1.9 倍。

Instructions:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6–1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-1 VR48 □

单相交流固态调压器（基本型）

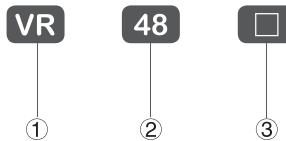
Single-phase AC solid state voltage adjuster (basic type)



◎ 产品概述 Product overview

- ◆ 额定电流: 60A-125Amps
- ◆ 额定电压: 0-480VAC
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 控制方式全兼容, 便于计算机连网调压
- ◆ Rated current: 60A-125Amps
- ◆ Rated voltage: 0-480VAC
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ R-C contains the standard output buffer

◎ 型号含义 Type meaning



① 电位器 (470K) DC4-20mA

② 操作电压 0-480VAC

Operating voltage 0-480VAC

③ 60A,80A,100A,120A,125A

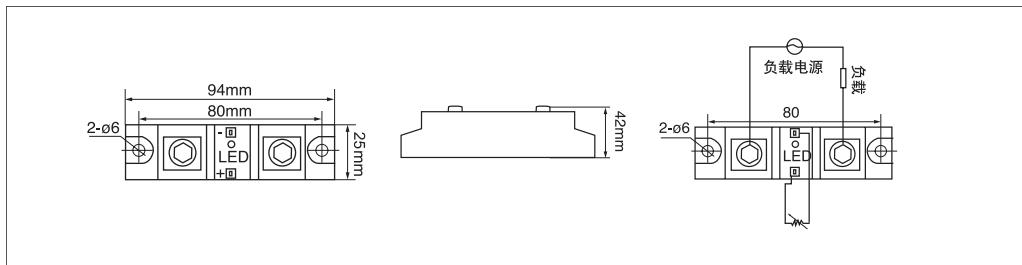
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6-1.9 倍。

Instructions:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6-1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-1 VR48 □

单相交流固态调压器（基本型）

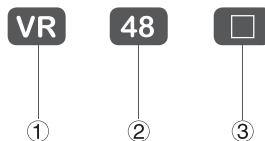
Single-phase AC solid state voltage regulator (basic type)



◎ 产品概述 Product overview

- ◆ 额定电流: 150A-400Amps
- ◆ 额定电压: 0-480VAC
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 控制方式全兼容, 便于计算机连网调压
- ◆ Rated current: 150A-400Amps
- ◆ Rated voltage: 0-480VAC
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ R-C contains the standard output buffer

◎ 型号含义 Type meaning



① 电位器 (470K) DC4-20mA

② 操作电压 0-480VAC

Operating voltage 0-480VAC

③ 150A, 200A, 300A, 400A

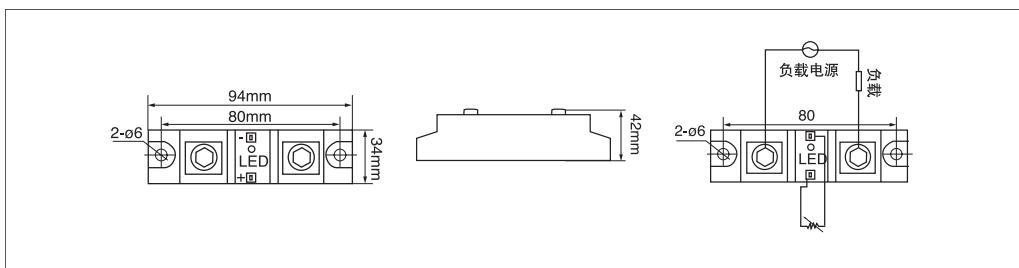
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6-1.9 倍。

Instructions:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6-1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-1 M48- □

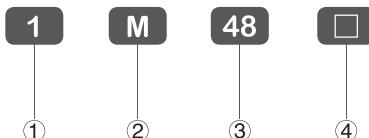
单相交流正反转固态继电器
Single-phase AC rotating solid state relay



◎ 产品概述 Product overview

- ◆ 额定电流: 10A-40Amps
- ◆ 额定电压: 480VAC
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 透明保护盖为用户提供额外保护
- ◆ 保护性正 / 反相内置联锁功能
- ◆ Rated current: 10A-40Amps
- ◆ Rated voltage: 480VAC
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ R-C contains the standard output buffer
- ◆ Control mode compatible, computer network surge
- ◆ Transparent protective cover provides users with additional protection
- ◆ Positive/negative phase of the built-in protective interlock function

◎ 型号含义 Type meaning



- ① 单相 Single phase
- ② 正反转 Positive & negative
- ③ 操作电压 480VAC
Operating voltage 480VAC
- ④ 10A, 20A, 25A, 40A

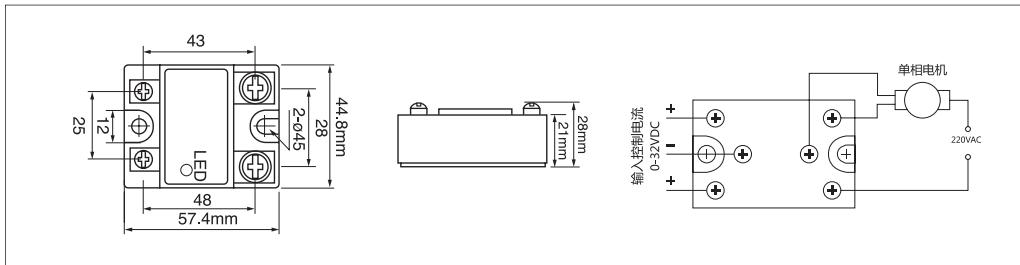
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6-1.9 倍。

Instructions:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6-1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR®

MGR-3-M38 □

工业级三相正反转固态继电器（基本型）

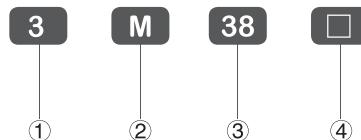
Industrial three-phase rotating solid state relays (basic type)



◎ 产品概述 Product overview

- ◆ 额定电流: 10A-100Amps
- ◆ 额定电压: 380VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯 (红) (绿) 双色输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 保护性正 / 反相内置联锁功能
- ◆ Rated current: 10A~100Amps
- ◆ Rated voltage: 380VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED light (red) (green) color output indicates
- ◆ R-C contains the standard output buffer
- ◆ Positive/negative phase of the built-in protective interlock function

◎ 型号含义 Type meaning



① 三相 Three-phase

② 正反转 Positive & negative

③ 操作电压 380VAC Operating voltage 380VDC

④ 10A, 15A, 20A, 25A, 30A, 40A, 50A, 60A, 75A, 80A, 100A

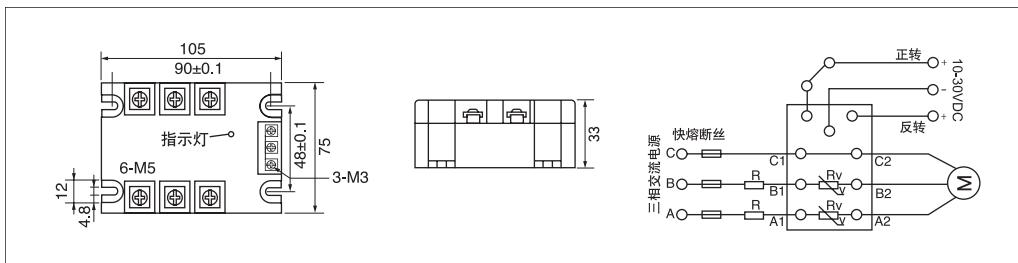
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6~1.9 倍。

Instructions:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6~1.9 times times the load voltage.

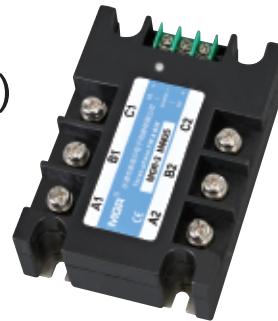
◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-3-M66- □

工业级三相正反转固态继电器（增强型）

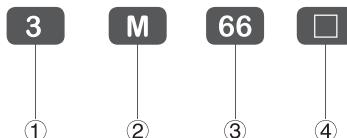
Industrial three-phase rotating solid state relays (enhanced)



◎ 产品概述 Product overview

- ◆ 额定电流: 10A-100Amps
- ◆ 额定电压: 690VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯 (红) (绿) 双色输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ 保护性正 / 反相内置联锁功能
- ◆ Rated current: 10A-100Amps
- ◆ Rated voltage: 690VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED light (red) (green) color output indicates
- ◆ R-C contains the standard output buffer
- ◆ Positive/negative phase of the built-in protective interlock function

◎ 型号含义 Type meaning



- ① 三相 Three-phase
- ② 正反转 Positive & negative
- ③ 操作电压 660VAC Operating voltage 660VDC
- ④ 10A, 15A, 20A, 25A, 30A, 40A, 50A, 60A, 75A, 80A, 100A

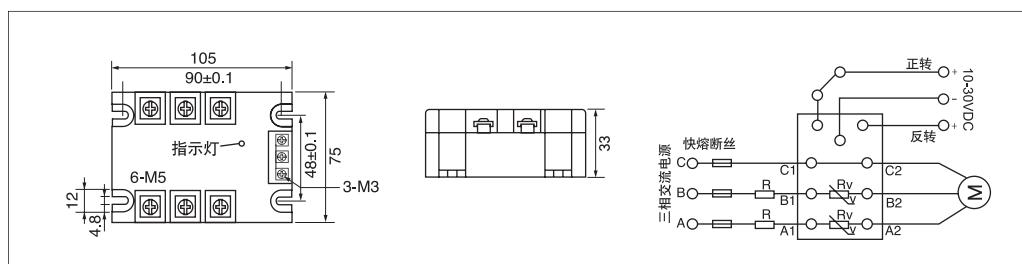
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6-1.9 倍。

Instructions:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6-1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



DHK- □ A-200V

直流换相模块

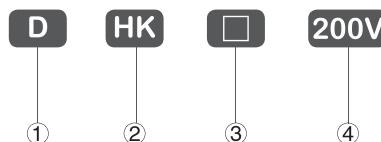
Converter module



◎ 产品概述 Product overview

- ◆ 额定电流: 10A-40Amps
- ◆ 额定电压: 200VDC
- ◆ 低阻抗 MOSFET 输出, 最大限度减少总功耗
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯 (红) (绿) 双色输出指示
- ◆ 保护性正 / 反相内置联锁功能
- ◆ Rated current: 10A~40Amps
- ◆ Rated voltage: 200VDC
- ◆ Low impedance MOSFET output, minimizing total power
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED light (red) (green) color output indicates
- ◆ Positive/negative phase of the built-in protective interlock function

◎ 型号含义 Type meaning



① 控制电压 10-32VDC Control voltage 10-32VDC

② 直流换相 Dc commutation

③ 10A-40A

④ 操作电压 200VDC Operating voltage 200VDC

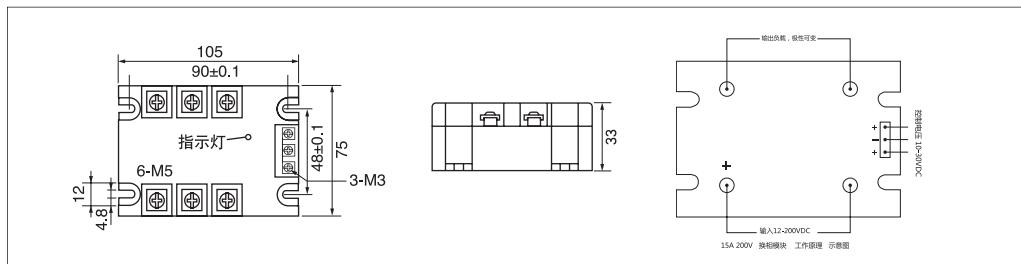
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 务必在输出端并接二极管, 取值为负载电源的 1.6-1.9 倍。

Instructions:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. Be sure to take a diode at the output end, which is 1.6 to 1.9 times the load power supply.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-3X 48D- □ Z

工业级三相小型固态继电器

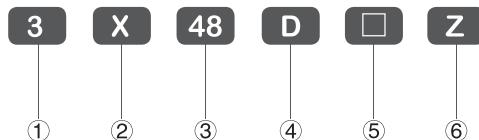
Small industrial three-phase solid state relays



◎ 产品概述 Product overview

- ◆ 额定电流: 10A~40Amps
- ◆ 额定电压: 480VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ Rated current: 10A~40Amps
- ◆ Rated voltage: 480VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer

◎ 型号含义 Type meaning



- ① 三相 Three-phase
- ② 小型 Small
- ③ 操作电压 480VAC Operating voltage 480VAC
- ④ 控制电压 10~30VDC Control voltage 10~30VDC
- ⑤ 10A, 15A, 20A, 25A, 30A, 40A
- ⑥ 过零型 The zero type

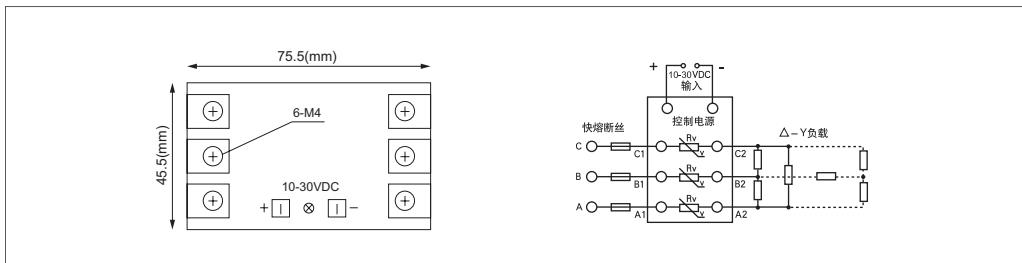
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6~1.9 倍。

Instructions:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6~1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-3X 48A- □ Z

工业级三相小型固态继电器

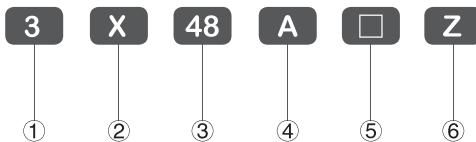
Small industrial three-phase solid state relays



◎ 产品概述 Product overview

- ◆ 额定电流: 10A-40Amps
- ◆ 额定电压: 480VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 保护性正 / 反相内置联锁功能
- ◆ Rated current: 10A-40Amps
- ◆ Rated voltage: 480VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ Positive/negative phase of the built-in protective interlock function

◎ 型号含义 Type meaning



- ① 三相 Three-phase
- ② 小型 Small
- ③ 操作电压 480VAC Operating voltage 480VAC
- ④ 控制电压 85-265VAC Control voltage 85-265VAC
- ⑤ 10A, 15A, 20A, 25A, 30A, 40A
- ⑥ 过零型 The zero type

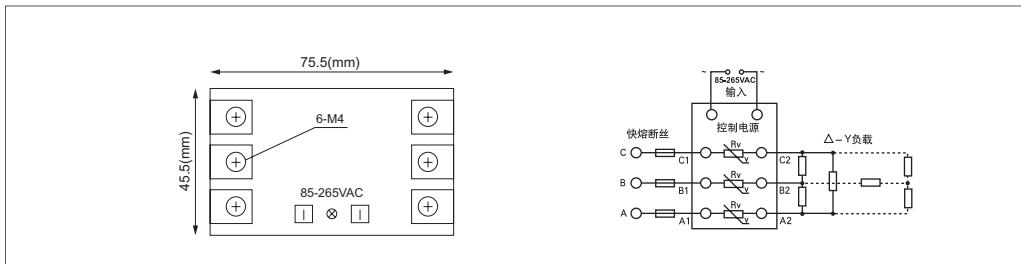
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6~1.9 倍。

Instructions:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6~1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-1 X4810

袖珍交流固态继电器

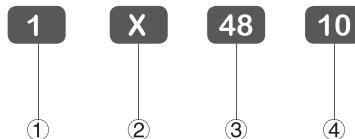
Compact AC solid state relays



◎ 产品概述 Product overview

- ◆ 额定电流: 5A-10Amps
- ◆ 额定电压: 480VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ Rated current: 5A-10Amps
- ◆ Rated voltage: 480VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer

◎ 型号含义 Type meaning



① 单相 Single phase

② 袖珍型 Pocket

③ 操作电压 480VAC Operating voltage 480VAC

④ 5A,10A

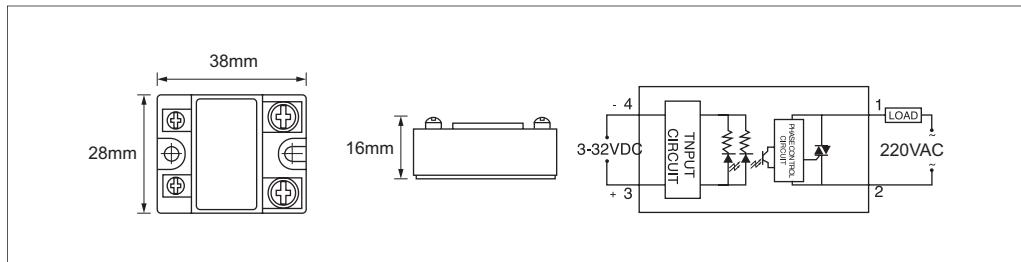
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6-1.9 倍。

Instructions:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6-1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



SSR-5DD

袖珍直流固态继电器

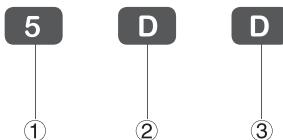
Compact DC solid state relay



◎ 产品概述 Product overview

- ◆ 额定电流: 5A~10Amps
- ◆ 额定电压: 220VDC
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 低阻抗 MOSFET 输出, 最大限度减少总功耗
- ◆ Rated current: 5A~10Amps
- ◆ Rated voltage: 220VDC
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ Low impedance MOSFET output, minimizing total power

◎ 型号含义 Type meaning



- ① 5A,10A
- ② 控制电压 3~32VDC
Control voltage 3~32VDC
- ③ 操作电压 220VDC
Operating voltage 220VDC

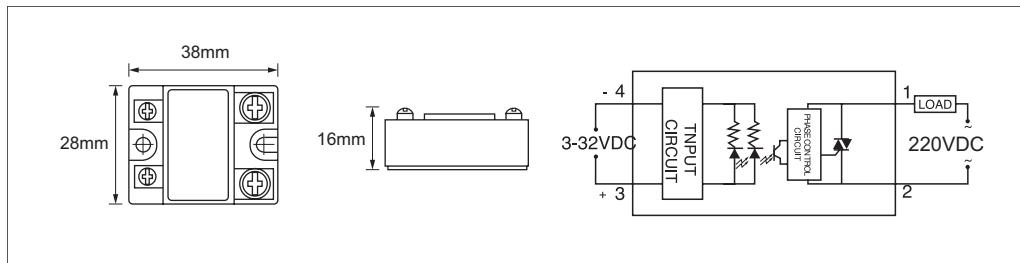
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 务必在输出端并接二极管, 取值为负载电源的 1.6~1.9 倍。

Instructions:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. Be sure to take a diode at the output end, which is 1.6 to 1.9 times the load power supply.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-ZK80- □

单相整流固态继电器

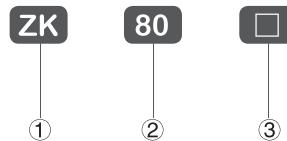
Single phase rectifier solid state relay



◎ 产品概述 Product overview

- ◆ 额定电流: 100A-200Amps
- ◆ 额定电压: 800VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用，性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ Rated current: 100A-200Amps
- ◆ Rated voltage: 800VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer

◎ 型号含义 Type meaning



- ① 整流 Rectifier
 ② 操作电压 800VAC
 Operating voltage 800VAC
 ③ 100A, 200A

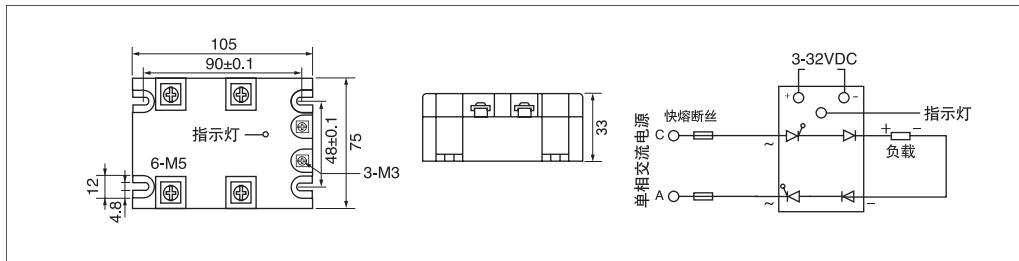
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 务必在输出端并接二极管, 取值为负载电源的 1.6-1.9 倍。

Instructions:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. Be sure to take a diode at the output end, which is 1.6 to 1.9 times the load power supply.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-ZK120- □

单相整流固态继电器

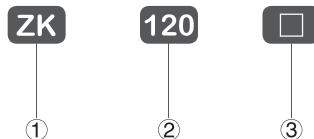
Single phase rectifier solid state relay



◎ 产品概述 Product overview

- ◆ 额定电流: 100A-200Amps
- ◆ 额定电压: 1200VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用, 性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ Rated current: 100A-200Amps
- ◆ Rated voltage: 1200VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer

◎ 型号含义 Type meaning

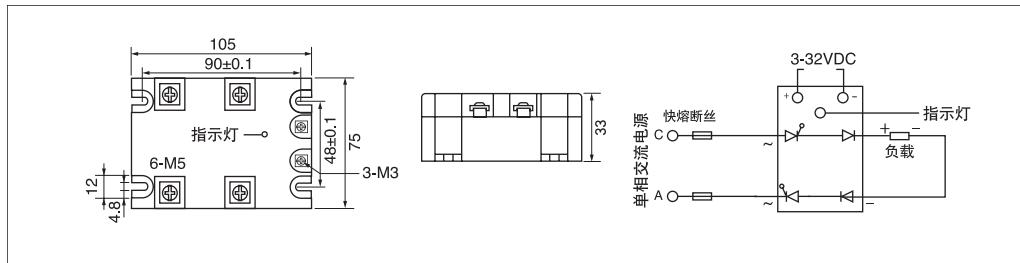


- ① 整流 Rectifier
 ② 操作电压 1200VAC
 Operating voltage 1200VAC
 ③ 100A, 200A

说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
 2. 务必在输出端并接二极管, 取值为负载电源的 1.6-1.9 倍。
- Instructions:
1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
 2. Be sure to take a diode at the output end, which is 1.6 to 1.9 times the load power supply.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR-3 ZK120- □

三相整流固态继电器

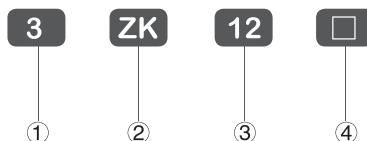
Three-phase rectifier solid state relay



◎ 产品概述 Product overview

- ◆ 额定电流: 100A~200Amps
- ◆ 额定电压: 1200VAC
- ◆ 背靠背 SCR 输出适合商业级重工业级应用, 性能可靠
- ◆ "超低" 的输入电流
- ◆ 低输出断态泄漏电流
- ◆ 低输出通态压降
- ◆ 具有 LED 灯输出指示
- ◆ 包含标准输出的 R-C 缓冲器
- ◆ Rated current: 100A~200Amps
- ◆ Rated voltage: 1200VAC
- ◆ Back-to-back SCR output for commercial-heavy industry-level applications, reliable performance
- ◆ "Ultra low" input current
- ◆ Low output off-leakage current
- ◆ Low output on-State voltage drop
- ◆ With LED lights indicating
- ◆ R-C contains the standard output buffer

◎ 型号含义 Type meaning



- ① 三相 Three-phase
- ② 整流 Rectifier
- ③ 操作电压 1200VAC
Operating voltage 1200VAC
- ④ 100A, 200A

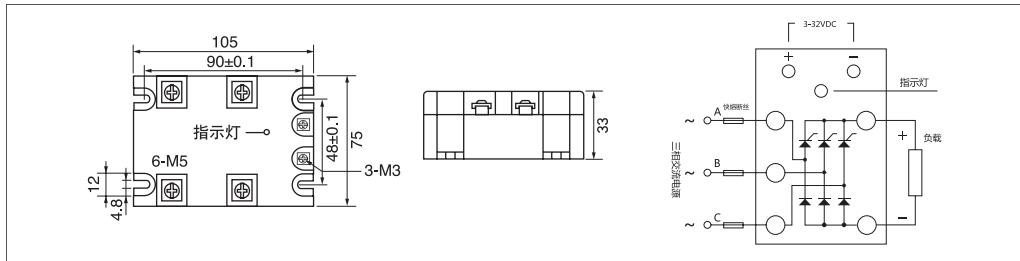
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 务必在输出端并接二极管, 取值为负载电源的 1.6~1.9 倍。

Instructions:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. Be sure to take a diode at the output end, which is 1.6 to 1.9 times the load power supply.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGR®**MGR-DTY-F-22- □ -EG****单相移相调压稳压型模块**

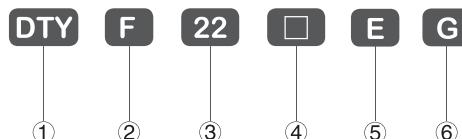
Single-phase phase shift pressure stabilized module



◎ 产品概述 Product overview

- ◆ 额定电流: 15A-200Amps
- ◆ 额定电压: 220V/380VAC (可选)
- ◆ 无需外接 +12V 直流电源
- ◆ 增设闭环 (负反馈) 稳压系统, 能有效稳定电压波动
- ◆ 绝缘介质电压大于 2000VAC
- ◆ 支持 4-20mA, 0-5V 自动控制模式, 也可手动控制, 调节平滑
- ◆ 内置屏蔽电路, 抗干扰能力强
- ◆ 采用大功率晶闸管芯片和 DCB 陶瓷釉锌绝缘底板材料
- ◆ 性能稳定, 可靠性高
- ◆ Rated current: 15A-200Amps
- ◆ Rated voltage: 220V/380VAC (optional)
- ◆ No external +12V dc power is needed
- ◆ The closed loop (negative feedback) stabilizer system can effectively stabilize voltage fluctuation
- ◆ The voltage of insulation medium is greater than 2000VAC
- ◆ Support 4-20ma, 0-5v automatic control mode, manual control, smooth adjustment
- ◆ Built-in shielding circuit, strong anti-interference ability
- ◆ The material of high power thyristor and DCB ceramic glazed zinc insulation is used
- ◆ Stable performance and high reliability

◎ 型号含义 Type meaning



- ① 可控硅调压 Controlled silicon control
- ② 闭环稳压 The closed loop stabilizer
- ③ 操作电压 220V 或 380VAC
Operating voltage 220V or 380VAC
- ④ 15A,25A,40A,50A,70A,90A,120A,150A,200A
- ⑤ 控制电压 0-5VDC Control voltage 0-5VDC
- ⑥ 控制电流 4-20mA Control current 4-20mA

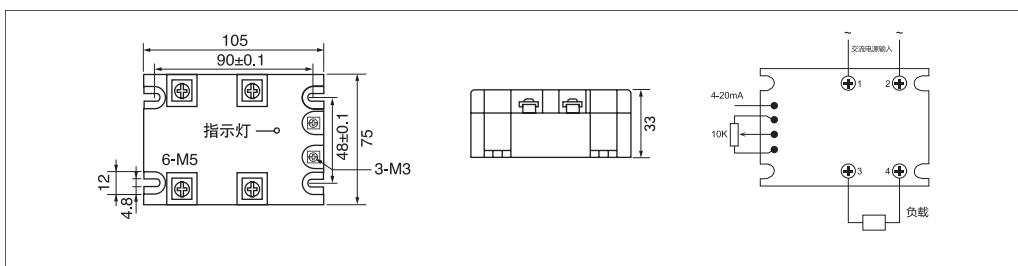
说明:

1. 负载 10A, 必须加装散热器, 40A 以上加风扇强冷或水冷。
2. 使用感性负载时, 务必在输出端并接一压敏电阻, 取值为负载电压的 1.6-1.9 倍。

Instructions:

1. Load 10A, must install radiator, 40A or more plus fan forced cooling or water cooling.
2. When using inductive loads, be sure to output and a varistor, value of 1.6-1.9 times times the load voltage.

