

**GDZ09 / GDZ09L**

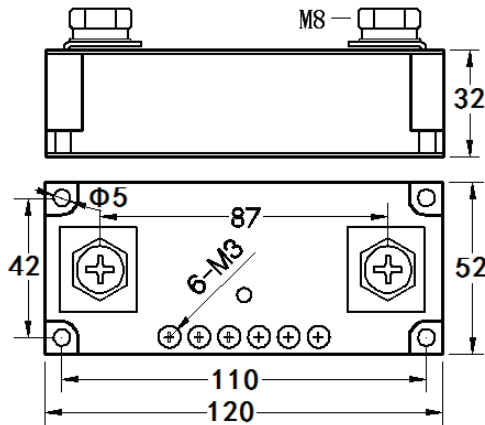
- Electromagnetic optocoupler isolation between input and output circuits.
- Control signal compatible with PLC, TTL, PWM logic interfaces.
- LED indicator for operational status.
- Built-in input undervoltage protection, output transient overvoltage absorption protection.
- Solid non-contact output, fast switching speed, no spark and no arcing on and off.
- Epoxy resin encapsulation, anti-corrosion and shock resistance, stable and reliable switch work.
- The product is primarily designed for control equipment in high-power DC power supply systems. Such as: PTC DC heaters, new energy conversion systems, and charging/discharging of batteries/capacitors, etc.



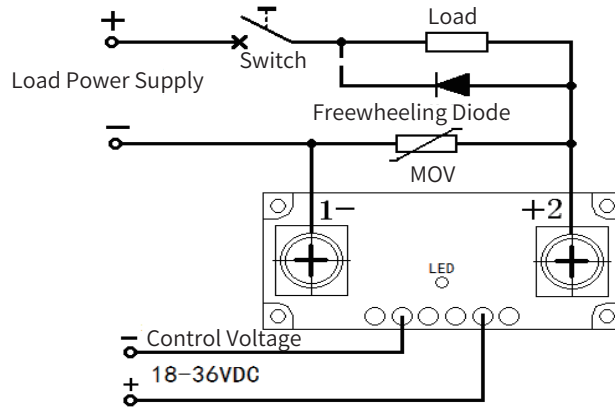
Parameter \ Model		GDZ09		GDZ09L(Overcurrent protection)		
Input Parameters	Control Voltage	12~15VDC 18~36VDC				
	Control Current	30~80mA 25~70mA				
	Undervoltage Protection	12V control power supply<10VDC self-lock; 18V control power supply<16VDC self-lock				
	Operating Indication	LED				
Output Parameters	Maximum Voltage	100VDC 200VDC 600VDC 1200VDC				
	Maximum Current	600 ..... 2000 A				
	On-State Voltage Drop	≤1.0 ~ 4.0 V				
	Off-State Voltage	100V	200V	600V	1200V	
	Transient Voltage Protection	80V	180V	480V	1000V	
	Overcurrent Protection	\		L: Output current 50%; Z: Output current 100%		
	Switching Time	≤0.16mS (120A-200A) ; ≤0.2mS (300A-2000A)				
	Switching Characteristics	MOS or IGBT - Solid-state contactless switch characteristics				