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



SCR3-LA

三相电力调整器(简易型)
Three Phase Power Regulator
(Simple Type)



◎ 产品特点 Product Features

- ◆ 线性移相控制电路，稳定性好，精度高。
- ◆ 模块化，耐高压，更安全可靠。
- ◆ 小型化，安装、接线等使用方便。
- ◆ 真空焊接技术，质量好、寿命长。
- ◆ Linear phase-shift control circuit, with good stability performance, high precision.
- ◆ Modularized, high voltage resistant, more safe and reliable.
- ◆ Miniaturized, simple installation and wire connection.
- ◆ Vacuum welding technique, good quality and long service life.

◎ 产品性能 Product Performance

- ◆ 额定电压: 三相 380VAC (三相四线) 风扇 220VAC
- ◆ 额定电流: 25A, 40A, 80A, 100A, 120A
- ◆ 使用频率: 50Hz/60Hz
- ◆ 输出方式: 相位输出
- ◆ 控制信号: 4~20mA, 0~5VDC, 0~10VDC
- ◆ 使用环境: 温度 45℃以下, 湿度 90%RH 以下
- ◆ Rated Voltage: Three-phase 380VAC Fan220VAC (three-phase four-wire)
- ◆ Rated Current: 25A, 40A, 80A, 100A, 120A
- ◆ Operation Frequency: 50Hz/60Hz
- ◆ Output mode: phase output
- ◆ Control signal: 4~20mA, 0~5VDC, 0~10VDC
- ◆ Ambient temperature: Less than 45. humidity less than 90% RH

◎ 注意事项 Warning

1. 主电路中采用三相四线输入，无相序要求。
2. SCR 为大电流产品，请**务必锁紧**(A1.B1.C1)及(A2. B2.C2)端子，否则会造成端子发热而导致 SCR 烧坏。
3. 三相负载 Y 形接法时，Y 的中心点须接零线，如果 Y 的中心线不零线的，则需要三相负载相对均衡。
4. 模块在使用时，负载功率大于 15 千瓦时，建议另外配用合适的散热器，并在散热器和 SCR 底板之间涂有导热硅脂，并使用冷风。
5. 模块保护：负载过流保护请使用半导体快速熔断器。

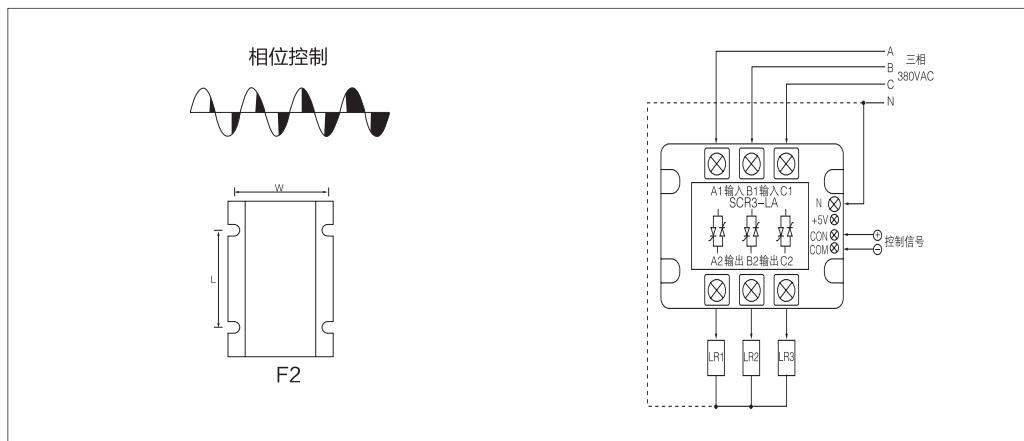
注意：使用功率大于 15KW 时，请务必加大散热器使用。

1. The main circuit adopts three-phase four-wire input without requirement for phase sequence.
 2. SCR is a product with big current , please keep in mind that terminals (A1.B1.C1) and (A2.B2.C2) shall not be locked tightly, or SCR will be burned by terminal heating.
 3. When Y connection is used for three-phase load, the center of Y should be connected with zero line, if not so, relative equilibrium od the three-phase is required.
 4. During the use of module, when the load power is more than 15KW, it's best to be equipped with proper radiator , and heat-conducting silicon grease should be coated between radiator and SCR backboard with wind cooling.
 5. Module protection: Please use semi-conductive fast fuse for load over current.
- Remark: When the working power is more than 15KW. please keep in mind that the radiator should be used frequently.

◎ 产品规格 Product Model

型号 Type		SCR3- □□ LA
额定电流 Rated Current		25A 40A 80A 100A 120A
外形尺寸 (mm) Dimension	图	F1
	W	100
	L	110
	H	145
安装尺寸 (mm) Installation Dimension	图	F2
	W	90
	L	80

◎ 安装尺寸及接线图
Installation dimensions and wiring diagram



MGRSCR-LA

三相电力调整器

Three Phase Power Regulator



F1

◎ 产品特点 Product Features

- ◆ 多功能 LED 指示工作状态。
- ◆ 自带保护功能，内置快速熔断器。
- ◆ 最大输出量、最小输出量可调。
- ◆ 线性移相控制电路，稳定性好，精度高。
- ◆ 模块化，耐高压，更安全可靠。
- ◆ Multipurpose LED indication for working condition.
- ◆ With automatic protective function, built-in fast fuse.
- ◆ Adjustable for maximum and minimum output.
- ◆ Linear phase-shift control circuit, with good stability performance, high precision.
- ◆ Modularized, high voltage resistant, more safe and reliable.

◎ 产品性能 Product Performance

- ◆ 额定电压：三相 380VAC (三相四线)
- ◆ 额定电流：40A,65A
- ◆ 使用频率：50Hz/60Hz
- ◆ 输出方式：相位输出
- ◆ 控制信号：4~20mA, 0~5VDC, 0~10VDC
- ◆ 保护功能：快速熔断器
- ◆ 使用环境：温度 45℃以下，湿度 90%RH 以下
- ◆ Rated Voltage: Three-phase 380VAC Fan220VAC
- ◆ Rated Current: 40A,65A
- ◆ Operation Frequency: 50Hz/60Hz
- ◆ Output mode: phase output
- ◆ Control signal: 4~20mA, 0~5VDC, 0~10VDC
- ◆ Protective function: Fast fuse
- ◆ Ambient temperature: Less than 45. humidity less than 90% RH

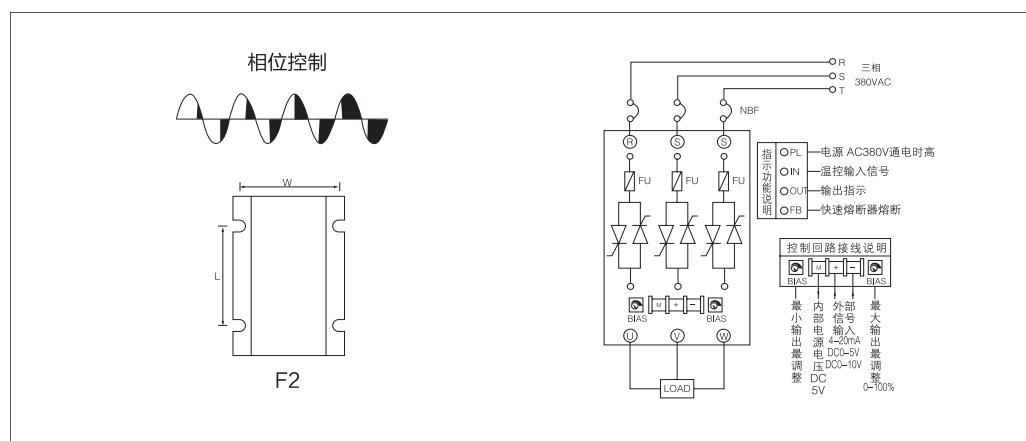
◎ 注意事项 Warning

1. 主电路中采用三相三线输入，无相序要求。
- 2.SCR为大电流产品，请务必锁紧(R.S.T)及(U.V.W)端子，否则会造成端子发热而导致 SCR 烧坏。
- 3.SCR 内置快速熔断器，作为过电流及短路保护。如果熔断器因过流而熔断时，请务必使用相同规格的熔断器予以更换，注意千万不可热议加大熔断器的安倍数。
4. 负载 Y 型接法时中心点不能接零线，否则会造成 SCR 失去控制。
5. 模块在使用时，如果负载功率大或散热条件不好，请考虑风冷。
1. The main circuit adopts three-phase three-wire input without requirement for phase sequence.
- 2.SCR is a product with big current, please keep in mind that terminals(R.S.T) and (U.V.W) shall not be locked tightly, or SCR will be burned by terminal heating.
- 3.There is a fast fuse built in SCR for over current and short-circuit protection. Please replace with fuse of equivalent specification when the fast fuse is burned out, and don't use the one with higher fusing ampere.
- 4.When Yconnection is used for three-phase load, the center of Y should be connected with zero line, if not so, relative equilibrium of the three-phase is required.
5. During the use of module, when the load power is big or the radiating condition is bad, please consider wind cooling.

◎ 产品规格 Product Model

型号 Type	MGRSCR- □□ LA	
额定电流 Rated Current	40A 65A	
外形尺寸 (mm) Dimension	宽	F1
	W	112
	L	135
	H	155
安装尺寸 (mm) Installation Dimension	宽	F2
	W	101
	L	95

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGRSCR-LA-H

三相电力调整器

Three Phase Power Regulator



◎ 产品特点 Product Features

- ◆ 结构新颖，高效率，高品质。
- ◆ 自体具有超温保护功能。
- ◆ 内置快速熔断器，具有过流保护。
- ◆ 多功能 LED 指示工作状态。
- ◆ 最大输出量、最小输出量可调节。
- ◆ Novel structure, high efficiency, high quality.
- ◆ With over temperature protective function.
- ◆ Built-in fast fuse with over current protective function.
- ◆ Multipurpose LED indication for working condition.
- ◆ Adjustable for maximum and minimum output.

◎ 产品性能 Product Performanc

- ◆ 额定电压：三相 380VAC (三相四线)
- ◆ 额定电流：75A, 90A, 120A
- ◆ 使用频率：50Hz/60Hz
- ◆ 输出方式：相位输出
- ◆ 控制信号：4~20mA, 0~5VDC, 0~10VDC
- ◆ 保护功能：快速熔断器
- ◆ 使用环境：温度 45℃以下，湿度 90%RH 以下
- ◆ Rated voltage: Three-phase 380VAC (three-phase Three-wire)
- ◆ Rated current: 75A, 90A, 120A
- ◆ Operation frequency: 50Hz/60Hz
- ◆ Control signal: 4~20mA, 0~5VDC, 0~10VDC
- ◆ Protective function: Fast fuse
- ◆ Ambient temperature: Less than 45. humidity less than 90% RH



F1

◎ 注意事项 Warning

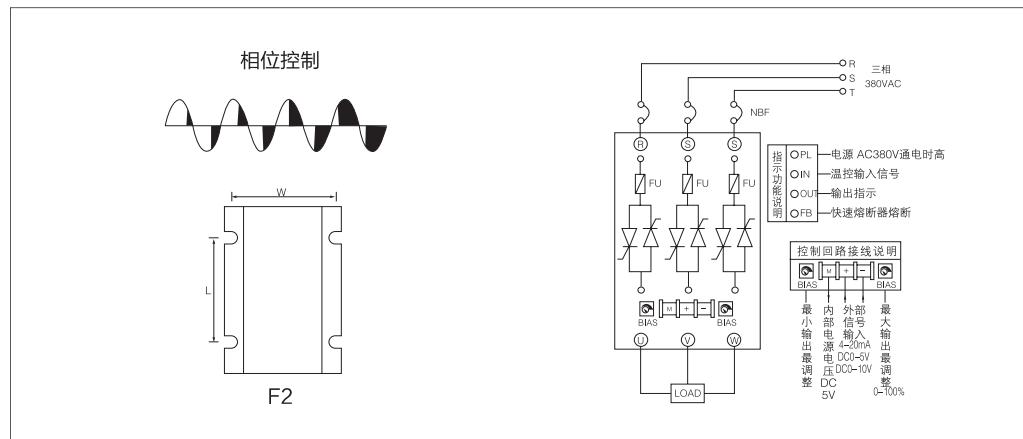
1. 主电路中采用三相三线输入，无相序要求。
- 2.SCR 为大电流产品，请**务必锁紧**(R.S.T)及(U.V.W)端子，否则会造成端子发热而导致 SCR 烧坏。
- 3.SCR 内置快速熔断器，作为过电流及短路保护。如果熔断器因过流而熔断时，请务必使用相同规格的熔断器予以更换，注意千万不可热议加大熔断器的安倍数。
4. 负载 Y 型接法时中心点不能接零线，否则会造成 SCR 失去控制。

1. The main circuit adopts three-phase three-wire input without requirement for phase sequence.
- 2.SCR is a product with big current, please keep in mind that terminals(R.S.T) and (U.V.W) shall not be locked tightly, or SCR will be burned by terminal heating.
- 3.There is a fast fuse built in SCR for over current and short-circuit protection. Please replace with fuse of equivalent specification when the fast fuse is burned out, and don't use the one with higher fusing ampere.
- 4.When Yconnection is used for three-phase load, the center of Y should be connected with zero line, if not so, relative equilibrium of the three-phase is required.

◎ 产品规格 Product Model

型号 Typel	MGRSCR- □□ LA-H	
额定电流 Rated Current	75A, 90A, 120A	
外形尺寸 (mm) Dimension	宽 W	F1
	高 H	150
	深 L	200
	高 H	140
安装尺寸 (mm) Installation Dimension	宽 W	F2
	深 L	170
	高 H	130

◎ 安装尺寸及接线图 Installation dimensions and wiring diagram



MGRSCR-LA-ZQ

三相电力调整器

Three Phase Power Regulator



F1

◎ 产品特点 Product Features

- ◆ 结构新颖，高效率，高品质。
- ◆ 自体具有超温保护功能。
- ◆ 多功能 LED 指示工作状态。
- ◆ 最大输出量、最小输出量可调节。
- ◆ Novel structure, high efficiency, high quality.
- ◆ With over temperature protective function.
- ◆ Multipurpose LED indication for working condition.
- ◆ Adjustable for maximum and minimum output.

◎ 产品性能 Product Performance

- ◆ 额定电压：三相 380VAC (三相三线)
- ◆ 额定电流：150A, 200A, 250A
- ◆ 使用频率：50Hz/60Hz
- ◆ 输出方式：相位输出
- ◆ 控制信号：4~20mA, 0~5VDC, 0~10VDC
- ◆ 保护功能：自体超温保护
- ◆ 使用环境：温度 45℃以下，湿度 90%RH 以下
- ◆ Rated voltage: Three-phase 380VAC (three-phase Three-wire)
- ◆ Rated current: 150A, 200A, 250A
- ◆ Operation frequency: 50Hz/60Hz
- ◆ Control signal: 4~20mA, 0~5VDC, 0~10VDC
- ◆ Protective function: Auto-protection for over temperature
- ◆ Ambient temperature: Less than 45. humidity less than 90% RH

◎ 注意事项 Warning

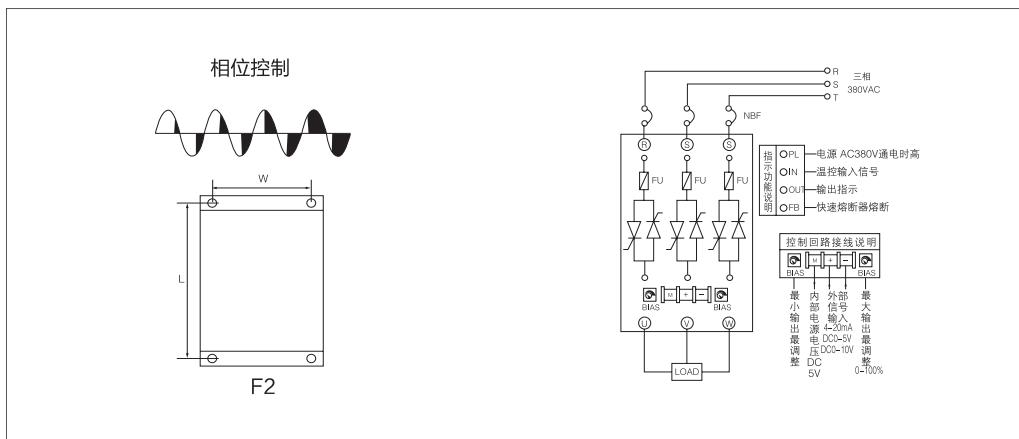
1. 主电路中采用三相三线输入，无相序要求。
 - 2.SCR 为大电流产品，请**务必锁紧**(R.S.T)及(U.V.W)端子，否则会造成端子发热而导致 SCR 烧坏。
 3. 负载 Y 型接法时中心点不能接零线，否则会造成 SCR 失去控制。
 4. 当散热器温度超过 75℃时，模块会自动保护停止工作，此时只有电源指示 LED 灯亮。
1. The main circuit adopts three-phase three-wire input without requirement for phase sequence.
 - 2.SCR is a product with big current, please keep in mind that terminals(R.S.T) and (U.V.W) shall not be locked tightly, or SCR will be burned by terminal heating.
 - 3.When Yconnection is used for three-phase load, the center of Y should be connected with zero line, if not so, relative equilibrium of the three-phase is required.
 - 4.When the temperature of radiator exceeds 75℃ , the module will stop working automatically, and only the power indicating light is bright on the moment.

◎ 产品规格 Product Model

型号 Type		MGRSCR- □□ LA-ZQ		
额定电流 Rated Current		150A	200A	250A
外形尺寸 (mm) Dimension	图	F1		
	W	125	180	180
	L	300	290	340
安装尺寸 (mm) Installation Dimension	图	F2		
	W	105	160	160
	L	268	200	250
内置快熔 Built-in fast fuse		有 Yes	无 No	

◎ 安装尺寸及接线图

Installation dimensions and wiring diagram



全隔离单相交流调压模块

All Isolated Single Phase AC Voltage Regulator Module



◎ 全隔离单相交流调压模块 (DTY)

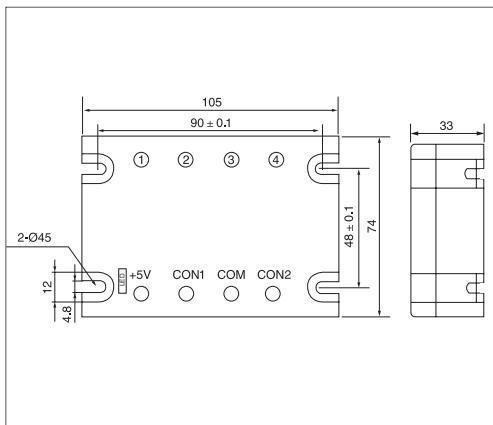
◆ 全隔离单相交流调压模块（以下简称单相调压模块 DTY）是集同步变压器、相位检测电路、移相触发电路和输出可控硅于一体，当改变控制电压的大小，就可改变输出可控硅的触发相角，即实现单相交流电的调压。根据输出可控硅器件不同分一只双向可控硅的普通型，两只单向可控硅反并联的增强型和一只单向可控硅的半波型等三类。按单相交流负载的额定电压分 220V 和 380V 两类，按控制信号的不同分 E、F、G、H 型等四类，以下为规格型号表（注：电流等级为模块内部可控硅最大电流有效值）

为方便说明，下面以 0~5V 控制信号为标准作介绍（型号简称 DTY）：

◆ ①②为输出端，即模块内部可控硅的两级，增强型和普通型的①②端无极性，半波型模块内部单向可控硅的阳极接①端，阴极接②端。

◆ ③④为模块内部同步变压器初级，分 220Vac 和 380Vac 两种 规格：220Vac 规格允许使用在 165~240Vac 范围的电网上，380Vac 规格的模块允许使用在 285~420Vac 的电网上，③④不分极性。

◆ COM 分内部地端，CON 为控制端，+5V 为内部产生，只供电位器手动控制用，①②③④的强电部分和 +5V、CON、COM 的弱电部分为全隔离。应用电路如下所示：



◆ Pieces to isolate single-phase ac voltage regulator module (hereinafter referred to as the single-phase voltage regulator module DTY) is a synchronous transformer, phase detection circuit, thyristor phase shift trigger circuit and output at an organic whole, when change the size of the control voltage, can change the output of SCR trigger phase Angle, namely single-phase ac voltage regulation. According to the output of the thyristor device, two types of two - directional controllable silicon - two - directional silicon - controlled and one - way silicon - controlled half - wave - type. According to single-phase ac load rated power of subsection 220Vand 380 v, according to the control signal of different points, E, F, G, H and other four categories, the following is a specification table (note: the current level of internal SCR module maximum current RMS).

For the convenience of explanation, the following is introduced id the standard of 0~5V control signal (DTY).

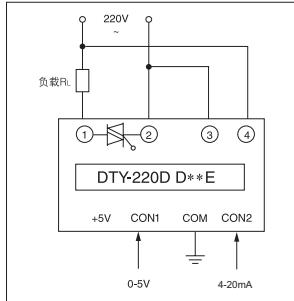
◆ For the output terminal, the two levels of the controllable silicon in the module are both enhanced and the normal ones without polarity, the anode of the one - directional silicon control in the half - wave module is connected to the end, and the cathode is connected to the end. Pieces .

◆ (3) (4) synchronous transformer primary, for the inside of a module in 220 vac and 380 vac two specifications: 220 vac specification allows you to use in the range of 165~240 vac on the grid of 380 vac specifications of the module allows you to use on the 285~420VAC power grid, (3) (4) regardless of the polarity.

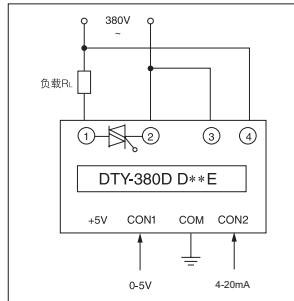
◆ The power portion of the unit is completely isolated from the weak current of + 5V, CON and COM. The application circuit is as follows:

		CON0~5V:E型	CON0~10V:F型	CON4~20mA:G型	CON1~5V:H型
增强型	负载 220V	10A	DTY-H220D10E	DTY-H220D10F	DTY-H220D10G
		40A	DTY-H220D40E	DTY-H220D40F	DTY-H220D40G
		80A	DTY-H220D80E	DTY-H220D80F	DTY-H220D80G
		120A	DTY-H220D120E	DTY-H220D120F	DTY-H220D120G
		160A	DTY-H220D200E	DTY-H220D160F	DTY-H220D160G
		200A	DTY-H220D250E	DTY-H220D200F	DTY-H220D200G
		250A	DTY-H220D300E	DTY-H220D250F	DTY-H220D250G
		300A	DTY-H380D10E	DTY-H220D300F	DTY-H220D300G
半波型	负载 380V	10A	DTY-H380D40E	DTY-H380D10F	DTY-H380D10G
		40A	DTY-H380D80E	DTY-H380D40F	DTY-H380D40G
		80A	DTY-H380D120E	DTY-H380D80F	DTY-H380D80G
		120A	DTY-H380D160E	DTY-H380D120F	DTY-H380D120G
		160A	DTY-H380D200E	DTY-H380D160F	DTY-H380D160G
		200A	DTY-H380D200E	DTY-H380D200F	DTY-H380D200G
		250A	DTY-H380D250E	DTY-H380D250F	DTY-H380D250G
		300A	DTY-H380D300E	DTY-H380D300F	DTY-H380D300G
	负载 220V	10A	DTY-H220D10XE	DTY-H220D10XF	DTY-H220D10XG
		25A	DTY-H220D25XE	DTY-H220D25XF	DTY-H220D25XG
		50A	DTY-H220D50XE	DTY-H220D50XF	DTY-H220D50XG
	负载 380V	10A	DTY-H380D10XE	DTY-H380D10XF	DTY-H380D10XG
		25A	DTY-H380D25XE	DTY-H380D25XF	DTY-H380D25XG
		50A	DTY-H380D50XE	DTY-H380D50XF	DTY-H380D50XG

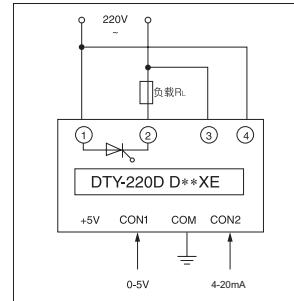
a. 220Vac电网自动控制电路图



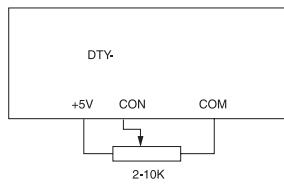
b. 380Vac电网自动控制电路图



c. 单相半波调压模块自动控制电路图



d. 手动控制电路图



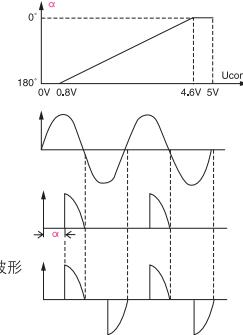
E、F、H型手动控制方式，G型不能用电位器调节。

控制电压Ucon与可控硅输出导通角 α 关系曲线
(阻性负载)及波形图。

电网电压波形

图c中阻性负载RL的电压波形

图a、图b中阻性负载RL上的电压波形



◎ 有关技术指标及应注意的问题

Technical indicators and issues to be noted

- 1、通过①②加在负载上的电压相位和③④端的电压相位必须一致，否则失控。电网频率须为 50Hz。
 - 2、CON 对 COM 必须为正，如极性相反则输出端失控（全开或关闭）。当控制端 CON 从 0~5V 改变时，交流负载上的电压从 0 伏到最大可调（对阻性负载而言）。其中 CON 在 0~0.8V 左右时为全关闭区域，可靠关断模块的输出；CON 在 0.8V~4.6V 左右为可调区域，即随着控制电压的增大，导通角 \propto 从 180° 到 0° 线性减小，交流负载上的电压从 0 伏增大到最大值；CON 在 4.6V~5V 左右时为全开通区域，交流负载上的电压为最大值。
 - 3、CON 对 COM 的输入阻抗分 EF 和 H 型均为大于等于 30K 欧；G 型为 250 欧。 $+5V$ 电压信号只提供给手控电位器用，不作它用，所选用的电位器阻值在 2~10KΩ 间，注：4~20mA 的 G 型不能用电位器手动调节，些时 $+5V$ 端也没有用处。
 - 4、单相交流异步电动机的调速原则上应采用变频器，只有风机类、水泵类单相电机在要求不高的场合可采用单相调压模块。
 - 5、三只单相调压模块不能使用在三相电网上对三相负载调压。
 - 6、弱电部分、强电部分、模块底板互相之间绝缘电压均大于 2000VAV。
 - 7、整个模块的发热量按负载实际电流安培数乘 1.5 瓦 / 安培计算，散热器可选用 MG-L、MG-H 系列。
 - 8、有关电流等级的选取及保护等有关使用注意事项请参考单相交流固态继电器说明。
- 1、The voltage phase in the load and the voltage phase of the end must be consistent, otherwise out of control. The power grid frequency must be 50Hz.
- 2、CON must be positive for COM, and the output end is out of control (full open or off) if the opposite is true. When the control terminal CON is changed from 0 to 5V, the voltage on the ac load is from 0 to the

maximum adjustable (for the resistivity load). In this case, CON is the output of the whole shutdown area and the reliable cut-off module at the left and right sides of 0~0.8 V. CON around the euro V to 4.6 V as the adjustable area, namely, with the increase of the control voltage conduction Angle \propto linear decrease from 180° to 0°, the voltage from 0 volts ac load increases to a maximum; CON is in the full open area around 4.6 v~5v, and the voltage on the ac load is maximum.

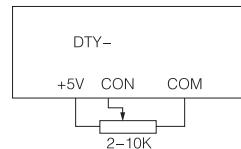
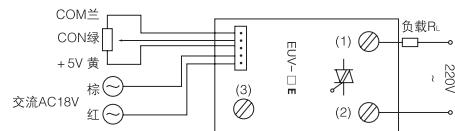
- 3.、The input impedance divided EF and H type of COM are both greater than or equal to 30K. G is 250 ou. $+5$ v voltage is available only to use hand control potentiometer, do not make it to use, chooses the potentiometer resistance between 2~10 k Ω , note: 4~20 ma G type cannot be manually adjusted using potentiometer, when some $+5$ v side also useless.
- 4、The speed regulation of single-phase ac asynchronous motors should be adopted in principle, and the single-phase regulating module can only be used in the case of fan class and pump type single-phase motor.
- 5、Three single-phase modulation modules cannot be used to load the three-phase load on the three-phase grid.
- 6、The insulation voltage between the weak current part, the strong electric part and the module floor is greater than 2000VAV.
- 7、The heat of the whole module is calculated according to the actual current of the load, and the radiator can be used in the mg-l and mg-h series.
- 8.、For the selection and protection of current level, please refer to the single phase ac solid state relay.

- ◎ 变压器外置型全隔离单相调压器
(使用功能及参数同上) EUV- □ E

Transformer external type all-isolation single-phase voltage regulator
(using functions and parameters) EUV- E



- ◆ SSR 移相触发器的引脚功能：
红色线、兰色线接同步变压器的副边绕组 18VAC
绿色线为内部地；
黄色线为控制端；
棕色线为模块内部产生的 +5V 电压端
- ◆ Pin function of SSR shift trigger:
The side winding of the red line and the blue line of the synchronous transformer is 18VAC
The green line is the interior;
The yellow line is the control end;
The brown line is the +5V voltage generated inside the module



E、F、H型手动控制方式，G型不能用电位器调节



全隔离单相桥式全控整流模块

Isolated Single Phase Full-Bridge
Full-Controlled Rectifier

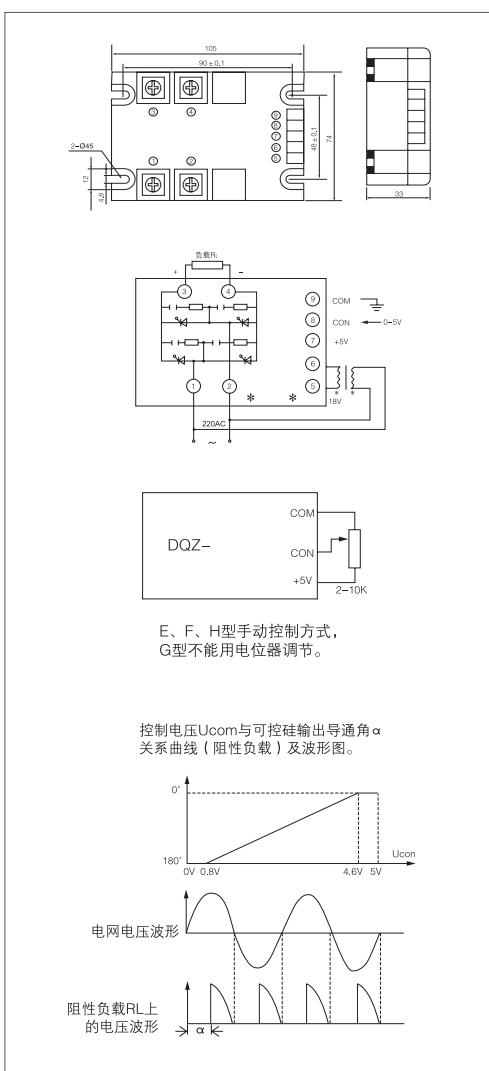


◎ 全隔离单相桥式全控整流模块 (DQZ)

- ◆ 全隔离单相桥式全控整流模块（以下简称单相整流模块 DQZ）内部集四只单向可控硅组成的全控桥、移相电路和触发电路于一体，在外部提供交流同步电压（18VAC）下，便可以自动控制或外接电位器手动控制，达到改变四只单向可控硅的导通角即可方便地实现单相交流电直接转向幅值无级可调的脉动直流电压。
- ◆ 单相整流模块 DQZ 根据单相交流电网电压分 380V（可应用 180~450VAC:）、220V（可应用 120~250VAC）、110V（可应用 50~120VAC）、36V（可应用 20~50VAC:）四大系列；根据信号的不同分 E、F、G、H 等四类。
- ◆ Full isolation of single-phase bridge type full controlled rectifier module (hereinafter referred to as the single-phase rectifier module DQZ) internal set four one-way full control of silicon controlled rectifier bridge, the phase shift circuit and trigger circuit to a body, the external ac synchronous voltage under 18 (VAC), automatic control or an external potentiometer can be manual control, to change four unidirectional conduction Angle of silicon controlled rectifier can easily realize single phase alternating current (AC) to direct the pulsation of the amplitude stepless adjustable dc voltage.
- ◆ Single phase rectifier module DQZ is based on the single phase ac power voltage subdivision 380V (which can be applied to 180~450VAC:), 220V (which can be used for 120~250VAC), 110V (which can be used in 50~120VAC), 36V (which can be applied in 20~50VAC:). According to the different points of signal, E, F, G, H, etc..



- ◆ 为方便说明，下面以 0~5V 控制信号为标准作介绍
- ◆ For the convenience of illustration, the following is the standard of 0~5v control signal



①②为交流电源进线端，电压等级分 380VAC、220VAC、110VAC 和 36VAC。
 ③④为直流输出正负端，负载电压。
 ⑤⑥为同步电压输入端，允许输入与①②交流电源同步的幅值为 18 ± 5 VAC 的电压，⑤与②为同步端。
 ⑦⑧⑨分别为 +5V CON 和 COM，其中 +5V 为模块内部产生，只供电位器手动控制用，CON 为控制端，COM 为内部地端。其中的①②③④的强电部分与⑤⑥⑦⑧⑨的弱电部分为全隔离。

①② in order to ac power supply, the voltage class is 380VAC, 220VAC, 110VAC and 36VAC.

③④ the output is positive and negative, load voltage. In the case of synchronous voltage input, the amplitude of the input and the ac power is allowed to be synchronous with the voltage of 18 or minus 5VAC.

⑦⑧⑨ the two parts are +5V CON and COM respectively, and the +5V is generated inside the module, which is only used by the potentiometer for manual control, and CON is the control end and COM is the internal end. The power portion of the one is completely isolated from the weak current of the one.

		CON0~5V:E 型	CON0~10V:F 型	CON4~20mA:G 型	CON1~5V:H 型
380V 系列	15A	DQZ-380D15E	DQZ-380D15F	DQZ-380D15G	DQZ-380D15H
	35A	DQZ-380D35E	DQZ-380D35F	DQZ-380D35G	DQZ-380D35H
	75A	DQZ-380D75E	DQZ-380D75F	DQZ-380D75G	DQZ-380D75H
	120A	DQZ-380D120E	DQZ-380D120F	DQZ-380D120G	DQZ-380D120H
	150A	DQZ-380D150E	DQZ-380D150F	DQZ-380D150G	DQZ-380D150H
	190A	DQZ-380D190E	DQZ-380D190F	DQZ-380D190G	DQZ-380D190H
220V 系列	15A	DQZ-220D15E	DQZ-220D15F	DQZ-220D15G	DQZ-220D15H
	35A	DQZ-220D35E	DQZ-220D35F	DQZ-220D35G	DQZ-220D35H
	75A	DQZ-220D75E	DQZ-220D75F	DQZ-220D75G	DQZ-220D75H
	120A	DQZ-220D120E	DQZ-220D120F	DQZ-220D120G	DQZ-220D120H
	150A	DQZ-220D150E	DQZ-220D150F	DQZ-220D150G	DQZ-220D150H
	190A	DQZ-220D190E	DQZ-220D190F	DQZ-220D190G	DQZ-220D190H
110V 系列	15A	DQZ-110D15E	DQZ-110D15F	DQZ-110D15G	DQZ-110D15H
	35A	DQZ-110D35E	DQZ-110D35F	DQZ-110D35G	DQZ-110D35H
	75A	DQZ-110D75E	DQZ-110D75F	DQZ-110D75G	DQZ-110D75H
	120A	DQZ-110D120E	DQZ-110D120F	DQZ-110D120G	DQZ-110D120H
	150A	DQZ-110D150E	DQZ-110D150F	DQZ-110D150G	DQZ-110D150H
	190A	DQZ-110D190E	DQZ-110D190F	DQZ-110D190G	DQZ-110D190H
36V 系列	15A	DQZ-36D15E	DQZ-36D15F	DQZ-36D15G	DQZ-36D15H
	35A	DQZ-36D35E	DQZ-36D35F	DQZ-36D35G	DQZ-36D35H
	75A	DQZ-36D75E	DQZ-36D75F	DQZ-36D75G	DQZ-36D75H
	120A	DQZ-36D120E	DQZ-36D120F	DQZ-36D120G	DQZ-36D120H
	150A	DQZ-36D150E	DQZ-36D150F	DQZ-36D150G	DQZ-36D150H
	190A	DQZ-36D190E	DQZ-36D190F	DQZ-36D190G	DQZ-36D190H

注：以上电流等级为模块输出电流最大有效值。

Note: the above current level is the maximum effective value for module output current.

◎ 有关技术指标及应注意的问题

Technical indicators and issues to be noted

- 1、当输出端并联电解电容滤波时，由于电容两端电压不能突变，这种高电压、大容量场合很容易造成模块过流而损坏，因此模块上电前必须保证控制端 CON 电压在 0V，上电后 CON 须从 0V 逐渐增大，以保证电容冲击电流最小。
- 2、CON 对 COM 必须为正，如积极相反则输出端失控（全开或全闭）。当控制端 CON 从 0~5V 改变时，负载上的电压从 0 伏到最大值可调（对阻性负载而言）。其中 CON 在 0~0.8V 左右时为全关闭区域，可靠关断模块的输出；CON 在 0.8V~4.6V 左右为可调区域，即随着控制电压的增大，导通角 α 从 180° 到 0° 线性最小，负载上的电压从 0 伏增大到最大值；CON 在 4.6V~5V 左右时为全开通区域，负载上的电压为最大值。
- 3、CON 对 COM 的输入阻抗分 E、F 和 H 型均为大于等于 30K 欧；G 型为 250 欧。+5V 电压信号只提供给手控电位器用，不作它用，所选用的电位器阻值在 2~10KΩ 间。注：4~20mA 的 G 型不能用电位器手动调节，此时 +5V 端也没有用处。
- 4、当⑤⑥端不同步时，整个模块无输出，这里只要把⑤、⑥端两根线对调一下即可。同步变压器功率 2W 即可，我公司有 220V、18V (2W)；380V/18V (2W) 配套供应。
- 5、整个模块的发热量按负载实际电流安培数乘每安倍 3.0 瓦计算，散热器可选用 MG-L、MG-H 系列。
- 6、弱电部分、强电部分、模块底板相互间绝缘电压均大于 2000VAC。
- 7、单相整流模块只能使用在 50Hz 的电网上，其中 220V 系列使和在 120~250VAC 电网上，110V 和 36V 系列分别使用在 50~120VAC 和 20~20VAC 电网上，380V 系列使用在 180~450VAC 电网上，但⑤⑥两端的同步电压必须在 18V±5VAC 范围内。
- 8、有关电流等级的选取及保护等有关使用注意事项请参考单相交流固态继电器说明。

1、When the output parallel electrolytic capacitor filter, because on both ends of the capacitor voltage can't mutation, this kind of high voltage, large capacity situation damaged module flow and easily, so must ensure that before module on electric control end CON voltage at 0V after power on the CON must gradually increases from 0V, to ensure that the minimum capacitance impact current.

- 2、CON must be positive for COM, if positive, the output is out of control (full or closed). When the control terminal CON is changed from 0 to 5V, the voltage on the load is adjustable from 0 to the maximum (for the resistive load). In this case, CON is the output of the whole shutdown area and the reliable cut-off module at the left and right sides of 0~0.8V. CON at around 0.8V to 0.8V for adjustable area, namely, with the increase of the control voltage conduction Angle α from 180° to 0° linear minimum, the voltage from 0 V increases to the maximum load; CON is in the full open area around 4.6V~5V, and the voltage on the load is the maximum.
- 3、The input impedance sub-e, F and H type of COM are both greater than or equal to 30K. G is 250 ohm. + 5V voltage is available only to use hand control potentiometer, do not make it to use, chooses the potentiometer resistance between the 2~10KΩ. Note: the G type of 4~20mA cannot be manually adjusted by the potentiometer. At this time, the +5V end is also useless.
- 4、When there is no synchronization, the whole module has no output. The synchronous transformer power is 2W, and our company has 220V and 18V (2W). 380V/18V (2W) supply.
- 5、The heat of the whole module is calculated according to the actual current of the load, and the radiator can be used in the MG-L and MG-H series.
- 6、The insulation voltage between the weak current part, the strong electric part and the module floor is greater than 2000VAC.
- 7、Single-phase rectifier module can only be used on the grid of 50Hz, 220V series and in 120~250 VAC power grid, the 110V and 36V series to use in the 50~120VAC and 20respectively ~ 20VAC power grid, the 380Vseries to use in 180~450VAC power grid, but 5 6 at the ends of the synchronous voltage must be within the scope of the 18V+/-5 VAC.
- 8、For the selection and protection of current level, please refer to the single phase ac solid state relay.

全隔离三相交流调压模块

All Isolated Three Phase AC
Voltage Regulator Module



◎ 全隔离三相交流调压模块 (STY)

◆ 全隔离三相交流调压模块 (以下简称三相调压模块 STY) 内部集三相电位检测、移相电路。触发电路和三组反并联单向可控硅于一体，在我公司提供的三相同步变压器模块 (型号为 TB-3) 的支持下 (同步电压器还兼作提供三相调压模块内部工作电源用)，不需外部任何电路和工作电源，便可自动控制或外接电位器手动控制，达到改变可控硅导通角即可实现三相负载电压从 0V 到电网全电压的无级可调。

◆ 三相调压模块 STY 原则上应用于 380VA、50Hz 的三相电网上，根据控制信号的不同分 E、F、G、H 型等四类，以下为型号表。

◆ The three-phase current phase detection and phase shift-phase circuit of the three-phase voltage regulating module (hereinafter referred to as the three-phase regulating module) is isolated. Trigger circuit and three sets of parallel one-way



thyristor at an organic whole, in my company to provide the three-phase synchronous transformer module (models for TB - 3) with the support of (and the synchronous voltage do provide three-phase voltage regulator module internal work with power supply), does not need any external circuit and the working power supply, can automatically control or an external potentiometer manual control, to change the thyristor conduction Angle of three-phase load voltage can be realized from 0 v stepless adjustable full voltage to the power grid.

◆ The three-phase regulating module STY is applied in the three-phase power grid of 380VA and 50Hz in principle, and according to the control signals, the following categories are: E, F, G, H type, etc.

	CON0~5V:E型	CON0~10V:F型	CON4~20mA:G型	CON1~5V:H型
35A	STY-380D35E	STY-380D35F	STY-380D35G	STY-380D35H
75A	STY-380D75E	STY-380D75F	STY-380D75G	STY-380D75H
120A	STY-380D120E	STY-380D120F	STY-380D120G	STY-380D120H
150A	STY-380D150E	STY-380D150F	STY-380D150G	STY-380D150H

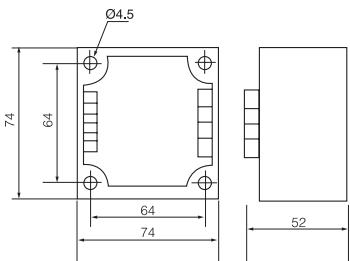
(注：以上电流等级为模块内部一组反并联可控硅电流最大有效值)

(note: the above current level is the maximum effective value of a set of anti-parallel thyristor current in the module.)

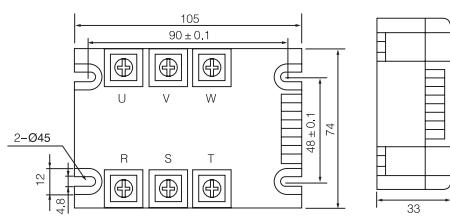
◆ 为方便说明，下面以 0~5V 控制信号为标准作介绍 (型号简称 STY)。

◆ For the convenience of explanation, the following is introduced with the 0~5v control signal (STY).

三相同步变压器模块(TB-3)外形尺寸图

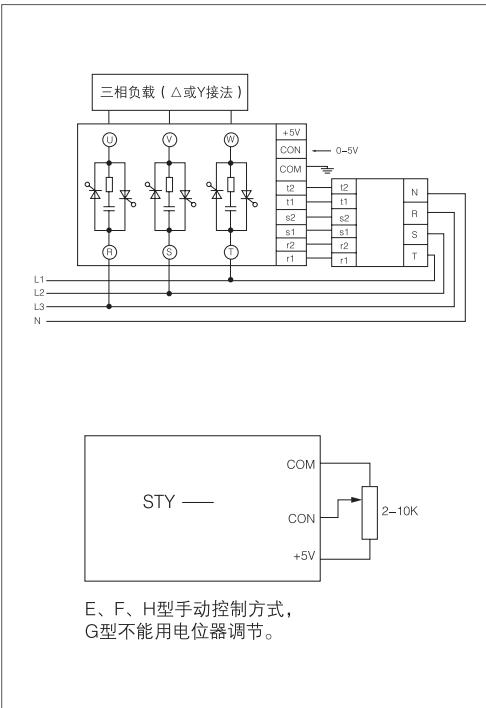


三相调压模块外形尺寸图



◆ 三相调压模块上 R、S、T 和同步变压器模块上 R、S、T 接电网 L1、L2、L3 (无相序要求, 但两模块的 R、S、T 对应连接), 同步变压器 N 接地线。U、V、W 接三相负载 (Y、△接法均可)。三相调压模块上 r1、r2、s1、s2、t1、t2 和同步变压器模块上 r1、r2、s1、s2、t1、t2 用排线 (插上线插座即可), +5V 端为内部产生, 只供电位器手动控制用, CON 为控制端, COM 为模块内部地。其中 T、S、R、N、U、W 的强电部分与 r1、r2、s1、s2、t1、t2、+5V、CON、COM 的弱电部分为全隔离。应用电路及手动控制:

◆ Three-phase voltage regulator module on the R, S, T and synchronous transformer module on the R, S, T grid L1, L2, L3 (no phase sequence requirements, but the two modules of R, S, T should connect), N synchronous transformer grounding line. U, V, W connected with three phase load (Y, delta connection can be). Three-phase voltage regulator module on r1, r2, s1, s2, t1, t2 and synchronous transformer module on r1, r2, s1, s2, t1, t2 with ribbon cable (plug in line socket), + 5 v is for internal creation, only for manual control potentiometer, CON as control side, the COM module internally. The strong electrical parts of T, S, R, N, U and W are all isolated from the weak current of r1, r2, s1, s2, t1, t2, + 5V, CON and COM. Application circuit and manual control:



E、F、H型手动控制方式,
G型不能用电位器调节。

◎ 有关技术指标及应注意的问题

Technical indicators and issues to be noted

- 1、三相调压模块和三相同步变压器模块 TB-3 组成的电路可应用于 380V (300V~420V)、50Hz 的电网上。
- 2、CON 对 COM 必须为正, 如积极相反则输出端失控 (全开或全闭)。当控制端 CON 从 0~5V 改变时, 交流负载上的电压从 0 伏到最大值可调(可阻性负载而言)。其中 CON 在 0~0.8V 左右时为全关闭区域, 可靠关断模块的输出; CON 在 0.8V~4.6V 左右为可调区域, 即随着控制电压的增大, 导通角 α 从 180° 到 0° 线性减小, 交流负载上的电压从 0 伏增大到最大值; CON 在 4.6V~5V 左右时为全开通区域, 交流负载上的电压为最大值 (接近电网电压)。
- 3、CON 对 COM 的输入阻抗分 E、F 和 H 型均为大于等于 30K 欧; G 型为 250 欧。 $+5V$ 电压信号只提供给手控电位器用, 不作它用, 所选用的电位器阻值在 2~10 Ω 间, 注: 4~20mA 的 G 型不能用电位器手动调节, 此时 $+5V$ 端也没有用处。
- 4、强电部分、弱电部分、模块底板相互间绝缘电压均大于 2000VAC。
- 5、整个模块的发热量按负载实际电流安倍数乘 1.5 瓦 / 安倍计算, 散热器可选用 MG-Y、MG-H 系列。
- 6、三相负载的三相功率应均衡。负载为 Y 形接法时, Y 的中心点接与不接中心线均可, 但接中心线时高次谐波对电网干扰要比不接中心线时大。
- 7、三相交流异步电机的调速应采用变频器, 只有风机类、水泵类电机在要求不高的场合可采用三相调压模块。
- 8、三相同步变压器模块 TB-3 上的 N 须可靠接地。TB-3 与三相调压模块配套出售。
- 9、三相交充调压建议优先采用下面部分介绍的 SSR-3JK 和三只随机型固态继电器所组成的调压系统。
- 10、有关电流等级的选取及保护等有关使用注意事项请参考单相交流固态继电器。

- 1、The three-phase regulating module and three-phase synchronous transformer module tb-3 can be applied to 380V (300v~420v) and 50Hz power grid.
- 2、CON must be positive for COM, if positive, the output is out of control (full or closed). When the control terminal CON is changed from 0 to 5V, the voltage on the ac load is adjustable from 0 to the maximum (the resistibility load). In this case, CON is the output of the whole shutdown area and the reliable cut-off module at the left and right sides of 0~0.8 V. CON at around 0.8 V to 0.8 V for adjustable area, namely, with the increase of the control voltage conduction Angle α linear decrease from 180° to 0°, the voltage from 0 volts ac load increases to a maximum; CON is in the full open area around 4.6 v~5v, and the voltage on the ac load is maximum (close to the grid voltage).
- 3、The input impedance sub-e, F and H type of COM are both greater than or equal to 30K. G is 250 ou. $+5$ v voltage is available only to use hand control potentiometer, do not make it to use, chooses the potentiometer resistance between 2~10 Ω , note: 4~20 ma G type cannot be manually adjusted using potentiometer, the $+5$ v side also useless.
- 4、The power parts, the weak current and the module floor are more than 2000VAC.
- 5、The heat of the whole module is calculated according to the actual current of the load, and the radiator can be used in the mg-l and mg-h series.
- 6、Three-phase power of three-phase load should be balanced. When the load is y-shaped, the center of Y is connected to the center line, but the high harmonics in the center line are bigger than when the Central Line is not connected to the center line.
- 7、Three-phase ac asynchronous motor can be adjusted by frequency converter, and only the fan class and pump type motor can adopt three-phase regulating module in the case of low demand.
- 8、The N on the three-phase synchronous transformer module tb-3 is reliably grounded. Tb-3 is sold with three-phase regulating module.
- 9、The three intersecting charged pressure recommends that the following parts of ssr-3jk and three solid state relays of the ssr-3jk are introduced in the following parts.
- 10、For the selection and protection of current level, please refer to the single phase ac solid state relay.

固态三相移相触发器模块

Solid-Phase Three Phase-Shifting Trigger Module



◎ 固态继电器三相移相触发器模块 (SSR-3JK)

◆ 固态继电器三相移相触发器模块(以下简称SSR-3JK)内部集三相电位检测、移相电路、控制电路和三路单相随机型固态继电器触发电路于一体，在由我公司提供的三相同步变压器模块(型号为TB-3)的支持下，不需外部任何电路或工作电源，便可以自动控制或电位器手动控制，产生三路可改变导通角度的脉冲信号再去分别控制三路单相随机型固态继电器，即可实现三相负载电压从0V到电网全电压的无级可调。

◆ 按控制信号的不同，SSR-3JK分E、F、G和H型等四类，以下为规格型号表。



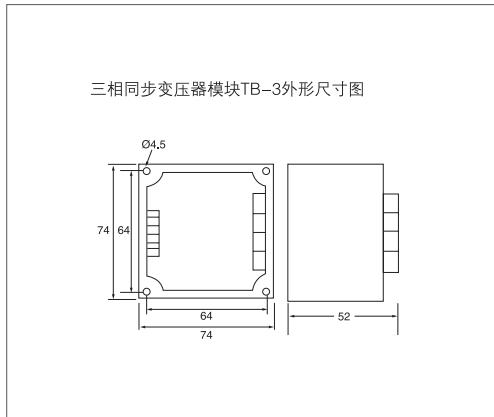
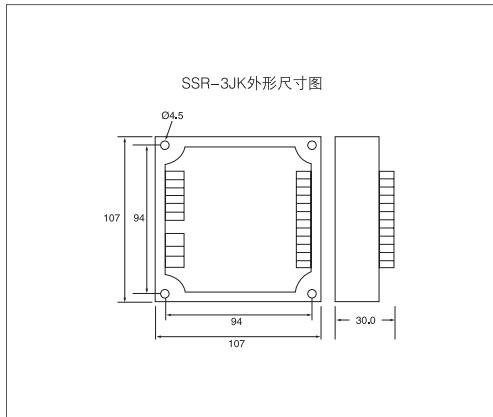
◆ Solid state relay three-phase phase shift trigger module (hereinafter referred to as the SSR - 3JK) internal three-phase electric phase detection and phase shift circuit, control circuit and three single phase model with solid state relay trigger circuit to a body, in the three-phase synchronous transformer module provided by our company (models for TB - 3) support, does not need any external power supply circuit or work, can automatic control or manual control potentiometer, produce three way can change the pulse signal of the conduction Angle to control three single-phase model with solid state relay, voltage from 0 v three-phase load can be realized the stepless adjustable full voltage to the grid.

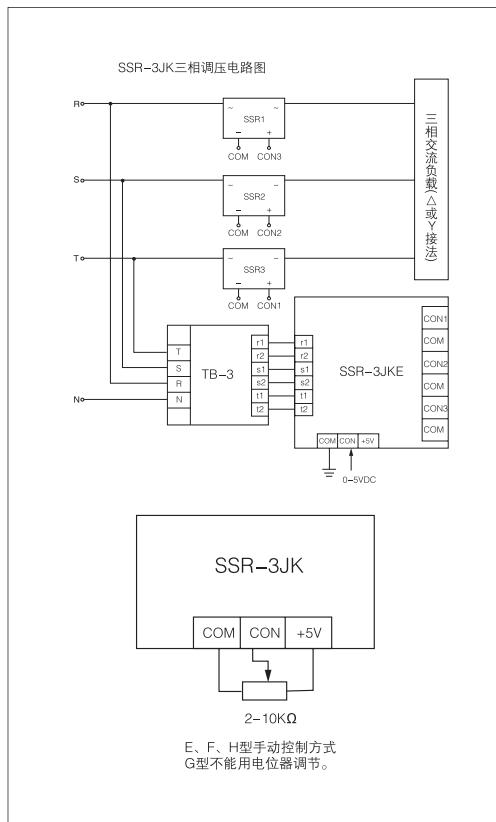
◆ According to the control signal, SSR-3JK is divided into four categories: E, F, G and H, and the following is the specification model table.

CON0-5V:E型	CON0-10V:F型	CON4-20mA:G型	CON1-5V:H型
SSR-3JK-E	SSR-3JK-F	SSR-3JK-G	SSR-3JK-H

◆ 为方便说明，下面以0-5V控制信号为标准作介绍，(型号简称SSR-3JK)

◆ For the convenience of explanation, the following is introduced with the standard 0-5V control signal (SSR-3JK).





◎ 有关技术指标及应注意的问题 Technical indicators and issues to be noted

- 整个电路可应用于 380V (300V~420V)、50Hz 电网上，主电路中三相进线 (R, S, T) 无相序要求，但进线和固体继电器、TB-3、SSR-3JK 输出端间 (如 T 对应的 SSR1 和 CON1) 必须严格一一对应，否则系统不能正常工作。
- CON 对 COM 必须为正，如极性相反则输出端失控 (全开或全闭)。当控制端 CON 从 0.54V 改变时，交流负载上的电压从 0 伏到最大值可调 (对阻性负载而言)。其中 CON 在 0~0.8V 左右时为全关闭区域，可靠关断模块的输出；CON 在 0.8V~4.6V 左右时为全开通区域，交流负载上的电压为最大值 (接近电网电压)。
- CON 对 COM 的输入阻抗分 E, F 和 H 型均为大于等于 30K 欧；G 型为 250 欧。 $+5V$ 电压信号只提供给手控电位器用，不作它用，所选用的电位器阻值在

2~10KΩ 间，注：4~20mA 的 G 型不能用电位器手动调节，此时 $+5V$ 端也没有用处。

4.SSR-3JK 的四个 COM 在模块内部均相连，为弱电“地”，(与同步变压器的中心线的“地 N 为全隔离”) 在自动控制方式时与外电路控制的直流“地”相连。

5. 三相负载的三相功率应均衡。负载为 Y 形接法时，Y 的中心点接与不接中心线均可，但接中心线时高次谐波对电网干扰要比不接中心线时大。同步变压器 TB-3 上的 N 线必须可靠接地 (中心线)。

6.SSR-3JK 和 TB-3 本身发热很小，不需要安装在散热器上。

7. 三相交流异步电机的调速应采用变频器，只有风机类、水泵类电机在要求不高的场合可采用三相调压模块。三相电机软起动应采用电压、电流闭环控制。

8. 由于 SSR-3JK 一方面通过同步变压器 TB-3 与电网隔离，另一方面通过三路固态继电器与电网隔离，因此 SSR-3JK 模块在弱电工作下极为可靠，并且即使三相负载发生短路而烧毁固态继电器后，SSR-3JK 也不会损坏。由于这一原因，由 SSR-3JK 组成的三相调压系统比较合理：一方面比我公司生产的三相移相触发器模块调压系统 (SX-JKA 加六个单向可控硅) 连接更为简便可靠，即使产生故障造成的损失也较小：SSR-3JK 系统短路时只损失一只或两只 SSR，而 SX-JKA 系统不但损失可控硅，而且还可能造成 SX-JKA 模块的损坏；另一方面也比我公司或其他公司生产的三相调压模块 (移相触发电路与可控硅为一体) 更为可靠，因为三相调压模块集六个单向可控硅于一体，由于体积小发热量大、散热不良而造成不可靠，在负载过流时所造成的损失则更不能相提并论。

SSR-3JK (TB-3) 与我公司生产的随机型固态继电器相匹配，用户购买 SSR-3JK (TB-3)、三只随机型 SSR 和一块散热器 (其中三只长条状固态继电器可安装在带风扇的 Y 系列散热器上；三只长方状固态继电器可安装在 MG-Y 的散热器上作为一个功率单元)。

1. The whole circuit can be applied to 380V, 300V to 420V), 50 Hz power grid, the main circuit of three phase into the line (R, S, T) no phase sequence requirements, but into the line and the solid relay, TB-3, SSR-3JK between outputs (E, G, T corresponding SSR1 and CON1) must be strictly one-to-one correspondence, the system can not work normally.

- 2.CON has to be positive for COM, if the opposite is out of control (full or closed). When the control end CON changes from 0.54V, the voltage on the ac load is adjustable from 0 to the maximum (for

the resistivity load). In this case, CON is the output of the whole shutdown area and the reliable cut-off module at the left and right sides of 0–0.8 V. CON is full open area around 0.8V–4.6 V, and the voltage on the ac load is maximum (close to grid voltage).

3. The input impedance sub-e, F and H type of COM are both greater than or equal to 30K. G is 250 ou. +5V voltage is available only to use hand control potentiometer, do not make it to use, chooses the potentiometer resistance between 2–10KΩ, note: 4–20mA G type cannot be manually adjusted using potentiometer, the +5V side also useless.

4. SSR-3JK four COM within the modules are connected, for the weak current "land", (with the centerline of synchronous transformer "N as complete isolation") in automatic control mode with dc connected "to" external control.

5. Three-phase power of three-phase load should be balanced. When the load is Y-shaped, the center of Y can be connected to the center line without the center line, but the higher harmonics in the center line will be bigger than the center line. The N line of the synchronous transformer TB-3 must be reliably grounded (centerline).

6. SSR-3JK and TB-3 itself are very febrile and do not need to be installed on the radiator.

7. Three-phase AC asynchronous motor can be adjusted by frequency converter, and only the fan class and pump type motor can adopt three-phase regulating module in the case of low demand. The soft starting of three-phase motor should be controlled by voltage and current closed-loop.

8. Due to the SSR TB-3-3JK on the one hand, through the synchronous transformer isolation and power grid, on the other hand through solid state relay with three road network isolation, thus SSR-3JK module under the weak current work is very reliable, and even after the three-phase short-circuit load and burning solid state relay, SSR-3JK also won't damaged. For this reason, the three-phase regulating system composed of SSR-3JK is reasonable: on the one hand than I company produces the three-phase pressure regulating system of the phase shift trigger module (SX-JKA plus six one-way thyristor) connection

is more simple and reliable, even failure damage smaller: SSR-3JK system only when short circuit losses for one or two SSR, and SX-JKA system not only loss of thyristor, but might also causes the damage of SX-JKA module; On the other hand is better than my company or other company production of three-phase voltage regulator module (phase shift trigger circuit and silicon controlled rectifier) more reliable, because of the three-phase voltage regulator module integrating six one-way thyristor, due to small volume calorific value is big, bad heat dissipation and unreliable, when load flow losses are not comparable. SSR-3JK(TB-3) with my company the production of matching model with solid state relay, users buy SSR-3JK (TB-3), three random SSR and a radiator (three long strip solid state relay can be installed only on the Y series radiator with fan; Three rectangular solid-state relays can be installed as a power unit on the MG-Y radiator.

三相移相触发器模块

Three Phase-Shifting Trigger Module



◎ 三相移相触发器模块

- ◆ 三相触发器模块系列内部集三相电相位检测、移相电路、控制电路的触发电路于一体，在我公司提供的三相同步变压器的模块支持下，不需外部任何电路或工作电源，便可以自控制或电位器手动控制，达到输出多路导通角可改变的可控硅强触发脉冲，去触发相应器件以实现移相调压的目的。
- ◆ 三相触发器模块系列分三相调压单硅移相触发器模块(SX-JKA)、三相调压双硅移相触发器模块(SX-JKT)、三相全控整流相触发器模块(SX-JKZ)和三相半控整流移相触发器模块(SX-JKB)等四种。
- ◆ 三相触发器系列按控制信号的不同分E、F、G、H等四类，以下为规格型号表：
- ◆ Trigger module series three-phase internal collection of three-phase electric phase detection and phase shift circuit, control circuit of trigger circuit to a body, in my company to provide the three-phase synchronous transformer module

support, does not need any external power supply circuit or work, you can control or manual control potentiometer, achieve output multiple conduction Angle can change strong thyristor trigger pulse, to trigger the corresponding device to achieve the purpose of the phase shift voltage regulating.

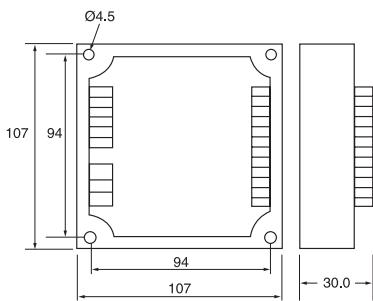
- ◆ Three-phase trigger module series points three-phase regulating single silicon phase shift trigger module (SX-JKA), three-phase regulating double silicon phase shift trigger module (SX-JKT) and three-phase fully-controlled rectifier trigger module (SX-JKZ) and three phase half controlled rectifier phase shift trigger module (SX-JKB) and other four.
- ◆ The three-phase trigger series is divided into four categories: E, F, G, and H according to the control signal, and the following is the specification model table:

CON0~5V:E型	CON0~10V:F型	CON4~20mA:G型	CON1~5V:H型
SX-JKAE	SX-JKAF	SX-JKAG	SX-JKAH
SX-JKTE	SX-JKTF	SX-JKTG	SX-JKTH
SX-JKZE	SX-JKZF	SX-JKZG	SX-JKZH
SX-JKBE	SX-JKBF	SX-JKBG	SX-JKBH

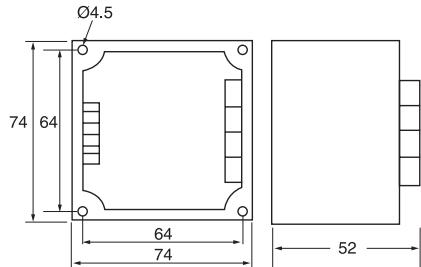
为方便说明,下面以 0~5V 控制信号为标准作介绍, (型号简称 SSR-3JK)

For the convenience of explanation, the following is introduced with the standard 0~5V control signal (SSR-3JK).

三相触发器 (SX-JKA、SX-JKT、SX-JKZ、SX-JKB) 外形尺寸图如下:



三相同步变压器模块 (TB-3A、TB-3Z)
外形尺寸图如下:



◎ 三相调压单硅移相触发器模块 (SX-JKA)

◆ SX-JKA 在三相调压同步变压器模块 TB-3A 的支持下,即可实现三组反并联单向可控硅所组成电路输出交流电压的无级可调。

◆ With the support of the three-phase voltage regulating synchronous transformer module TB-3A, SX-JKA can realize the non-grade adjustable voltage of the three sets of one-way thyristor.

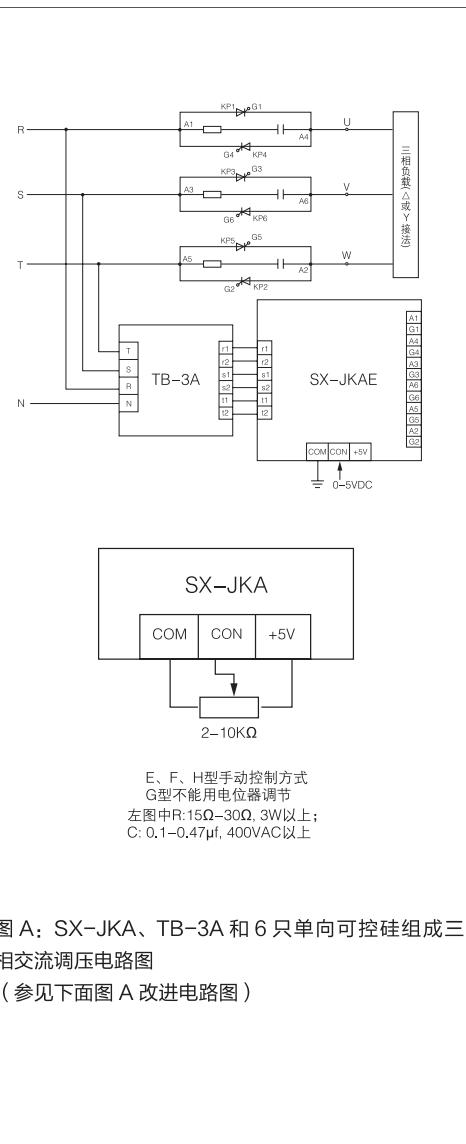


图 A: SX-JKA、TB-3A 和 6 只单向可控硅组成三相交流调压电路图
(参见下面图 A 改进电路图)

◎ 三相调压双硅移相触发器模块
(SX-JKT)

- ◆ SX-JKT 在三相调压同步器模块 TB-3A 的支持下，即可实现三只双向可控硅所组成电路输出交流电压的无级可调（一般只用于阻性负载）。
- ◆ The SX-JKT is supported by TB-3A of the three-phase voltage regulator module, which can realize the output voltage of three bidirectional silicon controlled circuits (usually only for the resistance load).

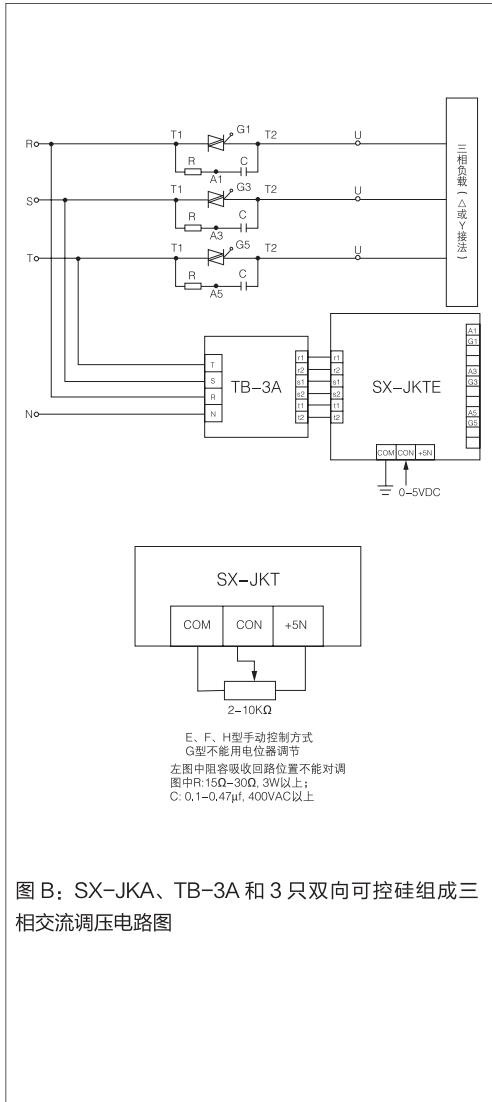


图 B: SX-JKA、TB-3A 和 3 只双向可控硅组成三相交流调压电路图

◎ 三相全控整流移相触发器模块
(SX-JKZ)

- ◆ SX-JKZ 在三相整流同步变压器模块 TB-3Z 的支持下，即可实现三相全控整流电路输出直流电压的无级可调。
- ◆ SX-JKZ can realize the output DC voltage of three-phase full control rectifier circuit with the support of three-phase rectifier synchronous transformer module TB-3Z.

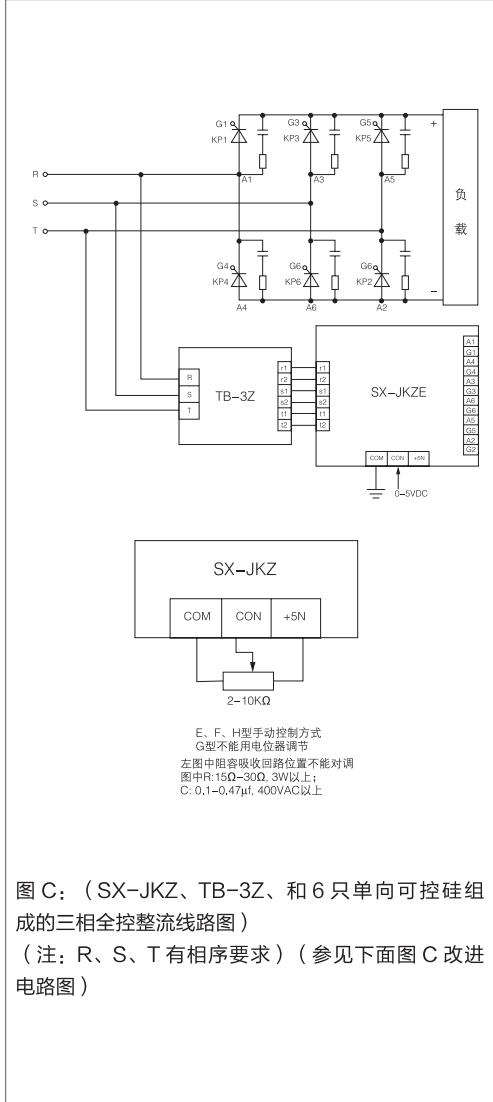


图 C: (SX-JKZ、TB-3Z、和 6 只单向可控硅组成的三相全控整流线路图)

(注: R、S、T 有相序要求) (参见下面图 C 改进电路图)

◎ 三相半控整流移相触发器模块 (SX-JKB)

- ◆ SX-JKB 在三相整流同步变压器模块 TB-3Z 的支持下，即可实现三相半控整流电路输出直流电压的无级可调。
- ◆ SX-JKB, with the support of three-phase rectifier synchronous transformer module TB-3Z, can realize the output dc voltage of three-phase semi-controlled rectifier circuit.

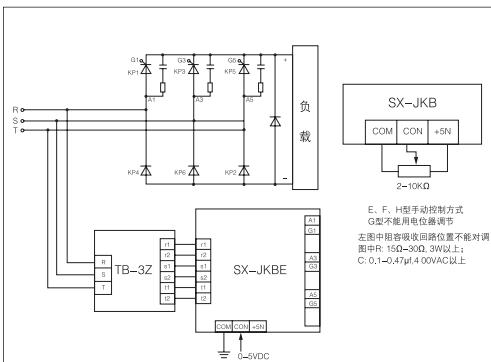


图 D: SX-JKD、TB-3Z 和 3 组单相可控硅 / 整流二极管组成的三相半控整流线路图（注：R、S、T 有相序要求）

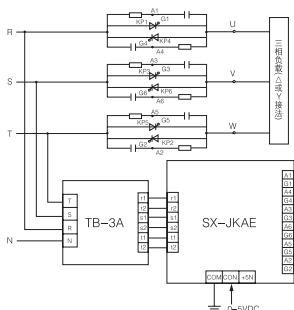


图 A 改进电路图

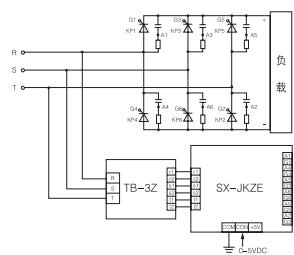


图 C 改进电路图

◎ 有关技术指标及应注意的问题 Technical indicators and issues to be noted

1. 三相交流调压电路无相序要求，但三相整流电路中三相进线（R、S、T）有相序要求，且进线和可控硅（如 R 对应 KP1 的阳极和 KP4 的阴极）、同步变压器模块及三相触发器之间必须严格一一对应，否则系统不能正常工作。
2. 三相触发器的触发端（如 A1、G1, ……, A6、G6）为强触发方式，可以触发 1000A 以内的任何单向可控硅。这里所谓的强触发方式的连线为 A1、G1 对应 KP1 的阳极和门极，而不是通常的阴极和门极。
3. 四个应用电路中的电网线电压为 380VAC、50Hz，允许在 300~420VAC 范围内使用。如用户使用在低电压上（带主隔离降压变压器），则需向我公司定制。
4. CON 对 COM 必须为正，如极性相反则输出端失控（全开或全闭）。但控制端 CON 从 0.5V 改变时，负载上的电压从 0 伏到最大值可调（对阻性负载而言）。其中 CON 在 0~0.8V 左右时为全关闭区域，可靠关断可控硅的输出；CON 在 0.8V~4.6V 左右为可调区域，即随着控制电压的增大，导通角 α 从 180° 到 0° 线性减小，负载上的电压从 0 伏增大到最大值；CON 在 4.6V~5V 左右时为全开通区域，负载上的电压为最大值。
5. CON 对 COM 的输入抗阻分 E、F 和 H 型均为大于等于 30K 欧；G 型为 250 欧。+5V 电压信号只提供给手控电位器用，不作它用，所选用的电位器阻值在 2~10KΩ 间，注：4~20mA 的 G 型不能用电位器手动调节，此时 +5V 端的也没有用处。
6. 三相交流调压电路中三相功率应均衡。负载为 Y 形接法时，Y 的中心点可接、可不接中心线，但接中心线时高次谐波对电网干扰要比不接时大。同步变压器模块为 TB-3A 上的 N 必须接地（中心线）。
7. 三相整流电路中电路中当输出端并联大电解电容滤波时，由于电容两端电压不能变，这种高电压、大容量场合很容易造成可控硅过流而损坏，因此模块上电前须保证控制端 CON 电压在 0V，上电后，CON 须从 0V 逐渐增大，以保证电容冲击电流最小。
8. 三相交流异步电机的调速应采用变频器，只有风机类、水泵类电机在要求不高的场合可采用三相调压。三相电机软起动应采用电压、电流闭环控制。
9. 三相触发器模块的弱电部分性能稳定可靠。六路（或三路）触发的一致性也很好，但由于为强电触发方式，故当主电路中的任一可控硅因故障（门极损坏）而不能被触发时，这种情况很容易损坏三相触发器模块上相应的触发端。这是次模块的主要不足。

10. 主电路中可控硅的阳极和阴极间必须加一阻容吸收回路保护，其中电阻一般选 15~30Ω、3W 以上，电容选 0.1~0.47uf、400VAC 以上
11. SX-JKA、SX-JKT、SX-JKZ、SX-JKB、TB-3A、TB-3Z 本身发热很小，不需要安装在散热器上。
12. 三相触发器模块和同步变压器模块配套出售。
1. The three-phase AC voltage regulation circuit and phase sequence, but three phase in three-phase rectifier circuit into the line (R, S, T) with phase sequence requirements, and into the line and the thyristor (such as anode and cathode KP4) R corresponding KP1, synchronous transformer must be strictly one to one correspondence between the module and phase trigger, otherwise the system doesn't work.
2. Trigger side of three-phase trigger (e.g. A1, G1, ..., A6, G6) is a strong trigger, which can trigger any one-way thyristor within 1000A. This so-called strong trigger mode is wired to A1 and G1 to the anode and gate poles of KP1, not the usual cathode and gate poles.
3. The grid line voltage in the four applications is 380VAC and 50Hz, which is allowed in the range of 300~420VAC. If the user is using low voltage (with the main isolating transformer), then we need to customize it to our company.
4. CON to COM must be positive, if the opposite of polarity is out of control (full or closed). But when the control terminal CON is changed from 0.5V, the voltage on the load is adjustable from 0 to the maximum (for the resistivity load). In this case, CON is the whole closed area around 0~0.8V, and the output of the thyristor is reliable. CON at around 0.8V to 0.8V for adjustable area, namely, with the increase of the control voltage conduction Angle \propto linear decrease from 180° to 0°, the voltage from 0V increases to the maximum load; CON is in the full open area around 4.6V~5V, and the voltage on the load is the maximum.
5. The input resistance subdivision E, F and H type of COM are both greater than or equal to 30K. G is 250 ohm. + 5V voltage is available only to use hand control potentiometer, do not make it to use, chooses the potentiometer resistance between 2~10KΩ, note: 4~20 mA G type cannot

- be manually adjusted using potentiometer, the + 5 V side also useless.
6. Three-phase power should be balanced in three-phase AC voltage regulation circuit. When the load is Y-shaped, the center of Y can be connected and not connected to the centerline, but the higher harmonics in the center line will be larger than when it is not connected. The synchronous transformer module shall be grounded (center line) for N on TB- 3A.
 7. Three-phase rectifier circuit in the circuit when the output and the electrolytic capacitor filter when the UN general assembly, because on both ends of the capacitor voltage can't change, this kind of high voltage, large capacitive occasions easily SCR over-current caused damage, and therefore before the module is powered on CON voltage at 0V shall ensure that control end, after power on, CON must gradually increases from 0V, to ensure that the minimum capacitance impact current.
 8. Three-phase AC asynchronous motor can be adjusted by frequency converter, and only the fan class and pump type motor can adopt three-phase voltage adjustment in the case of low demand. The soft starting of three-phase motor should be controlled by voltage and current closed-loop.
 9. The weak current part of the three-phase trigger module is stable and reliable. All (or three) triggered the consistency is also very good, but due to high voltage trigger way, therefore, when any of the main circuit of thyristor due to fault damage (gate) cannot be triggered, it is easy to damage the three-phase trigger module corresponding trigger. This is the main deficiency of the submodule.
 10. Main circuit in the thyristor must be added between the anode and the cathode of a resistance capacity to absorb circuit protection, including resistance generally choose 15~30Ω, 3W, capacitance choose 0.1~0.47 uf, more than 400VAC
 11. SX-JKA, SX-JKT, SX-JKZ, SX-JKB, TB-3A, TB-3Z itself are very hot and small and do not need to be installed on the radiators.
 12. Three-phase trigger module and synchronous transformer module for sale.

单相移相触发器模块

Single Phase Shift Trigger Module



◎ 单相移相触发器模块

◆ 移相触发器是为方便地调节单相交流电压而研制的。这个系列有共同的部分：在同步电压作用下（此同步电压还作为模块的工作电源），经同步相位检测、移相、触发，便可以自动控制或电位器手动控制，产生 $180^\circ \sim 0^\circ$ 可移相的触发信号，去触发相应的器件以达到移相调压的目的。

◆ The phase shift trigger is developed to facilitate the adjustment of single phase ac voltage. This series have a common parts: under the effect of synchronous voltage (the synchronous voltage also as a power supply module of the work), the synchronous phase detection and phase shift, trigger, can automatic control or manual control potentiometer, result from $180^\circ \sim 0^\circ$ phase shift trigger signal, to trigger the corresponding device in order to achieve the purpose of the phase shift voltage regulating.

◆ 以下规格（型号表）

◆ The following specifications (model table)

CON0~5V:E型	CON0~10V:F型	CON4~20mA:G型	CON1~5V:H型
SSR-JKZKE	SSR-JKZKF	SSR-JKZKG	SSR-JKZKH
SSR-JKWK	SSR-JKWK	SSR-JKWK	SSR-JKWKH

◆ 为方便说明，下面以 0~5V 控制信号为标准作介绍，（型号简称 SSR-JKWK）

◎ 随机型固态继电器移相触发器模块 (SSR-JKWK)

◆ 随机型单相交流固态继电器具有直流控制端施加信号，交流输出端便立刻导通的性能，因此当控制信号为交流电网同步的可移相的脉冲信号时，负载端便可以实现从 180° 到 0° 范围内电压的平稳调节。随机型 SSR 的移相触发器模块（以下简称移相触发器）正是为了方便地应用随机型 SSR 来调节交流负载电压而专门设计的。移相触发器的功能是根据控制电压的大小，输出端产生与电网电压同步的双倍电网频率的从 180° 到 0° 范围内移相的宽脉冲，用以驱动随机型 SSR，从而达到移相调压的目的。

◆ Model with single-phase ac solid state relay was applied at the end with dc control signal, the ac output side immediately conduction performance, so when the control signal for ac power grid synchronization of phase shifting pulse signal, load can realize from 180° to 0° to smooth regulation of voltage. The shift trigger module of the SSR model (hereinafter referred to as the phase shift trigger) is designed to facilitate the use of SSR to regulate ac load voltage. The function of the phase shift trigger is according to the size of the control voltage, output produced with grid voltage synchronous double grid frequency range from 180° to 0° phase shift pulse width, used to drive with the aircraft SSR, so as to achieve the purpose of the phase shift voltage regulating.

◆ For the convenience of explanation, the following is introduced with the standard 0~5V control signal (SSR-JKWK).

◎ 随机型 SSR 移相触发器的引脚功能 The pin function of SSR shift trigger

- ①、②脚同步变压器的副边绕组 18VAC 供给移相触发器电源和同步基准；
- ③脚为内部地，当移相触发器由外电路控制时，④脚与外电路的地相连；
- ④脚为输出端；
- ⑤脚也为内部地；
- ⑥脚为控制端，当⑥脚输入有 0.5V 电压信号时，④脚的输出端便产生 $180^\circ - 0^\circ$ 的可移相的宽脉冲（对阻性负载而言）；
- ⑦脚为模块内部产生的 +5V 电压端，当⑦⑥⑤脚外接电位器手动控制时，⑦脚提供电源，当外电路提供控制信号时，⑦悬脚空。

The auxiliary side winding 18VAC of the synchronous transformer is supplied and the synchronization benchmark is provided;

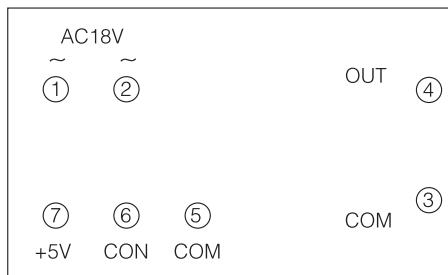
The feet are internal, and when the phase-shifting trigger is controlled by the external circuit, the foot is connected to the external circuit;

The foot is the output end;

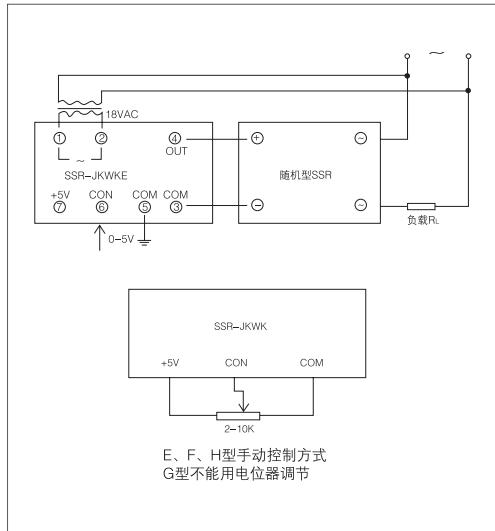
The feet are also internal;

⑥ feet to control the end, when the input is ⑥ feet 0.5 V voltage signal, the output of the ④ feet to produce $180^\circ - 0^\circ$ phase shift can be the width of pulse (for impedance load);

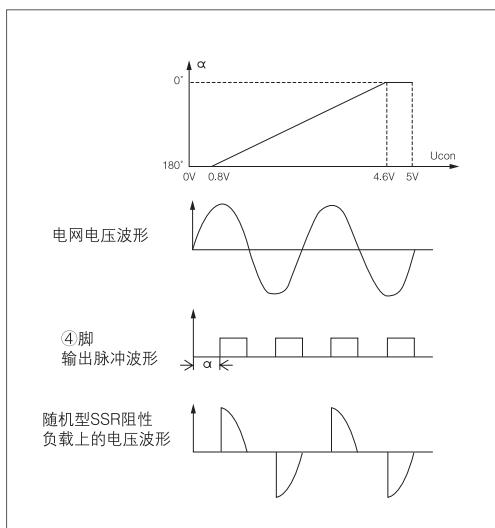
The foot is the +5V voltage generated inside the module. When the external potentiometer is manually controlled by the external potentiometer, the foot provides the power supply. When the external circuit provides the control signal, the foot is suspended.



◎ 随机型 SSR 移相触发器模块应用电路图 A circuit diagram is applied to the SSR phase trigger module



◎ 控制电压 Ucon 与固态继电器输出导通角 α 关系曲线 (阻性负载) 及波形图 With the solid state relay output control voltage Ucon conduction Angle α relation curve (impedance load) and waveform figure



◎ 有关技术指标及应注意的问题

Technical indicators and issues to be noted

1.CON 脚对 COM 脚必须为正，如极性相反则输出端失控（全开或全闭）。当控制端 CON 从 0~5V 改变时，交流负载上的电压从 0 伏到最大值可调（对阻性负载而言）。其中 CON 在 0~0.8V 左右时为全关闭区域，可靠关断模块的输出；CON 在 0.8V~4.6V 左右为可调区域，即随着控制电压的增大，导通角 α 从 180° 到 0° 线性减小，交流负载上的电压从 0 伏增大到最大值；CON 在 4.6V~0.5V 左右时为全开通区域，交流负载上的电压为最大值。CON 对 COM 的输入抗阻分 E、F、H 型均为大于等于 30K 欧；G 型为 250 欧。

2. ①②脚外接的同步变压器次级绕组电压值允许在 $18 \pm 5\text{VAC}$ 范围内，功率 2W 即可。

3. ⑦脚的 +5V 伏电压信号供电位器控制时提供电源用，不作它用，所选用的电位器值：要求在 2~10K Ω

注：4~20mA 的 G 型不能用电位器手动调节，此时 +5V 端也没有任何用处。

4. ④脚的脉冲电平在 10 伏左右，最大输出电流 12mA，移相触发器和本公司生产的随机型固态继电器可直接匹配。

5. 移相触发器使用的交流电网频率须为 50Hz。

6. 移相触发器本身发热很小，不需另外散热。

1. The CON foot must be positive for the COM foot, and the output terminal is out of control (full or closed) if the polarity is opposite. When the control terminal CON is changed from 0 to 5V, the voltage on the ac load is adjustable from 0 to the maximum (for the resistivity load). In this case, CON is the output of the whole shutdown area and the reliable cut-off module at the left and right sides of 0~0.8 V. CON at around 0.8V to 0.8V for adjustable area, namely, with the increase of the control voltage conduction Angle α linear decrease from 180° to 0°, the voltage from 0 volts ac load increases to a maximum; CON is in the full open area around 4.6V~0.5V, and the voltage on the ac load is maximum. The input resistance of CON to COM is greater than or equal to 30K. G is 250 ou.

2. The voltage value of the synchronous transformer secondary windings is allowed within 18 or minus 5VAC range, with a power of 2W.

3. 7 footV + 5V voltage signal for potentiometer control to provide the supply, do not make it to use, chooses the potentiometer value: in 2~10K Ω

Note: the G type of 4~20mA cannot be manually adjusted by the potentiometer. At this time, the +5V end also has no use.

4. The pulse level of the pin is at about 10 volts, the maximum output current is 12mA, the phase-shifting trigger and the solid-state relay produced by the company can be directly matched.

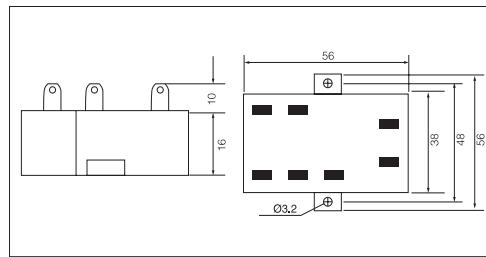
5. The frequency of ac power grid used by phase-shift trigger must be 50Hz.

6. The phase-shift trigger itself is very hot and small, and requires no heat dissipation.

◎ 移相触发器的外形尺寸图

The profile dimension of the phase shift trigger

装置式 SSR-JWKW



可控硅移相触发器模块

Phase Thyristor Trigger Module



◎ 可控硅移相触发器模块 (SCR-JKK, TRIAC-JKK)

- ◆ 可控硅移相触发器模块分单向可控硅移相触发器模块 (SCR-JKK) 和双向可控硅移相触发器模块 (TRIAC-JKK) 。
- ◆ 可控硅移相触发器模块的原理是：以电网相位为同步，当改变控制电压的大小，内部便产生相对电网电压 $180^\circ - 0^\circ$ 的触发脉冲，通过光电隔离，输出端 (A、G) 便触发相应的可控硅导通，从而达到移相调压的目的。
- ◆ 移相触发器的控制部分由于输出触发端光电隔离，因而可以用手动或者自动两种控制方式。在应用中只需提供 18V 的电网同步电压，电极以插片连接，使用极为方便。
- ◆ SCR-JKK 和 TRIAC-JKK 按控制信号不同，分为以下规格（型号表）：



- ◆ The thyristor shift trigger module is divided into one way controllable silicon flip trigger module (SCR-JKK) and the bidirectional thyristor flip trigger module (TRIAC – JKK).
- ◆ Principle of mixer thyristor phase shift trigger module is: based on grid phase synchronization, when change the size of the control voltage, internal to power grid voltage relative to $180^\circ - 0^\circ$ trigger pulse, through the photoelectric isolation, output end (A, G) will trigger the corresponding thyristor conduction, so as to achieve the purpose of the phase shift voltage regulating.
- ◆ The control part of the phase shift trigger can be controlled in part by the output trigger, which can be controlled by either manual or automatic control. In the application, only 18V of power grid synchronous voltage is provided, and electrode is connected by insert, which is very convenient.
- ◆ The SCR-JKK and TRIAC-JKK are divided according to the control signal, which is divided into the following specifications (model table) :

CON0-5V:E型	CON0-10V:F型	CON4-20mA:G型	CON1-5V:H型
SCR-JKKE	SCR-JKKF	SCR-JKKG	SCR-JKKH
TRIAC-JKKE	TRIAC-JKKF	TRIAC-JKKG	TRIAC-JKKH

为方便说明，下面以 0-5V 控制信号为标准作介绍（型号简称 SCR-JKK 和 TRIAC-JKK）

For the sake of convenience, the following is the standard introduction of 0-5V control signal (SCR-JKK and TRIAC-JKK).

◎ 移相触发器的引脚功能 The pin function of the phase shift trigger

- ① ②脚接同步变压器的副边绕组 (18VAC)，供给移相触发器电源和同步基准；
- ③脚接可控硅的触发门极；
- ④脚接单向可控硅的阳极或双向可控硅的主电极 T1 ；
- ⑤脚接内部地，当移相触发器由外电路自动控制时，与外电路地相连；

⑥脚为控制端，当⑥脚输入有0.5V电压信号时，③④脚控制触发的可控硅便在180°~0°范围内移相导通；
 ⑦脚为模块内部产生的+5V端，当⑤⑥⑦脚外接电位器手动控制时，⑦脚提供电源，当外电路自动控制时，⑦悬脚空。

①②The secondary winding (18VAC) of the synchronous transformer, supply and phase trigger power supply and synchronous reference;

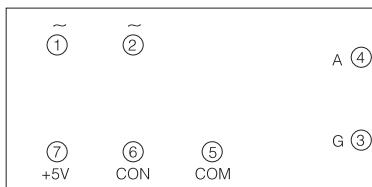
③ The trigger gate of thyristor;

④ The main electrode of the anode or bidirectional thyristor with a single-directional silicon controlled is T1;

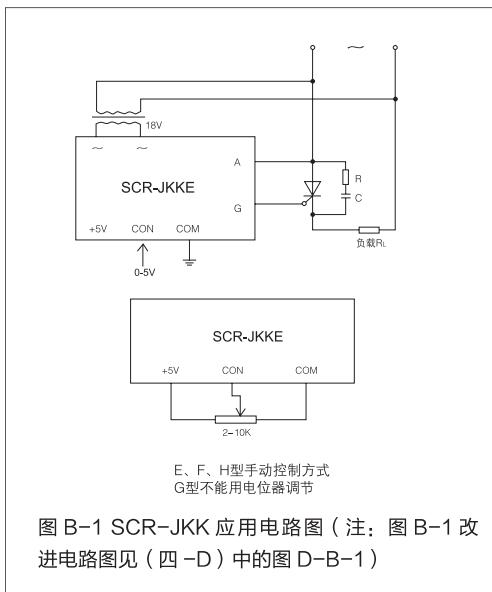
⑤ When the phase trigger is automatically controlled by the external circuit, it is connected with the external circuit.

⑥ feet to control the end, when the input voltage is 0.5 V signal 6 foot, foot control triggering thyristor is in ③④ to 0°~180° phase shift conduction;

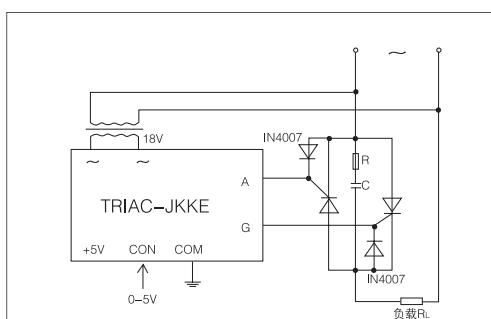
When the external circuit is automatically controlled, the ⑦ foot is empty.



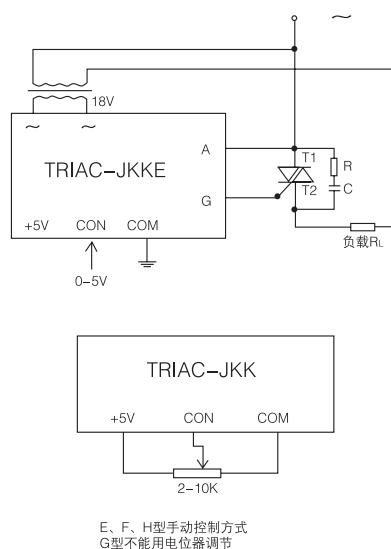
◎ 应用电路 Application circuit



图B-1 SCR-JKK应用电路图（注：图B-1改进电路图见（四-D）中的图D-B-1）



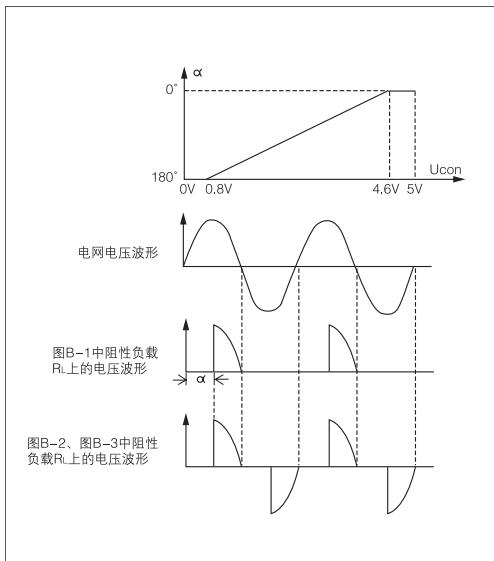
图B-2 TRIAC-JKK应用电路图(二)（注：图B-2改进电路图见（四-D）中的图D-B-2）



图B-3 TRIAC-JKK应用电路图（注：图B-2改进电路图见（四-D）中的图D-B-2）

◎ 控制电压 Ucon 可控硅输出导通角 α 系曲线（阻性负载）及波形图

Output control voltage Ucon thyristor conduction Angle of curved \propto resistance (load) and waveform figure



◎ 移相触发器的功能和技术参数

Function and technical parameters of phase shift trigger

1. CON 对 COM 必须为正, 如极性相反则输出端失控(全开或全闭)。当控制端 CON 从 0.5V 改变时, 交流负载上的电压从 0 伏到最大值可调(对阻性负载而言)。其中 CON 在 0~8V 左右时为全关闭区域, 可靠关断模块的输出; (CON 在 0.8V~4.6V 左右为可调区域, 即随着控制电压的增大, 导通角 α 从 180° 到 0° 线性减小, 交流负载上的电压从 0 伏增大到最大值; CON 在 4.6~5V 左右时为全开通区域, 交流负载上的电压为最大值)。

2. 移相触发器均可使用在 100~420VAC、50Hz 的电网上 (100V 以下可定制)。

3. ①②脚接同步变压器次级绕组, 电压值在 18VAC \pm 5VAC, 功率在 2W 即可。

4. CON 对 COM 的输入阻抗分 E、F 和 H 型均为大于等于 30K 欧; G 型为 250 欧。

5. ⑦脚的 +5V 电压信号只提供给手控电位器用, 不作它用, 所选用的电位器阻值在 2~10K Ω 间。

6. 移相触发器模块可以触发 1000A 以内可控硅(注意触发端接法)。

7. 移相触发器模块本身发热很小, 不需另外散热。

1. CON has to be positive for COM, and the output end is out of control (full or closed). When the control terminal CON is changed from 0.5V, the voltage on the ac load is adjustable from 0 to the maximum (for the resistivity load). In this case, CON is the output of the whole shutdown area and the reliable cut-off module for about 0~8V. (CON at around 0.8V to 0.8V for adjustable area, namely, with the increase of the control voltage conduction Angle \propto linear decrease from 180° to 0°, the voltage from 0 volts ac load increases to a maximum; CON is full open area around 4.6~5V, and the voltage on the ac load is maximum).

2. Phase shift trigger can be used in 100~420vac and 50Hz power grid (100V can be customized).

3. The secondary windings of the synchronous transformer are connected with the feet. The voltage value is 18VAC plus or minus 5VAC, and the power is at 2W.

4. The input impedance sub-e, F and H type of COM are both greater than or equal to 30K. G is 250 ou.

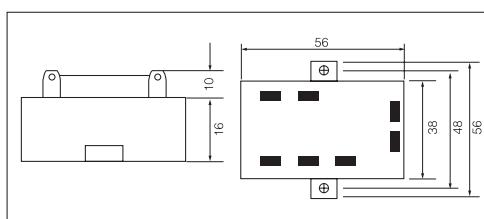
5. ⑦ foot of + 5V voltage is available only to use hand control potentiometer, do not make it to use, chooses the potentiometer resistance between the 2~10K Ω .

6. The phase shift trigger module can trigger the controlled silicon within 1000A (note the trigger connection method).

7. The mobile trigger module itself is very hot and small, with no additional heat dissipation.

◎ 可控硅移相触发器模块外形尺寸图

Profile dimension of the thyristor shift trigger module



单相双路可控硅移相触发器模块

Dua Phase Single Phase Thyristor Trigger Module



◎ 单相双路可控硅移相触发器模块 (SCR-JKK/2)

◆ 单相双路可控硅移相触发器模块 (SCR-JKK/2) 的原理是在前述的 SCR-JKK 基础上增加了一路负半周的可控硅触发信号，以实现单相电路中对两只单相可控硅的正负半周同时移相调节，除此以外均同 SCR-JKK。

◆ SCR-JKK/2 控制信号不同，分以下规格（型号表）：

◆ Single-phase two-way thyristor phase shift trigger module (SCR-JKK/2) principle is based on the aforementioned SCR-JKK increases the negative half cycle all the way of SCR trigger signal, in order to realize single-phase circuits of the positive and negative half cycle of two single phase SCR phase-shifting regulation at the same time, in addition with SCR-JKK.

◆ The control signal of the SCR-JKK/2 is different, the following specification (model table) :

CON0-5V:E型	CON0-10V:F型	CON4-20mA:G型	CON1-5V:H型
SCR-JKK/2E	SCR-JKK/2F	SCR-JKK/2G	SCR-JKK/2H

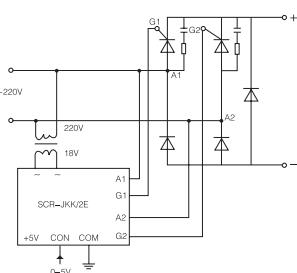


图 C-1 SCR-JKK 的应用电路图

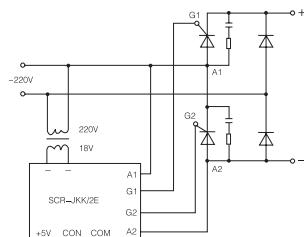
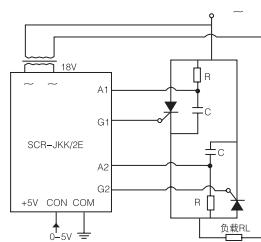


图 C-2 SCR-JKK/2 的应用电路图

(注: 图 C-1、C-2 改进电路图见(四-D)中的图 D-1、图 D-2)



E、F、H型手动控制方式
G型不能用电位器调节

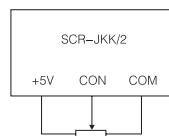
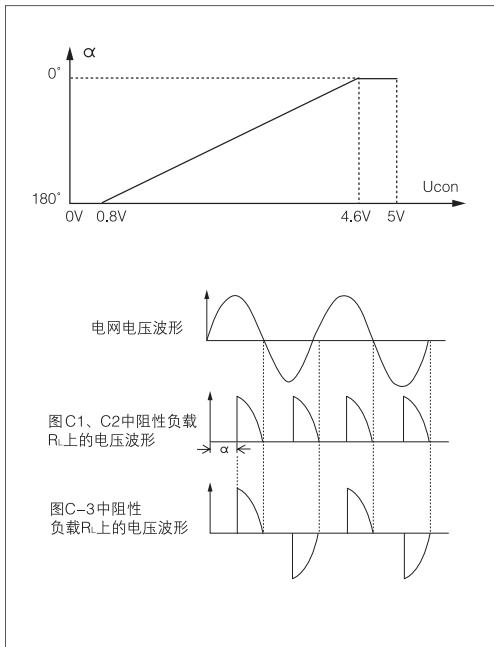


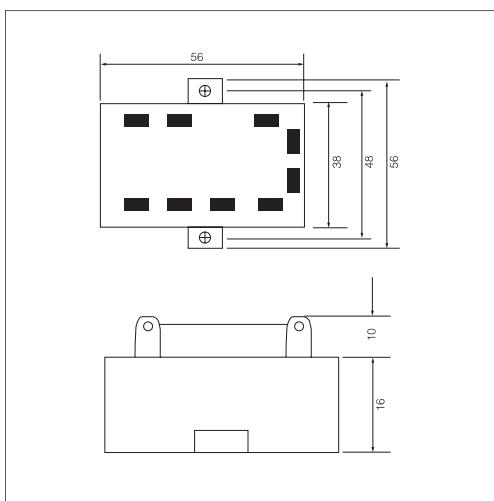
图 C-3 SCR-JKK/2 的应用电路图 (注: 此电路可提高静态 dv/dt 指标, 其余性能均同图 B-3 电路)

◎ 控制电压 Ucon 可控硅输出导通角 α 系曲线（阻性负载）及波形图

Output control voltage Ucon thyristor conduction Angle of curved α resistance (load) and waveform figure



◎ 外形尺寸 External dimension



◎ 注意事项及改进说明 Notes and improvements

◆ 请用户特别注意：TRIAC-JKK, SCR-JKK 和 SCR-JKK/2 这三类模块为强触发方式可控硅（而不是通常脉冲变压器触发可控硅的门极和阳极），所以在可控硅门极损坏而不能被触发导通的情况下，如触发器模块仍有控制电压，则电网的电流从 A 端进入，从 G 端再到负载，而电网电压的绝大部分则降在 A、G 两端，这个电压电流所产生的发热，在数秒内将使 A、G 两端内部器件烧毁。这种由于可控硅门极损坏而导致触发器模块损坏的情况，是这三个器件最主要的不足。

◆ 改进说明：“移相触发器模块系列”中，为提高（由移相触发器模块、可控硅及同步变压器组成的）调压系统的静态 dv/dt 指标，使系统在合闸上电时不致瞬间导通一下，图 B-1/ 图 B-2 以及图 C-1、图 C-2 可改进为如下：移相触发器模块的 A 极接到对应的 RC 吸收回路的中点，R、C 的接法必须为图上的位置（即 R 的一端接单相可控硅的阳极或双向可控硅的主电极 T1，C 的一端接单相可控硅的阴极或双向可控硅的主电极 T2），R、C 的位置不能交换。其中 R 选 15Ω~30Ω，功率大于等于 3W；C 选 0.1μF~0.47μF, 250VAC 或 400VAC 以上。

◆ User, please pay special attention to: TRIAC-JKK, SCR-JKK and SCR-JKK/2, these three modules for strong triggered thyristor (instead of the usual pulse transformer triggered thyristor gate and anode), so in the thyristor gate is damaged and cannot be triggered conduction of cases, such as trigger module is the control voltage, the current of power grid from A side to enter, from G to load, and the great part of the power grid voltage drop on both ends of A, G, heat generated by the voltage and current, in a few seconds to make A and G on both ends of the internal components burned within. This is the main shortcoming of the three devices due to the damage to the trigger module due to the extremely damaged silicon gate.

◆ Improve instructions: "phase shift trigger module series", in order to improve (by phase shift trigger module, SCR and synchronous transformer) pressure regulating system of static dv/dt target, make the system when switching on the power from conduction, instant figure figure B/B-1-2 and C-C-1, 2 can be improved as below: A very phase shift trigger module received the halfway

point of the corresponding RC absorption circuit, R, C, the location of the connection must be on the drawing (i.e. R pick up at the end of the single phase SCR anode or bidirectional thyristor T1, the main electrode C pick up at the end of the single phase SCR cathode or two-way thyristor main electrode T2), the location of the R, C can't exchange. Which R selected 15 Ω – 30 Ω, power is greater than or equal to 3 w; C choose 0.1uf–0.47uf, 250VAC or 400VAC.

图 D-B-1

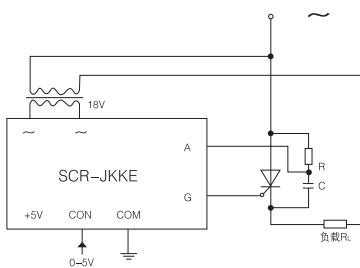


图 D-B-2

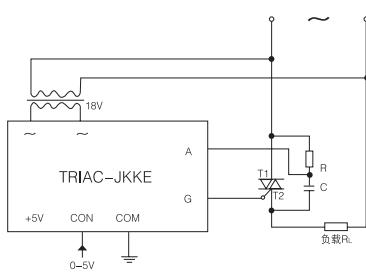


图 D-C-1

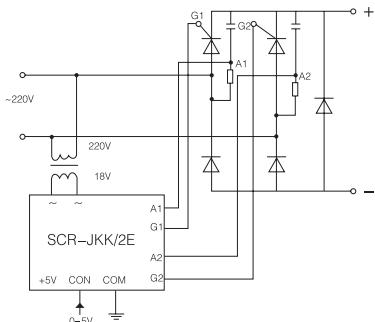
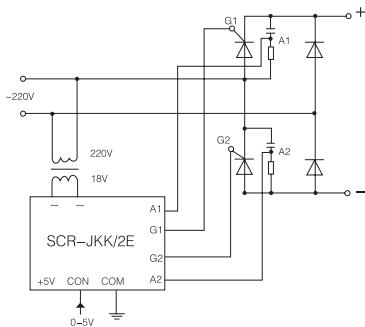


图 D-C-2



DTS-V-60-25

单相直流调速器

Single Phase DC Converter Module



◎ 产品特色 Product features

- ◆ 价格便宜
- ◆ 操作简单方便
- ◆ 精度高，性能好
- ◆ 用途范围广
- ◆ The price is cheap
- ◆ It is easy to operate
- ◆ High precision and good performance
- ◆ The scope of use is wide

◎ 产品概述 Product overview

- ◆ 本模块是采用微处理器和功率 MOS 管最新研制成功的 PWM 的直流电机调速模块。具有过流、过压保护功能和多种输入控制方法，调整范围宽，工作稳定可靠。广泛应用于纺织机械、化工机械、食品机械需要对电机进行无极调速的场合。
- ◆ This module is a dc motor speed regulation module of PWM with microprocessor and power MOS tube. It has the function of overcurrent, overvoltage protection and various input control methods. The scope of adjustment is wide and the work is stable and reliable. It is widely used in textile machinery, chemical machinery and food machinery.

◎ 注意事项 Considerations

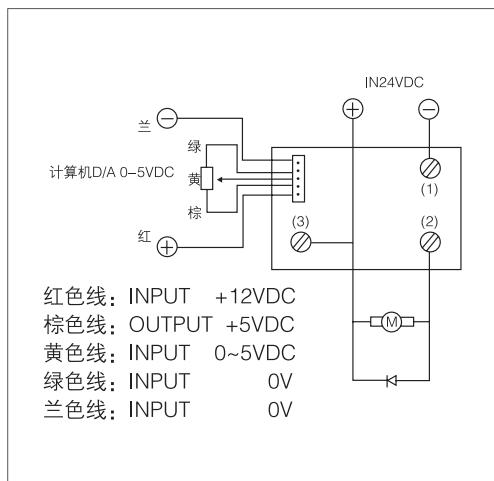
- 1、使用感性负载时，请务必在输出端并接续流二极管。
- 2、5A 以上的调压器要求加热散热器，电流≤ 10A 时，请采用风冷。

- 1、When using the inductive load, make sure that the diode is connected to the output end.
- 2、5A voltage regulator requires heating radiator. When the current is less than 10A, please use air cooling.

◎ 主要技术指标 Key technical indicators

类型 type	数值范围 Numerical range
工作电压 Working voltage	12VDC
输出额定电流 Output rated current	10A
输出电压调节范围 Output voltage regulation range	0~48V
偏置电压 The bias voltage	12VDC
偏置电流 Bias current	≤ 20mA
输入控制信号 Input control signal	0~5VDC, 4~20mA, 电位器 (potentiometer)
介质耐压 Medium pressure	2500VACrms

◎ 接线图 The wiring diagram





◎ 产品特性 Product features

型号 TypeI	工作电压 Working voltage	输出额定电流 Output rated current
DTS-V-25A-12	12VDC	25A
DTS-V-50A-12	12VDC	50A
DTS-V-100A-12	12VDC	100A
DTS-V-150A-12	12VDC	150A
DTS-V-250A-12	12VDC	250A
DTS-V-25A-24	24VDC	25A
DTS-V-50A-24	24VDC	50A
DTS-V-100A-24	24VDC	100A
DTS-V-150A-24	24VDC	150A
DTS-V-250A-24	24VDC	250A
DTS-V-25A-48	48VDC	25A
DTS-V-50A-48	48VDC	50A
DTS-V-100A-48	48VDC	100A
DTS-V-150A-48	48VDC	150A
DTS-V-250A-48	48VDC	250A

注：可以为客户定做各种电流、电压规格的调速模块

Note: all kinds of current and voltage regulation modules can be customized for customers

输入 / 输出模块

Input / Output Module



◎ IAC/OAC IDC/ODC 输入 / 输出模块 IAC/OAC IDC/ODC Input / Output Module

- ◆ 我们建议客户设计产品时，根据自己产品设计参数的要求，仔细查看我们说明书技术数据。然后选择一个产品编号，以确保我们的产品符合你们特定的应用。
- ◆ When we advise customers to design products, carefully check our technical data according to the requirements of their product design parameters. Then select a product number to ensure that our product meets your particular application.

◎ 产品特色 Product features

- ◆ 行业标准封装和引脚
- ◆ 产品系列，各模块用颜色区分
- ◆ 4000Vrms 光电隔离
- ◆ 抗干扰强
- ◆ 兼容其他公司相同产品
- ◆ Industry standard packaging and pins
- ◆ Products series, each module USES color to distinguish
- ◆ Electrical isolation of 4000Vrms
- ◆ Strong resistance to interference
- ◆ Compatible with other company products

本公司提供以下产品：

The company provides the following products

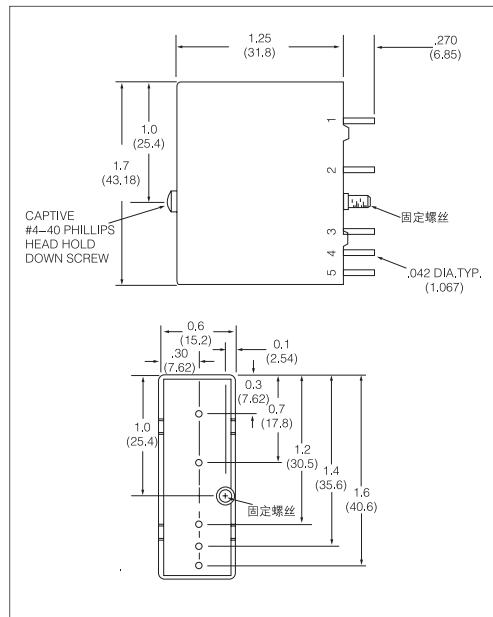
IAC-5	IDC-24	OAC-24A
IAC-5A	OAC-5	ODC-5
IAC-5E	OAC-5A	ODC-5A
IAC-15	OAC-5H	ODC-15
IAC-24	OAC-15	ODC-15A
IAC5	OAC-24	ODC-24



◎ 技术规范范围 (所有输入输出模块) Technical specification wai (All input and output modules)

- ◆ 隔离：4000Vrms,60Hz
- ◆ 电容量：8PF 典型值（输入到输出）
- ◆ 工作温度：-30℃ ~+80℃
- ◆ 存储温度：-40℃ ~+85℃
- ◆ 大约重量：35g
- ◆ Isolation: 4000 VRMS, 60 hz
- ◆ Electrical capacity: 8PF typical value (input to output)
- ◆ Working temperature: - 30 °C ~ + 80 °C
- ◆ Storage temperature: - 40 °C ~ + 85 °C
- ◆ About weight: 35g

◎ 外形尺寸 Overall dimensions



1、基本系列：

IAC= 交流 (AC) 输入模块 -- 黄色外壳

IDC= 直流 (DC) 输入模块 -- 白色外壳

OAC= 交流 (AC) 输出模块 -- 黑色外壳

ODC= 直流 (DC) 输出模块 -- 红色外壳

部分典型编号 ► OAC

-5

H

2、输入或逻辑电压：

5=5VDC

15=15VDC

24=24VDC

3、

空着地方 =IAC 类型 -120VAC/VDC 输入 (90–140VAC/VDC)

IDC 类型 -3.3–32VDC 输入 **

OAC 类型 -3A 24–280VAC, 电压过零型输出

ODC 类型 -3A 3–60VDC 输出

空着地方 =IAC 类型 -120VAC/VDC 输入 (90–140VAC/VDC) **

OAC 类型 -3A 24–280VAC, 电压过零型输出

ODC 类型 -1A 3–250VDC 输出

IDC 类型 -10–60VDC 输入 **

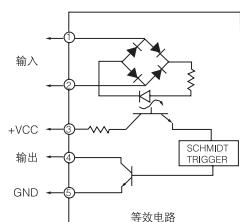
E =IAC 类型 -18–36VAC、VDC 输入 **

F =IDC 类型 -4–32VDC 输入 & 快速开启 & 关断时间

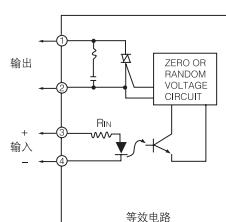
H =OAC 类型 -5A, 24–280VAC, 过零型电压输出

R =OAC 类型 -5A, 12–280VAC, 随机型电压输出

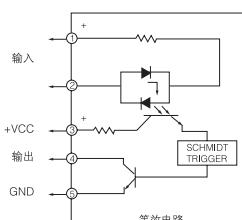
IAC 工作原理图



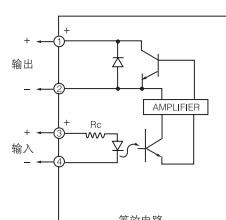
OAC 工作原理图



IDC 工作原理图



ODC 工作原理图



桥式整流器

Bridge Rectifiers (KBPC,QL,SQL)



◎ 产品特征 Product features

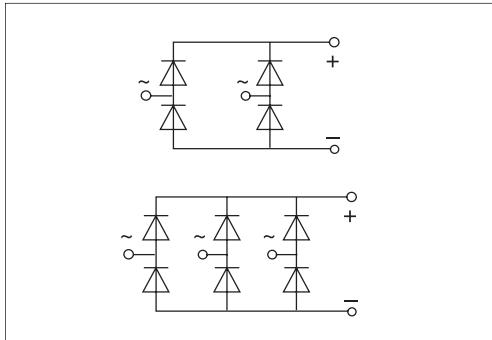
- ◆ 电流: 5-250A
- ◆ 电压: 100-1600V
- ◆ 小型通用尺寸 “真空 + 充氢保护” 焊接技术
- ◆ 玻璃钝化二极管芯片
- ◆ 优秀的力量、体积比率
- ◆ 高热的传导性封装
- ◆ Current: 5-250a
- ◆ Voltage: 100-1600v
- ◆ Small general size "vacuum + hydrogen protection" welding technology
- ◆ Glass passivation diode chip
- ◆ Excellent power and volume ratio
- ◆ The conductive encapsulation of high heat

◎ 典型应用 Typical applications

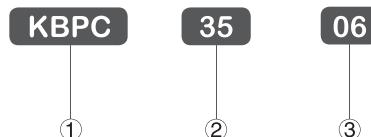
- ◆ 整流电源
- ◆ 工业自动化控制
- ◆ 数控机械、遥控系统
- ◆ Rectifying power supply
- ◆ Industrial automation control
- ◆ CNC machinery, remote control system

◎ 单相、三相电路图

Single phase, three-phase circuit diagram



◎ 型号含义 Type meaning



① 美格尔桥式整流器 KBPC、QL= 单相桥, SQL= 三相桥

② 直流输出电流值 I

③ 反向重复峰值电压

V_{RRM} = 标明值 $\times 100$ 倍

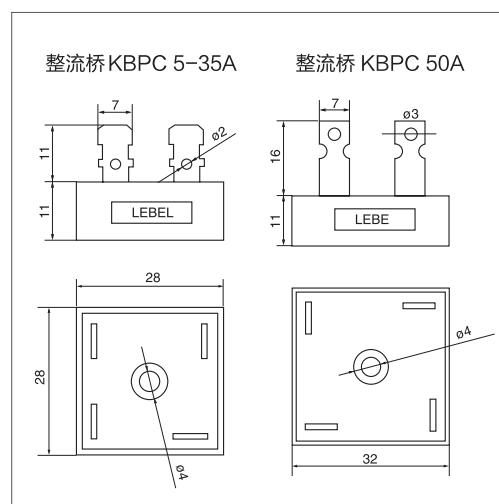
① This is a bridge type rectifier, KBPC, QL= single-phase bridge, SQL= three-phase bridge

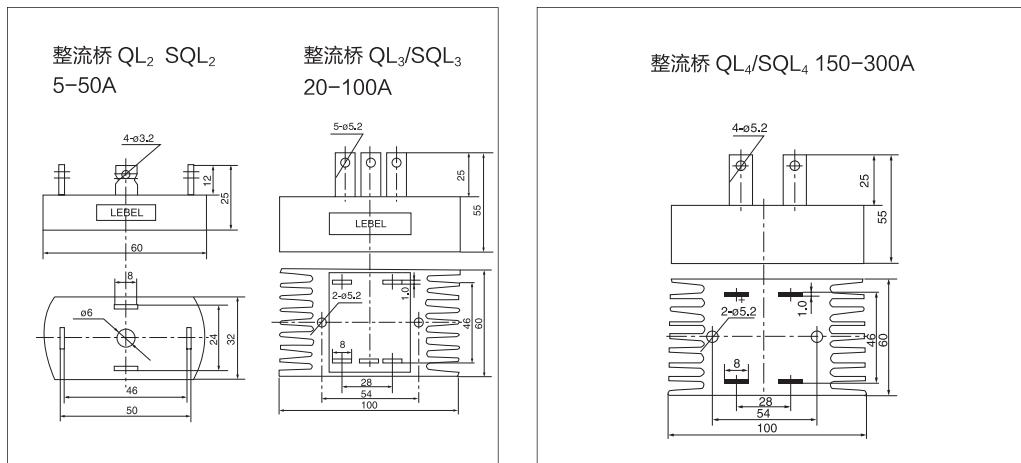
② The current output value is I

③ Reverse repeat peak voltage

V_{RRM} =Indicate the value $\times 100$ times

◎ 外形尺寸 Overall dimensions





◎ 单相桥式整流器特性

型号 Type	直流输出电流 I_d	单相输入正向平均电流 $IF(AV)$	反向重复峰值电压 V_{RRM}	反向重复峰值电流 I_{RRM}	绝缘电压 $VISOL$	外型 Outline
	A	A	V	A	V	
KBPC5A-35A	5-35	2.5-17.5	100-1600	5	2500	28×28×22
KBPC50A	50	2.5-25	100-1600	5	2500	32×32×24
QL 5A-50A(椭圆型)	5-50	2.5-25	100-1600	5	2500	32×60×25
QL 40A	40	20	100-1600	7	2500	60×100×55
QL 60A	60	30	100-1600	7	2500	60×100×55
QL 100A	100	50	100-1600	7	2500	60×100×55
QL 150A	150	75	100-1600	10	2500	132×145×75
QL 200A	200	100	100-1600	10	2500	132×145×75
QL 250A	250	125	100-1600	10	2500	132×145×75

◎ 三相桥式整流器特性

型号 Type	直流输出电流 I_d	单相输入正向平均电流 $IF(AV)$	反向重复峰值电压 V_{RRM}	反向重复峰值电流 I_{RRM}	绝缘电压 $VISOL$	外型 Outline
	A	A	V	A	V	
SQL 40A	40	14	100-1600	7	2500	60×100×55
SQL 60A	60	20	100-1600	7	2500	60×100×55
SQL 100A	100	34	100-1600	7	2500	60×100×55
SQL 150A	150	50	100-1600	10	2500	132×145×75
SQL 200A	200	67	100-1600	10	2500	132×145×75
SQL 250A	250	84	100-1600	10	2500	132×145×75
SQL50-10	50	2.5-25	100-1600	5	2500	32×60×25

普通晶闸管模块

Phase Control Thyristors Module
(MTC, MTA, MTK, MTX)



◎ 产品特征 Product features

- ◆ 芯片与底板电气绝缘，2500V 交流电压
- ◆ 国际标准封装
- ◆ 真空 + 充氢保护焊接技术
- ◆ 压接结构，优良的温度、特性和功率循环能力
- ◆ 350A 以下模块皆为强迫风冷，400A 以上模块，既可选用风冷，也可选用水冷
- ◆ 安装简单，使用维修方便
- ◆ 体积小，重量轻
- ◆ The chip is insulated from the bottom plate, 2500VAC voltage
- ◆ International standard packaging
- ◆ Vacuum + hydrogen protection welding technology
- ◆ The pressure structure, excellent temperature, characteristic and power cycle ability
- ◆ All of the following modules are forced air cooling, 400A modules, which can be either air-cooled or water-cooled It is easy to install and easy to use
- ◆ It is easy to install and easy to use
- ◆ The volume is small and the weight is light

◎ 产品说明 Product description

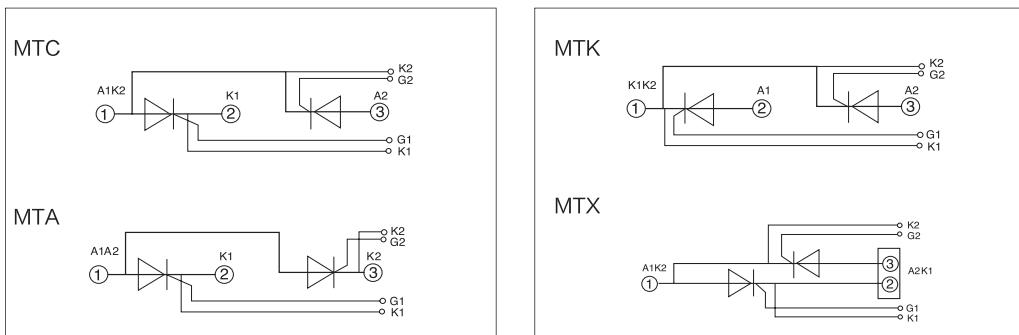
- ◆ $V_{DSM}/V_{RSM} = V_{DRM}/V_{RRM} + 200V$
- ◆ 除非另作说明，
 I_{GT} 、 V_{GT} 、 I_H 、 V_{TM} 、 V_{iso} 均为 25°C 测试值，表中其它参数皆在 T_{jm} 下的测试值。
 $I^2_{TSM}t_w/2 ; t_w$
- ◆ $V_{DSM}/V_{RSM} = V_{DRM}/V_{RRM} + 200V$
- ◆ Unless otherwise stated,
 $IGT, VGT, IH, VTM, Viso$ 25 °C for all test values,
and other parameters in the table are under the
 T_{jm} test values.
 $I^2_{TSM}t_w/2 ; t_w$



◎ 典型应用 Typical applications

- ◆ 交直流电机控制
- ◆ 各种整流电源
- ◆ 工业加热控制
- ◆ 调光
- ◆ 无触点开关
- ◆ 电机软起动
- ◆ 静止无功补偿
- ◆ 电焊机
- ◆ 变频器
- ◆ UPS 电源
- ◆ 电池充放电
- ◆ Ac dc motor control
- ◆ All kinds of rectifying power supply
- ◆ Industrial heating control
- ◆ Mixer dimming
- ◆ No contact switch
- ◆ Motor soft starting
- ◆ Nothing is to be stopped
- ◆ In pieces welding machine
- ◆ In pieces the inverter
- ◆ Mixer UPS power supply
- ◆ The battery charged and discharged

◎ 模块型号与电路图
Model and circuit diagram



型号 Type	通态平 均电流	反向断态重 复峰值电压	通态峰值电压 / 电流 I_{TM} V_{TM}		正反向重复 峰值电流 I_{DRM} I_{RRM}	触 发 电 流 I_{GT}	触 发 电 压 V_{GT}	维 持 电 流 mA	断态电 压临界 上升率 dv/dt	通态电流 临界上升 率 di/dt	最高额 定结温 T_{jm}	绝缘电压 V_{iso}	外形 Outline
	A	V	V	A	mA	mA	V	mA	V/ μ s	A/ μ s	°C	V(AC)	
MT×25A	25	400~2600	1.5	80	8	100	2.5	100	800	50	125	2500	101F
MT×55A	55	400~2600	1.5	80	8	100	2.5	100	800	50	125	2500	101F
MT×70A	70	400~2600	1.9	170	10	100	2.5	100	800	50	125	2500	201F
MT×90A	90	400~2600	1.9	270	15	100	2.5	100	800	100	125	2500	201F
MT×110A	110	400~2600	1.9	330	20	100	2.5	100	800	100	125	2500	201F
MT×130A	130	400~2600	1.9	410	25	150	2.5	100	800	100	125	2500	301F
MT×160A	160	400~2600	1.9	480	25	150	2.5	100	800	100	125	2500	301F
MT×200A	200	400~2600	1.9	600	30	180	2.5	100	800	100	125	2500	401F
MT×250A	250	400~2600	1.9	750	30	180	2.5	100	800	100	125	2500	401F
MT×300A	300	400~2600	1.9	900	40	180	2.5	100	800	100	125	2500	401F
MT×400A	400	400~2600	1.9	1050	40	200	3.0	100	800	100	125	2500	501F
MT×500A	500	400~2600	1.9	1500	40	200	3.0	100	800	100	125	2500	501F
MT×800A	800	400~2600	1.9	2400	40	200	3.0	100	800	100	125	2500	701F
MT×500A*	500	400~2600	1.9	1500	40	200	3.0	100	800	100	125	2500	907F
MT×800A*	800	400~2600	1.9	2400	40	200	3.0	100	800	100	125	2500	111F
MT×1000A*	1000	400~2600	1.9	3000	40	200	3.0	100	800	100	125	2500	70F

注: * 水冷模块 water-cooling 型号栏中 MT × 表示 MTC、MTK、MTA、MTX、MT 中的任一种。

进口型号 PK、SKKT、IR、EMGE、TM、MSG、MCC、MTT 等所对应的国内型号以电路图为准。

Note: * water-cooling module, MTC, MTK, MTA, MTX, MT.

The domestic models corresponding to the imported model PK, SKKT, IR, EMGE, TM, MSG, MCC, MTT, etc. are based on the circuit diagram.

普通整流管模块

Stand Rectifier Diode Module
(MDC, MDA, MDK, MDX)



◎ 产品特征 Product features

- ◆ 芯片与底板电气绝缘，2500V 交流电压
- ◆ 国际标准封装
- ◆ 真空 + 充氢保护焊接技术
- ◆ 压接结构，优良的温度、特性和功率循环能力
- ◆ 350A 以下模块皆为强迫风冷，400A 以上模块，既可选用风冷，也可选用水冷
- ◆ 安装简单，使用维修方便
- ◆ 体积小，重量轻
- ◆ The chip is insulated from the substrate, 2500VAC voltage
- ◆ International standard packaging
- ◆ Vacuum + hydrogen protection welding technology
- ◆ The welding structure, excellent temperature, Characteristics and power cycle capacity
- ◆ The following modules are forced air cooling, 400A above module, can choose air and cold, also can choose water and cold
- ◆ It is easy to install and easy to use
- ◆ The volume is small and the weight is light

◎ 产品说明 Product description

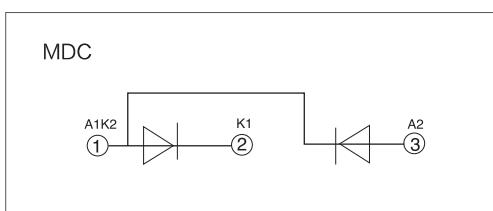
- ◆ $V_{DSM}/V_{RSM} = V_{DRM}/V_{RRM} + 200V$
- ◆ 除非另作说明， I_{GT} 、 V_{GT} 、 I_H 、 V_{TM} 、 V_{iso} 均为 25℃ 测试值，表中其它参数皆在 T_{jm} 下的测试值。
 $I^2_{TSMT}t_w/2 ; t_w$
- ◆ $V_{DSM}/V_{RSM} = V_{DRM}/V_{RRM} + 200V$
- ◆ Unless otherwise stated,
 IGT , VGT , IH , VTM , $Viso$ 25 °C for all test values, and other parameters in the table are under the T_{jm} test values.
 $I^2_{TSMT}t_w/2 ; t_w$

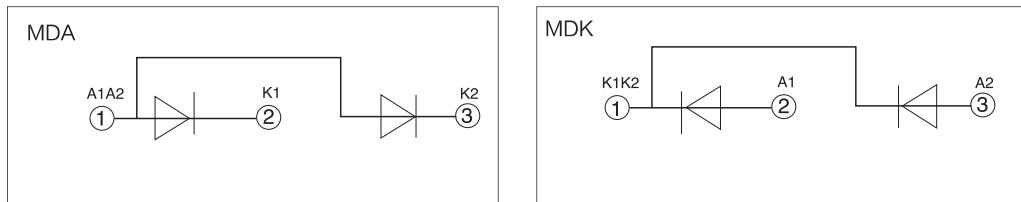


◎ 典型应用 Typical applications

- ◆ 交直流电机控制
- ◆ 各种整流电源
- ◆ 工业加热控制
- ◆ 调光
- ◆ 无触点开关
- ◆ 电机软起动
- ◆ 静止无功补偿
- ◆ 电焊机
- ◆ 变频器
- ◆ UPS 电源
- ◆ 电池充放电
- ◆ Ac dc motor control
- ◆ All kinds of rectifying power supply
- ◆ Industrial heating control
- ◆ Mixer dimming
- ◆ No contact switch
- ◆ Motor soft starting
- ◆ Nothing is to be stopped
- ◆ In pieces welding machine
- ◆ In pieces the inverter
- ◆ Mixer UPS power supply
- ◆ The battery charged and discharged

◎ 模块型号与电路图 Model and circuit diagram





型号 Type	通态平均电 流	反向断态重 复峰值电压	通态峰值电压 / 电流 I_{TM} V_{TM}		反向重复 峰值电流 I_{DRM} I_{RRM}	正向电流 有效值 $I_F(RMS)$	最高额定结温 T_{Jm}	绝缘电压 V_{iso}	外形 Outline
	A	V	V	A	mA	A	°C	V(AC)	
MD × 25A	25	400–2600	1.5	80	8	41	41	2500	101F
MD × 55A	55	400–2600	1.5	170	8	86	86	2500	101F
MD × 70A	70	400–2600	1.5	270	8	110	110	2500	201F
MD × 90A	90	400–2600	1.5	270	8	141	141	2500	201F
MD × 110A	110	400–2600	1.5	330	8	173	173	2500	301F
MD × 130A	130	400–2600	1.5	410	12	212	212	2500	301F
MD × 160A	160	400–2600	1.5	480	12	251	251	2500	301F
MD × 200A	200	400–2600	1.5	600	12	314	314	2500	401F-1
MD × 250A	250	400–2600	1.5	750	20	393	393	2500	401F-1
MD × 300A	300	400–2600	1.5	900	20	471	471	2500	401F-1
MD × 400A	400	400–2600	1.65	1000	40	640	640	2500	401F
MD × 500A	500	400–2600	1.65	1500	40	785	785	2500	401F
MD × 800A	800	400–2600	1.65	2400	40	785	785	2500	501F
MD × 1000A	1000	400–2600	1.65	3000	40	785	785	2500	701F
MD × 500A*	500	400–2600	1.65	1500	40	785	785	2500	801F
MD × 800A*	800	400–2600	1.65	2400	40	1256	1256	2500	901F

注: * 水冷模块 water-cooling 型号栏中 MD × 表示 MDC、MDK、MDA、MDX、MD 中的任一种。

进口型号 RM、SKKD、DD、MDD、2RL、100L 等所对应的国内型号以电路图为准。

Note: * water-cooling module, MDC, MDK, MDA, MDX, MD

The domestic models corresponding to the imported model RM, SKKD, DD, MDD, 2RL, 100L, etc. are based on the circuit diagram.

普通晶闸管与整流管混合模块

General Combined Module of
Thyristor & Rectifying Tube
(MFC,MFA,MFK,MFX)



◎ 产品特征 Product features

- ◆ 芯片与底板电气绝缘，2500V 交流电压
- ◆ 国际标准封装
- ◆ 真空 + 充氢保护焊接技术
- ◆ 压接结构，优良的温度、特性和功率循环能力
- ◆ 350A 以下模块皆为强迫风冷，400A 以上模块，既可选用风冷，也可选用水冷
- ◆ 安装简单，使用维修方便
- ◆ 体积小，重量轻
- ◆ The chip is insulated from the substrate, 2500VAC voltage
- ◆ International standard packaging
- ◆ Vacuum + hydrogen protection welding technology
- ◆ The welding structure, excellent temperature, Characteristics and power cycle capacity
- ◆ The following modules are forced air cooling, 400A above module, can choose air and cold, also can choose water and cold
- ◆ It is easy to install and easy to use
- ◆ The volume is small and the weight is light

◎ 产品说明 Product description

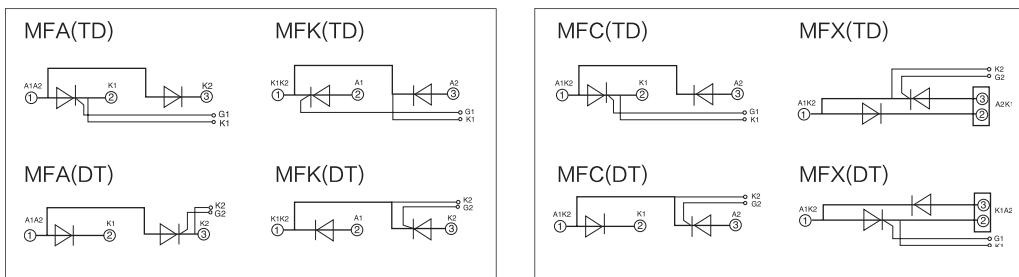
- ◆ $V_{DSM}/V_{RSM} = V_{DRM}/V_{RRM} + 200V$
- ◆ 除非另作说明，
 I_{GT} 、 V_{GT} 、 I_H 、 V_{TM} 、 V_{iso} 均为 25°C 测试值，表中其它参数皆在 T_{jm} 下的测试值。
 $I^2_{TSMT}t_w/2 ; t_w$
- ◆ $V_{DSM}/V_{RSM} = V_{DRM}/V_{RRM} + 200V$
- ◆ Unless otherwise stated,
IGT, VGT, IH, VTM, Viso 25 °C for all test values,
and other parameters in the table are under the
 T_{jm} test values.
 $I^2_{TSMT}t_w/2 ; t_w$



◎ 典型应用 Typical applications

- ◆ 交直流电机控制
- ◆ 各种整流电源
- ◆ 工业加热控制
- ◆ 调光
- ◆ 无触点开关
- ◆ 电机软起动
- ◆ 静止无功补偿
- ◆ 电焊机
- ◆ 变频器
- ◆ UPS 电源
- ◆ 电池充放电
- ◆ Ac dc motor control
- ◆ All kinds of rectifying power supply
- ◆ Industrial heating control
- ◆ Mixer dimming
- ◆ No contact switch
- ◆ Motor soft starting
- ◆ Nothing is to be stopped
- ◆ In pieces welding machine
- ◆ In pieces the inverter
- ◆ Mixer UPS power supply
- ◆ The battery charged and discharged

◎ 模块型号与电路图
Model and circuit diagram



型号 Type	通态 平均 电流	反向断态 重复峰值 电压	通态峰值电 压 / 电流 I_{TM} V_{TM}	通态峰 值电压 V_{TM}	正反向 重复峰 值电流 I_{BRM} I_{RRM}	触发 电流 I_{GT}	触发 电压 V_{GT}	维持 电流 I_m	断态电 压临界 上升率 dv/dt	通态电 流临界 上升率 di/dt	一周波 正向通 态不重 复浪涌 电流 $ I_{TSM} _{FSM}$	最高额 定结温 T_{jm}	绝缘 电压 V_{iso}	外形 Outline	
	A	V	V	A	V	mA	mA	V	mA	V/ μ s	A/ μ s	$A \times 10^3$	°C	V(AC)	
MF×25A	25	400–2600	1.69	80	1.69	8	100	2.5	100	800	50	0.55	125	2500	101F
MF×55A	55	400–2600	1.69	170	1.50	8	100	2.5	100	800	50	1.25	125	2500	101F
MF×70A	70	400–2600	1.9	170	1.48	10	100	2.5	100	800	50	1.60	125	2500	201F
MF×90A	90	400–2600	1.9	270	1.94	15	100	2.5	100	800	100	2.00	125	2500	201F
MF×110A	110	400–2600	1.9	330	1.90	20	100	2.5	100	800	100	240	125	2500	201F
MF×130A	130	400–2600	1.9	410	1.96	25	150	2.5	100	800	100	3.80	125	2500	301F
MF×160A	160	400–2600	1.9	480	1.90	25	150	2.5	100	800	100	5.40	125	2500	301F
MF×200A	200	400–2600	1.9	600	1.90	30	180	2.5	100	800	100	7.20	125	2500	401F
MF×250A	250	400–2600	1.9	750	1.90	30	180	2.5	100	800	100	8.50	125	2500	401F
MF×300A	300	400–2600	1.9	900	1.90	40	180	2.5	100	800	100	9.30	125	2500	401F
MF×400A	400	400–2600	1.9	1050	1.90	40	200	3.0	100	800	100	14.0	125	2500	501F
MF×500A	500	400–2600	1.9	1500	1.90	40	200	3.0	100	800	100	16.0	125	2500	501F
MF×800A	800	400–2600	1.9	2400	1.90	40	200	3.0	100	800	100	16.0	125	2500	701F
MF×1000A	1000	400–2600	1.9	3000	1.90	40	200	3.0	100	800	100	16.0	125	2500	907F
MF×500A*	500	400–2600	1.9	1500	1.90	40	200	3.0	100	800	100	11.0	125	2500	111F
MF×800A*	800	400–2600	1.9	2400	1.90	40	200	3.0	100	800	100	16.0	125	2500	70F

注: * 水冷模块 water-cooling 型号栏中 MF × 表示 MFC、MFK、MFA、MFX 中的任一种。

进口型号 TM、SKKH、PD、IR、PE、TD 等所对应的国内型号以电路图为准。

Note: * water-cooling module, MFC,MFK,MFA,MFX The domestic models corresponding to the imported model TM,SKKH,PD,IR,PE,TD, etc. are based on the circuit diagram.

单相全桥 / 单相半控桥混合模块

Single Phase Fully Controlled Bridge / Half Controlled Bridge Module(MFQ,MTQ,MTF,MH)



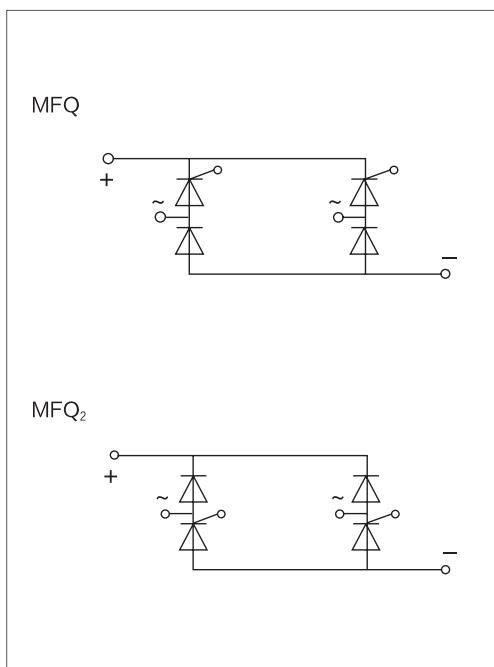
◎ 产品特征 Product features

- ◆ 芯片与底板电气绝缘，2500V 交流电压
- ◆ 国际标准封装
- ◆ 真空 + 充氢保护焊接技术
- ◆ 体积小，重量轻
- ◆ 最高工作结温达 150°C
- ◆ 正向压降小
- ◆ The chip is insulated from the substrate, 2500VAC voltage
- ◆ International standard packaging
- ◆ Vacuum + hydrogen protection welding technology
- ◆ The volume is small and the weight is light
- ◆ Work pieces highest junction temperature of 150 °C
- ◆ The positive pressure drop is small

◎ 产品说明 Product description

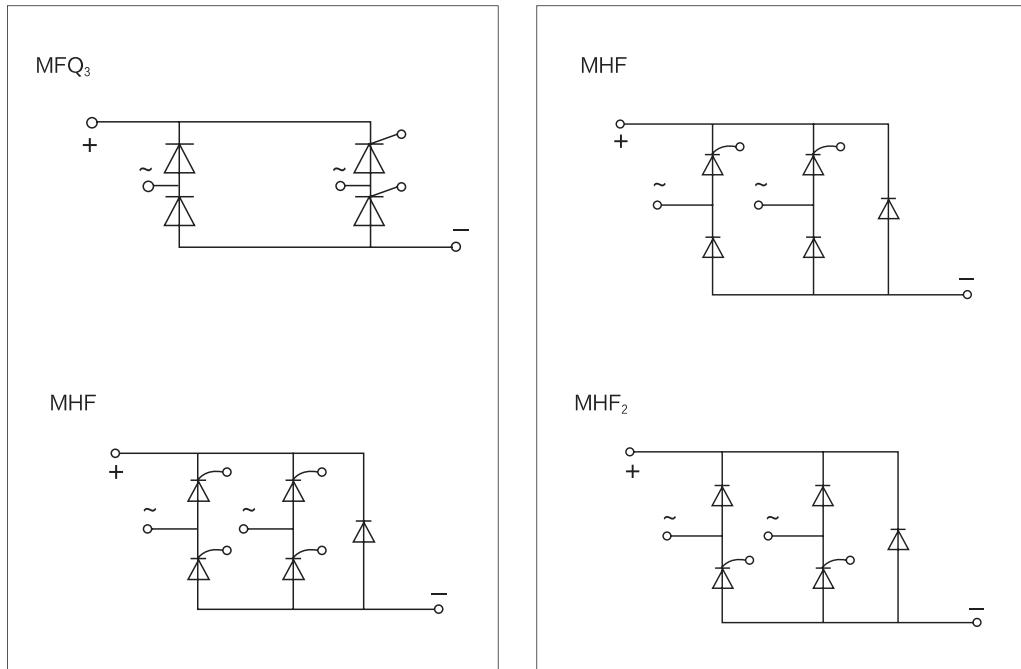
- ◆ $V_{RSM}=V_{RRM}+200V$
- ◆ 除 V_{FM} , V_{iso} 外, 表中其它参数皆在 T_{jm} 下的测试值。
- ◆ $V_{RSM}=V_{RRM}+200V$
- ◆ In addition to VFM and Viso, all other parameters in the table are under T_{jm} 's test values.

◎ 模块型号与电路图 Model and circuit diagram



◎ 典型应用 Typical applications

- ◆ 仪器设备的直流电流
- ◆ PWM 变频器的输入整流电源
- ◆ 直流电机励磁电源
- ◆ 开关电源的输入整流
- ◆ 软启动电容充电
- ◆ 电气拖动和辅助电流
- ◆ 逆变焊机
- ◆ 电流充电直流电源
- ◆ The dc current of the equipment
- ◆ The input rectifier power supply of the PWM inverter
- ◆ The dc motor excitation power supply
- ◆ Switching power supply input rectifier
- ◆ The soft start capacitor charge
- ◆ Electrical drag and auxiliary current
- ◆ Inverter welder
- ◆ Current charging dc power supply



型号 Type	直流输出电流 I_d	单相输入正向平均电 流 $I_{F(AV)}$	反向断态重复峰值电压 V_{DRM}		正反向重 复峰值 电压 / 电 流 $I_{TM} V_{TM}$	通态峰值 电压 / 电 流 $I_{TM} V_{TM}$	触发电 流 I_{GT}	触发电 压 V_{GT}	维持 电 流 I_H	断态电 压临界 上升率 dv/dt	断态电 流临界 上升率 di/dt	最高 额定结温 T_{jm}	绝缘电 压 V_{iso}	外形 Outline
			A	V	V	A	mA	mA	V	mA	V/ μ s	A/ μ s	V(AC)	°C
MT×60	60	30	400–2600	8	1.45	90	100	2.5	100	800	50	125	2500	102A
MT×90	90	45	400–2600	15	1.45	135	100	2.5	100	800	100	125	2500	102A
MT×130	130	65	400–2600	25	1.45	195	150	2.5	100	800	100	125	2500	103A-1
MT×150	150	75	400–2600	25	1.50	225	180	2.5	100	800	100	125	2500	103A-1
MT×200	200	100	400–2600	30	1.50	300	180	2.5	100	800	100	125	2500	104A
MT×300	300	150	400–2600	40	1.50	450	180	2.5	100	800	100	125	2500	104A
MT×450	450	225	400–2600	40	1.50	675	200	3.0	100	800	100	125	2500	105A

注：型号栏中 MT× 表示 MFQ、MHF、MTF 中的任意一种。

进口型号 SKKT、IR、PD、2RI、100L 等所对应的国内型号以电路图为准。

Note: MFQ, MHF, MTF are any of the MFQ, MHF and MTF in the model column.

The domestic models corresponding to the imported model SKKT, IR, PD, 2RI, 100L shall be based on the circuit diagram.

三相全桥 / 三相半控桥混合模块

Three Phase Fully Controlled Bridge /
Half Controlled Bridge Module(MFQ.
MTQ,MTF,MH)



◎ 产品特征 Product features

- ◆ 芯片与底板电气绝缘，2500V 交流电压
- ◆ 国际标准封装
- ◆ 真空 + 充氢保护焊接技术
- ◆ 体积小，重量轻
- ◆ 最高工作结温达 150°C
- ◆ 正向压降小
- ◆ The chip is insulated from the substrate, 2500VAC voltage
- ◆ International standard packaging
- ◆ Vacuum + hydrogen protection welding technology
- ◆ The volume is small and the weight is light
- ◆ Work pieces highest junction temperature of 150 °C
- ◆ The positive pressure drop is small

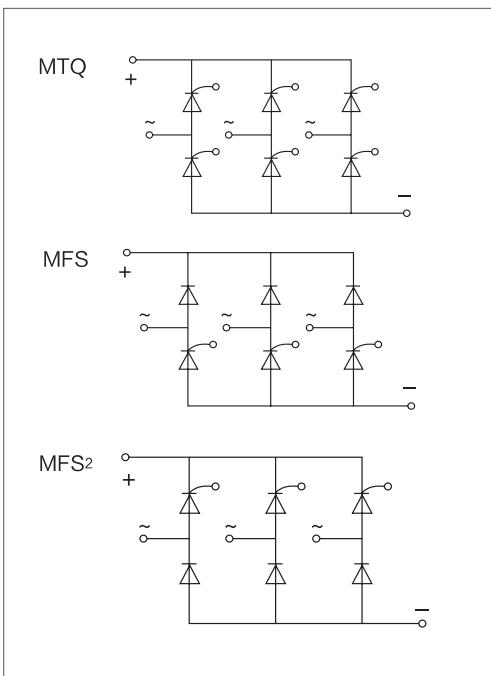
◎ 典型应用 Typical applications

- ◆ 仪器设备的直流电流
- ◆ PWM 变频器的输入整流电源
- ◆ 直流电机励磁电源
- ◆ 开关电源的输入整流
- ◆ 软启动电容充电
- ◆ 电气拖动和辅助电流
- ◆ 逆变焊机
- ◆ 电流充电直流电源
- ◆ The dc current of the equipment
- ◆ The input rectifier power supply of the PWM inverter
- ◆ The dc motor excitation power supply
- ◆ Switching power supply input rectifier
- ◆ The soft start capacitor charge
- ◆ Electrical drag and auxiliary current
- ◆ Inverter welder
- ◆ Current charging dc power supply

◎ 产品说明 Product description

- ◆ $V_{RSM}=V_{RRM}+200V$
- ◆ 除 V_{FM} 、 V_{iso} 外，表中其它参数皆在 T_{jm} 下的测试值。
- ◆ $V_{RSM}=V_{RRM}+200V$
- ◆ In addition to VFM and Viso, all other parameters in the table are under T_{jm} 's test values.

◎ 模块型号与电路图 Model and circuit diagram



型号 Type	直流输出电流 I_d	单相输入正向平均电流 $I_{F(AV)}$	反向断态重复峰值电压 V_{DRM}		正反向重复峰值电流 I_{TM}	通态峰值电压 / 电流 $I_{TM}V_{TM}$	触发电流 I_{GT}	触发电压 V_{GT}	维持电流 I_h	断态电压临界上升率 dv/dt	断态电流临界上升率 di/dt	最高额定结温 T_{j_m}	绝缘电压 V_{iso}	外形 Outline
			V	mA										
MT × 60	60	20	400–2600	8	1.45	60	100	2.5	100	800	50	125	2500	102A
MT × 90	90	30	400–2600	15	1.45	90	100	2.5	100	800	100	125	2500	102A
MT × 130	130	44	400–2600	25	1.45	130	150	2.5	100	800	100	125	2500	103A-1
MT × 150	150	50	400–2600	25	1.50	150	180	2.5	100	800	100	125	2500	103A-1
MT × 200	200	67	400–2600	30	1.50	200	180	2.5	100	800	100	125	2500	104A
MT × 300	300	100	400–2600	40	1.50	300	180	2.5	100	800	100	125	2500	104A
MT × 450	450	150	400–2600	40	1.50	450	200	3.0	100	800	100	125	2500	105A

注：型号栏中 MT × 表示 MTS、MFS 中的任意一种。
进口型号 SKKT、IR、PD、2RI、100L 等所对应的国内型号以电路图为准。

Note: MT × are any of the MTS and MFH in the model column.

The domestic models corresponding to the imported model SKKT, IR, PD, 2RI, 100L shall be based on the circuit diagram.

单相 / 三相整流桥模块

Single Phase Rectifying Bridge
Modules (MDQ.MDS)



◎ 产品特征 Product features

- ◆ 芯片与底板电气绝缘，2500V 交流电压
- ◆ 国际标准封装
- ◆ 真空 + 充氢保护焊接技术
- ◆ 体积小，重量轻
- ◆ 最高工作结温达 150℃
- ◆ 正向压降小
- ◆ The chip is insulated from the substrate, 2500VAC voltage
- ◆ International standard packaging
- ◆ Vacuum + hydrogen protection welding technology
- ◆ The volume is small and the weight is light
- ◆ Work pieces highest junction temperature of 150 °C
- ◆ The positive pressure drop is small

◎ 典型应用 Typical applications

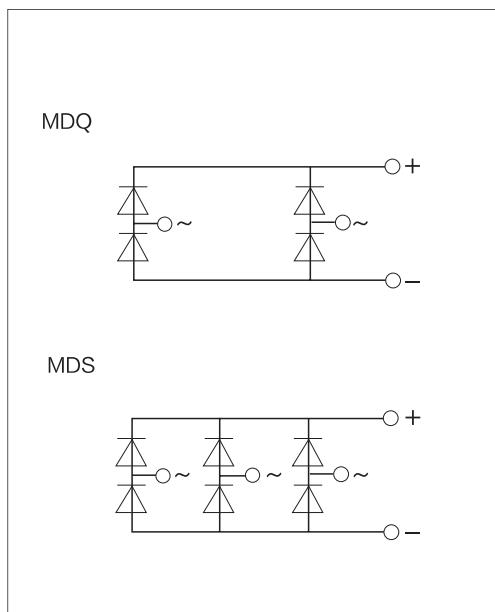
- ◆ 仪器设备的直流电流
- ◆ PWM 变频器的输入整流电源
- ◆ 直流电机励磁电源
- ◆ 开关电源的输入整流
- ◆ 软启动电容充电
- ◆ 电气拖动和辅助电流
- ◆ 逆变焊机
- ◆ 电流充电直流电源
- ◆ The dc current of the equipment
- ◆ The input rectifier power supply of the PWM inverter
- ◆ The DC motor excitation power supply
- ◆ Switching power supply input rectifier
- ◆ The soft start capacitor charge
- ◆ Electrical drag and auxiliary current
- ◆ Inverter welder
- ◆ Current charging dc power supply



◎ 产品说明 Product description

- ◆ $V_{RSM}=V_{RRM}+200V$
- ◆ 除 V_{FM} 、 V_{iso} 外，表中其它参数皆在 T_{jm} 下的测试值。
- ◆ $V_{RSM}=V_{RRM}+200V$
- ◆ In addition to VFM and Viso, all other parameters in the table are under Tjm's test values.

◎ 模块型号与电路图 Model and circuit diagram



◆ 单相桥模块 (MDQ) 进口型号 SKCH、DF、VHF 等所对应的国内型号以电路图为准

◆ The domestic models corresponding to the imported model SKCH, DF and VHF of the single-phase bridge module (MDQ) shall be based on the circuit diagram

型号 Type	直流输出 电流 I_d	三相输入正向 平均电流 $I_{F(AV)}$	壳温 T_c	反向重复峰值电压 V_{RRM}	反向重复 峰值电流 I_{RRM}	通态峰值电压 / 电流 $I_{TM} V_{TM}$		最高额定 结温 T_{jm}	绝缘电压 V_{iso}	外形 Outline
						V	A			
MDQ30	30	10	100	600–2000	8	1.45	30	150	2500	102A
MDQ60	60	20	100	600–2000	8	1.45	60	150	2500	102A
MDQ100	100	35	100	600–2000	10	1.45	100	150	2500	102A
MDQ150	150	50	100	600–2000	10	1.50	150	150	2500	103A 103A-1
MDQ200	200	68	100	600–2000	10	1.50	200	150	2500	103A 103A-1
MDQ300	300	100	100	600–2000	10	1.50	300	150	2500	104A
MDQ400	400	135	100	600–2000	10	1.50	400	150	2500	104A
MDQ500	500	168	100	600–2000	10	1.50	500	150	2500	105A
MDQ600	600	200	100	600–2000	10	1.50	600	150	2500	106A

◆ 三相桥模块 (MDS) 进口型号 6RI、RM、DF 等所对应的国内型号以电路图为准

◆ The domestic models corresponding to the imported model 6RI,RM and DF of the single-phase bridge module (MDS) shall be based on the circuit diagram

型号 Type	直流输出 电流 I_d	三相输入正向 平均电流 $I_{F(AV)}$	壳温 T_c	反向重复峰值电压 V_{RRM}	反向重复 峰值电流 I_{RRM}	通态峰值电压 / 电流 $I_{TM} V_{TM}$		最高额定 结温 T_{jm}	绝缘电压 V_{iso}	外形 Outline
						V	A			
MDS30	30	10	100	600–2000	8	1.45	30	150	2500	102A
MDS60	60	20	100	600–2000	8	1.45	60	150	2500	102A
MDS100	100	35	100	600–2000	10	1.45	100	150	2500	102A
MDS150	150	50	100	600–2000	10	1.50	150	150	2500	103A 103A-1
MDS200	200	68	100	600–2000	10	1.50	200	150	2500	103A 103A-1
MDS300	300	100	100	600–2000	10	1.50	300	150	2500	104A
MDS400	400	135	100	600–2000	10	1.50	400	150	2500	104A
MDS500	500	168	100	600–2000	10	1.50	500	150	2500	105A
MDS600	600	200	100	600–2000	10	1.50	600	150	2500	106A

电焊机专用模块

Module for Electric Welding
Machine
(MTG, MTY, MDY, MDG, MDY,
MFG, MFY)



◎ 产品特征 Product features

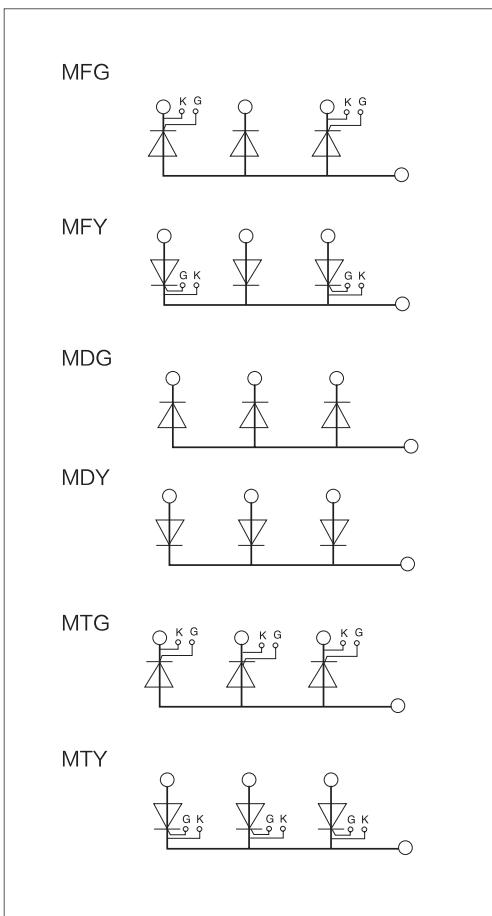
- ◆ 非绝缘，底板为分共电极
- ◆ 国际标准封装
- ◆ 真空 + 充氢保护焊接技术
- ◆ 全压接结构，优良的温度特性和功率循环能力
- ◆ 最高工作结温达 140℃
- ◆ 高浪涌电流
- ◆ 低正向压降
- ◆ It is not insulated, the bottom plate is divided together electrode
- ◆ International standard packaging
- ◆ Vacuum + hydrogen protection welding technology
- ◆ Work pieces highest junction temperature of 140 °C
- ◆ High surge current
- ◆ Low forward pressure drop
- ◆ The overall pressure structure, excellent temperature and power cycle capacity

◎ 典型应用 Typical applications

- ◆ 电焊机电源
- ◆ 各种 DC 电源
- ◆ 变频器
- ◆ Electric welding machine power supply
- ◆ All kinds of DC power supply
- ◆ In pieces the inverter



◎ 模块型号与电路图 Model and circuit diagram



◆ 非绝缘型晶闸管模块 / 整流管混合模块 (MFG/MFY/
MTG/MTY) ◆ Non-insulated thyristor module/rectifier hybrid
module (MFG/MFY/MTG/MTY)

型号 Type	通态平均 电流 $I_{T(AV)}$	反向断态重 复峰值电压 $V_{DRM} V_{RRM}$	正反向重 复峰值电 流 I_{DRM} I_{RRM}	通态峰值电 压 / 电流 $I_{TM} V_{TM}$	触发 电流 I_{GT}	触发 电压 V_{GT}	维持 电流 I_H	断态电压 临界上升 率 dv/dt	通态电流临 界上升率 di/dt	最高额定 结温 T_{jm}	外形 Outline	
	A	V	mA	V	A	mA	V	mA	V/ μ s	A/ μ s	°C	
MT × 70A	70	400–2600	12	1.67	210	100	2.5	100	800	100	125	103B 102B 101B
MT × 110A	110	400–2600	12	1.67	330	100	2.5	100	800	100	125	103B 102B 101B
MT × 160A	160	400–2600	12	1.67	480	100	2.5	100	800	100	125	103B 102B 101B
MT × 200A	200	400–2600	20	1.70	600	150	2.5	100	800	100	125	104B
MT × 250A	250	400–2600	20	1.70	750	150	2.5	100	800	100	125	104B
MT × 300A	300	400–2600	25	1.70	900	150	2.5	100	800	100	125	104B

◆ 非绝缘型整流管模块 (MDG/MDY)

◆ Non-insulated rectifier tube module (MDG/MDY)

型号 Type	正向平均 电流 $I_{F(AV)}$	反向重复峰值 电压 V_{RRM}	反向重复峰 值电流 I_{RRM}	通态峰值电压 / 电流 $I_{TM} V_{TM}$		正向电流有效值 $I_F(RMS)$	最高额定结温 T_{jm}	外形 Outline
	A	V	mA	V	A	A	°C	
MD × 70A	70	400–2600	12	1.57	210	157	150	201F 101B
MD × 110A	110	400–2600	12	1.57	330	157	150	201F 101B
MD × 160A	160	400–2600	12	1.57	480	236	150	103B 102B 101B
MD × 200A	200	400–2600	20	1.60	600	314	150	104B
MD × 250A	250	400–2600	20	1.60	750	393	150	104B
MD × 300A	300	400–2600	25	1.60	900	471	150	104B

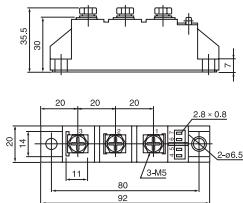
注：型号栏中 MD × 表示 MFG、MFY、MTG、MTY、
MDG、MDY 中的任意一种。

Note: MFG, MFY, MTG, MTY, MDG, MDY are any of
the MFG, MFY, MTG, MTY, MDG, MDY.

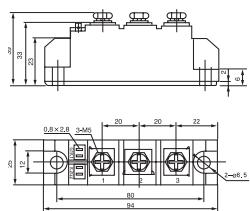
模块外形尺寸 Module Outline Dimension



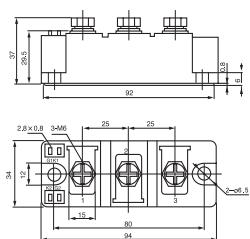
模块 25-55 代号 101F



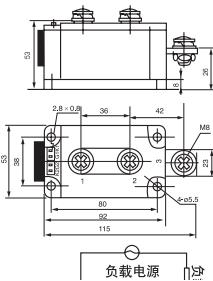
模块 55-110A 代号 201F



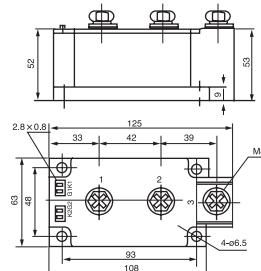
模块 130-200A 代号 301F



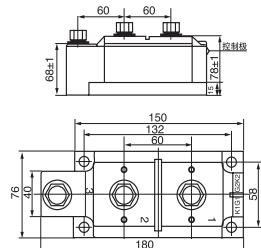
固态 500-600A 模块 200-350A 代号 401F



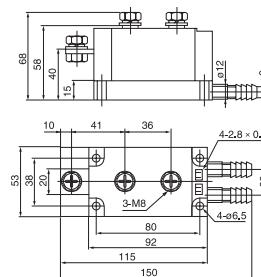
固态 800-1000A 模块 400-5000A 代号 501F



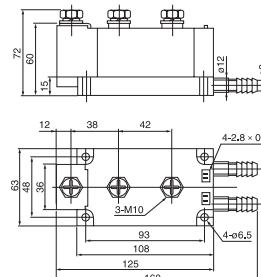
固态、模块 600-1000A 代号 701F



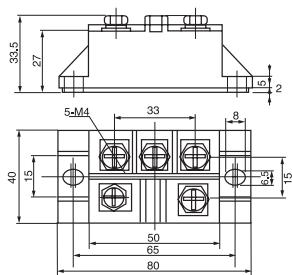
水冷式模块 200-350A 代号 801F



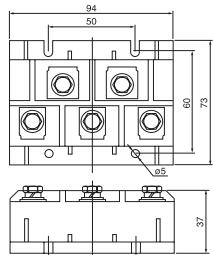
水冷式模块 400-500A 代号 901F



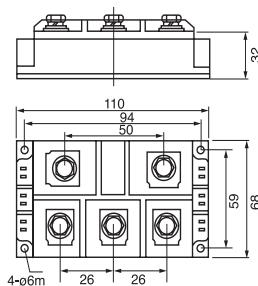
模块 30-100A 代号 102A



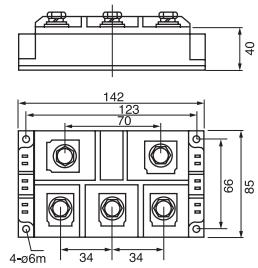
模块 150-200A 代号 103A



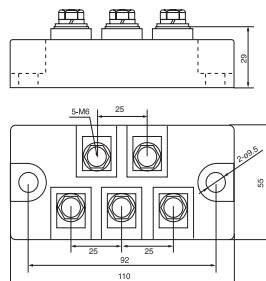
模块 250-400A 代号 104A



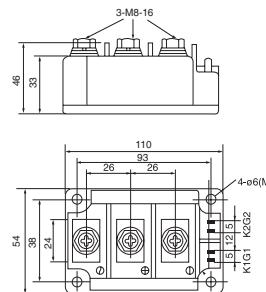
模块 450-600A 代号 105A



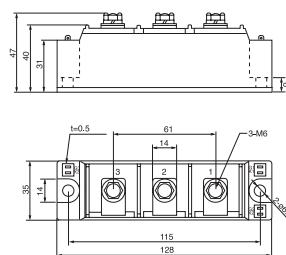
模块 150-200A 代号 103A-1



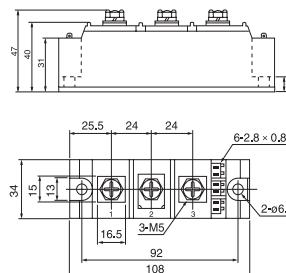
模块 160-250A 代号 401F-1



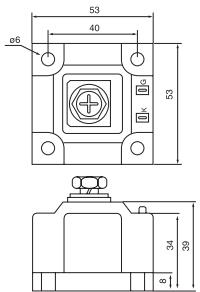
电焊机 160-300A 代号 104B



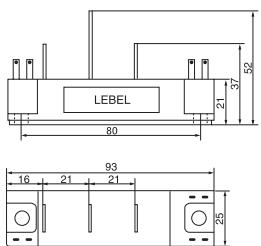
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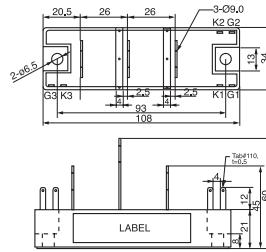
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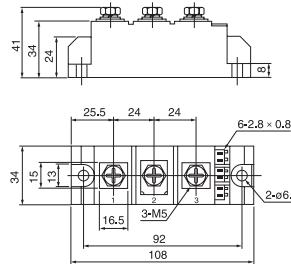
电焊机 25-130A 代号 101B



电焊机 70-160A 代号 102E



电焊机 70-130A 代号 103B



固态散热器

Solid State Radiator



◎ 产品特征 Product features

◆ 固态继电器或模块要配什么型号的散热器呢？其实两者之间并没有一个完全一致的对应关系，因为固态继电器或模块的发热量主要跟所驱动的负载的实际电流有关，而与本身的电流等级大小关系不大。

◆ 发热量的计算公式：

1. 发热量 = 实际负载电流（安倍）× 1.5 瓦 / 安倍以上
公式适合于单相固态继电器、单相交流调压模块、R 系固态调压器、而对三相固态继电器、三相交流调压模块，
其实际负载电流应为三相实际负载电流之和。
2. 发热量 = 实际负载电流（安倍）× 3.0 瓦 / 安倍以上
公式适合于单相全控整流模块。

◆ 散热器的作用就是把固态继电器或模块产生的热量散发出来，但实际上（考虑到价格因素时）选择散热器的大小很难用一名话就能确定，因为散热效果不但跟散热器的大小有关，还跟环境温度（季节）、通风条件（自然冷却或强迫冷却及风量大小）以及安装密度等因素均有关。散热效果的参考标准：使固态继电器或模块的底板（与散热器接触面）温度不得超过 80℃。因此实际应用中可在散热器安装面靠近固态继电器或模块的边缘块（20mm 以内）安装一只 75℃ 的温度开关（带一对常闭触点），把固态继电器或模块的控制信号串入这对常闭触点，这样当检测点温度超过 75℃ 时，常闭触点跳开，切断控制信号，强迫关闭固态继电器或模块的输出，使其得到保护。一般在每相实际电流超过 50A、安装密度大、环境温度高的地方，最好采用温度开关保护。

◆ 选用散热器除考虑上述因素外，还要考虑固态继电器或模块本身体积与散热器能否相配，以及散热器在机构中的安装空间。但最终要保证使在最恶劣情况下固态继电器或模块的底板温度不超过 80℃。

◆ 本厂生产的散热器产品主要有以下规格：

MG-I, MG-W, MG-T, MG-H, MG-Y 六大系列，
适用于各种单相固态继电器、单相交流调压模块、R 系列固态调压器、工业级固态继电器及各种三相交流固态继电器。

◆ What kind of radiator do you need for a solid state relay or module? Actually does not have a fully consistent between the corresponding relation, because the calorific value of solid state relay or module mainly associated with the actual current driven load, and size has little to do with its current level.

◆ Heat calculation formula:

1. The actual load current calorific value = (Abe) × 1.5 w/Mr Abe above formula suitable for single-phase solid state relay, single-phase ac voltage regulating module, R is a solid state voltage regulator, for three-phase solid state relay, three-phase ac voltage regulator module, the actual load current shall be the sum of the three phase load current actual.

2. Heat = actual load current (Abe) * 3.0 watts/Abe formula is suitable for single-phase full control rectifier module.

◆ Mixer radiator the role of solid state relay or module of heat dissipation, but in fact (consider the price factor) choose the size of the radiator is difficult to use a words, can be determined, because the cooling effect is not only related to the size of the radiator, also with the environment temperature (season), ventilation condition (natural or forced cooling and cooling air volume size) and install the density factors, etc. Heat dissipation effect of the reference standard: to make solid state relay or module of base plate (and radiator interface) temperature shall not exceed 80 °C . So in the practical application can be installed in the radiator surface near the edge of the solid state relay or module block (less than 20 mm) to install a 75 °C temperature switch (with a normally closed contact), the solid state relay or module series with the control signal for the normally closed contact, such as testing point temperature exceeds 75 °C , normally closed contact jumped, cut off the

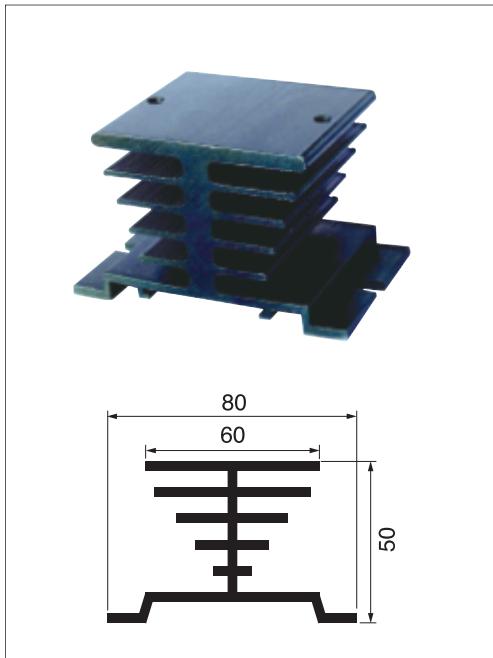
control signal, forced to shut down the output of the solid state relay or module, so that it is protected. Generally in the place where the actual current of each phase is over 50A, the installation density is large and the environment temperature is high, it is best to use temperature switch protection.

- ◆ In addition to considering the above factors, it is also important to consider whether the volume of a solid state relay or module can match the radiator, as well as the installation space of the radiator in the mechanism. But in the end will ensure that in the worst cases of solid state relay or module bottom temperature does not exceed 80 °C .

- ◆ The radiator products produced by this factory mainly include the following specifications:

MG-I, MG-W, MG-T, MG-H, MG-Y six big series, suitable for all kinds of single-phase solid state relay, single-phase ac voltage regulating module, R series, industrial-grade solid-state relay solid-state voltage regulators and all kinds of three groups of solid state relay communication.

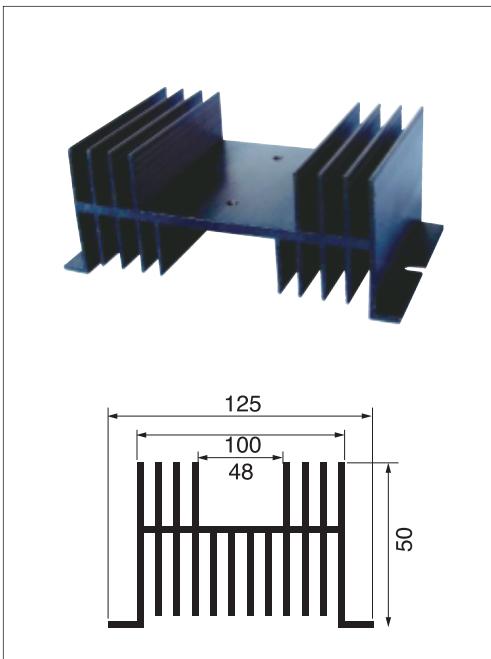
◎ MG- I 型散热器系列



MG- I

型号 Type	I -50
长 × 宽 × 高 (mm) Length x width x height (mm)	50 × 60 × 50
适用范围 Scope of application	适用于负载实际电流不 大于 15A 的一只长方 形单相固态继电器

◎ MG-W 型散热器系列



MG-W

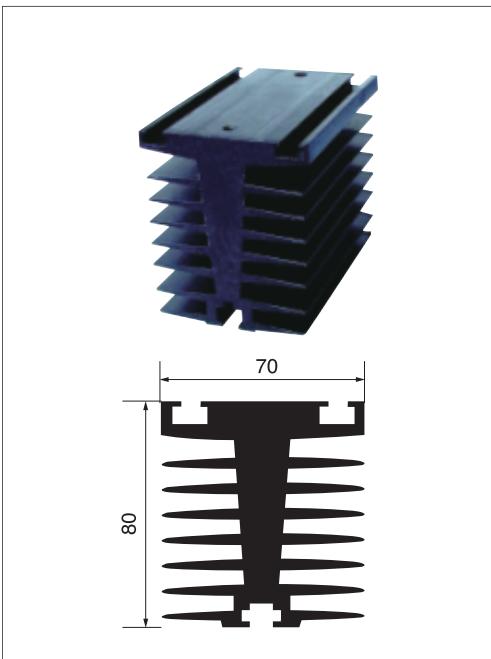
型号 Type	W-70
长 × 宽 × 高 (mm) Length x width x height (mm)	70 × 125 × 50

适用范围
Scope of application 适用于负载实际电流不大于 20A 的一只单相长方形固态继电器

型号 Type	W-100
长 × 宽 × 高 (mm) Length x width x height (mm)	100 × 125 × 50

适用范围
Scope of application 适用于负载实际电流不大于 26A 的一只单相长方形固态继电器

◎ MG-T 型散热器系列



MG-T

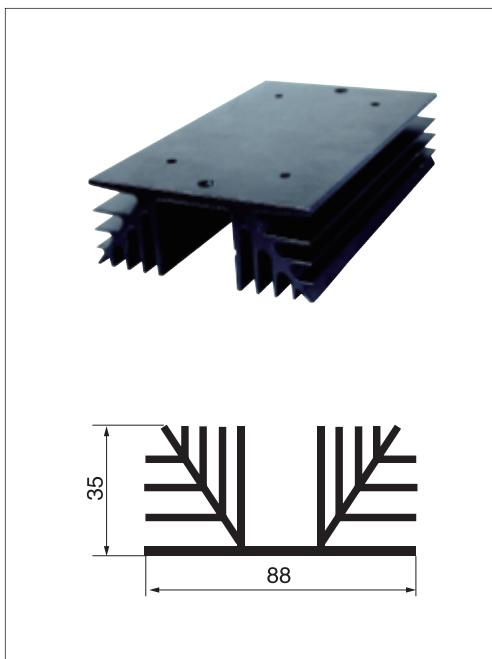
型号 Type	T-80
长 × 宽 × 高 (mm) Length x width x height (mm)	80 × 70 × 80

适用范围
Scope of application 适用于负载实际电流不大于 26A 的一只单相长方形或长条形工业极固态继电器

型号 Type	T-110
长 × 宽 × 高 (mm) Length x width x height (mm)	110 × 70 × 80

适用范围
Scope of application 适用于负载实际电流不大于 26A 的一只单相长方形或长条形工业极固态继电器

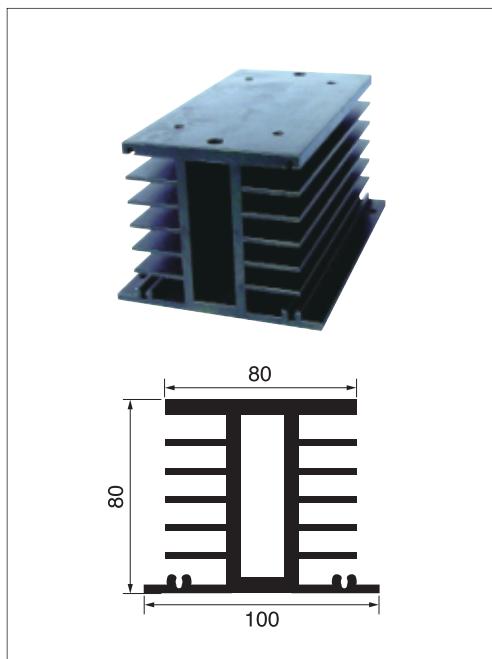
◎ MG-L 型散热器系列



MG-L

型号 Type	L-150
长 × 宽 × 高 (mm) Length x width x height (mm)	150 × 88 × 35
适用范围 Scope of application	1. 适用于实际电流（三相总和）不大于 20A 的一只三相固态继电器 2. 适用于实际电流不大于 26A 的一只长方形单相固态继电器

◎ MG-H 型散热器系列



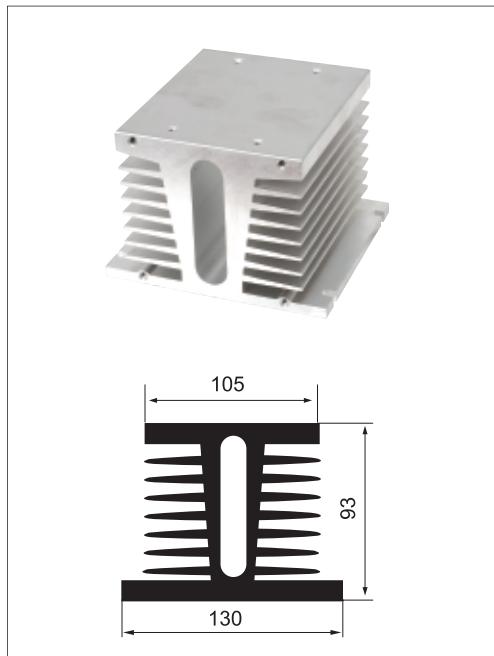
MG-H

型号 Type	H-150
长 × 宽 × 高 (mm) Length x width x height (mm)	150 × 80 × 80
适用范围 Scope of application	1. 适用于负载电流（三相总和）不大于 75A 的一只三相固态继电器 2. 适用于负载电流不大于 35A 的一只长方形或长条形工业级固态继电器

* 装风扇后长度需加上 32mm，以上负载实际电流以 MG-H 型散热器一端安装一只 32mm × 92mm × 92mm (厚 × 长 × 宽) 的冷却风扇计算。

* the length of the fan is 32mm, and the actual current of the load is calculated by installing a 32mm × 92mm × 92mm (thick x length x width) cooling fan at one end of the MG-H radiator.

◎ MG-F 型散热器系列



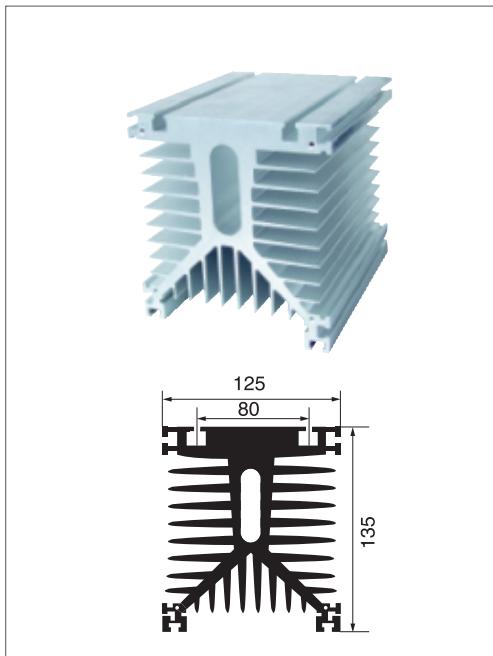
MG-F

型号 Type	F-150
长 × 宽 × 高 (mm) Length x width x height (mm)	120 × 105 × 93
适用范围 Scope of application	1. 适用于负载电流（三相总和）不大于 120A 的一只三相固态继电器 2. 适用于负载电流不大于 120A 的一只长方形或长条形工业级固态继电器

* 装风扇后长度需加上 32mm，以上负载实际电流以 MG-F 型散热器一端安装一只 32mm × 92mm × 92mm (厚 × 长 × 宽) 的冷却风扇计算。

* the length of the fan is 32mm, and the actual current of the load is calculated by installing a 32mm × 92mm × 92mm (thick × length × width) cooling fan at one end of the MG-F radiator.

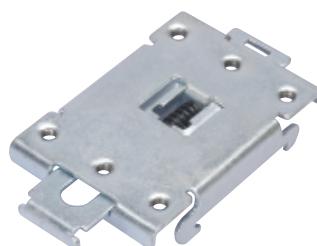
◎ MG-Y 型散热器系列



MG-Y

* 装风扇后长度需加上 45mm，以下负载实际电流以 MG-Y 型散热器一端安装一只 45mm × 120mm × 120mm (厚 × 长 × 宽) 的冷却风扇计算。

* the length of the fan is 45mm, and the following load is based on the cooling fan of a 45mm × 120mm × 120mm (thick × length × width).

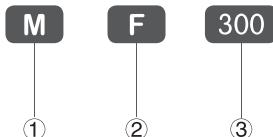


模块专用风冷散热器

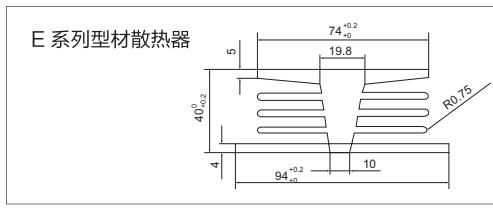
Module for Air-cooled Radiator



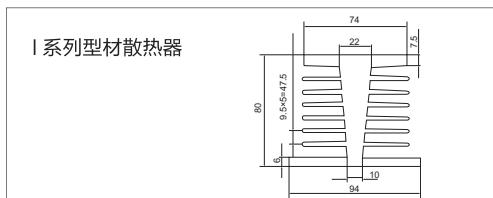
◎ 型号含义 Type meaning



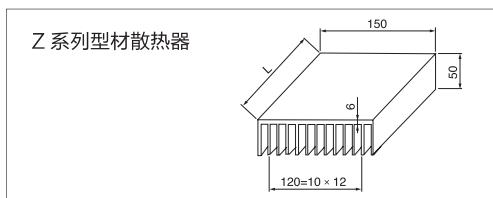
- ① 散热器长度 L(mm) Radiator length L(mm)
- ② 散热器外型代号 Code name for radiator
- ③ 模块用散热器 Modular radiator



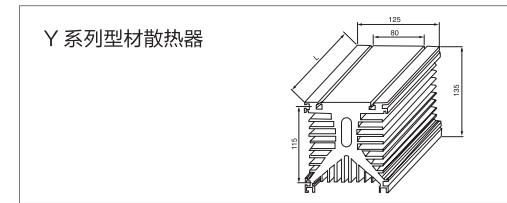
长 (L)	宽 (W)	高 (H)
105mm	74mm	40mm
150mm	74mm	40mm



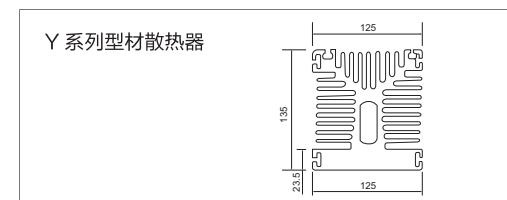
长 (L)	宽 (W)	高 (H)
60mm	74mm	80mm



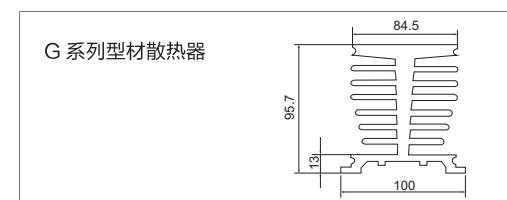
长 (L)	宽 (W)	高 (H)
根据客户要求	150mm	50mm



长 (L)	宽 (W)	高 (H)
根据客户要求	125mm	135mm



长 (L)	宽 (W)	高 (H)
150mm	125mm	135mm
200mm	125mm	135mm



长 (L)	宽 (W)	高 (H)
120mm	84.5mm	95.7mm

注意: 以上散热器在宽、高尺寸不变的状态下, 其长度(L)尺寸可以根据用户要求制作。

Note: the above radiators are in a wide and high dimensional state, and the length (L) size can be made according to the user's requirements.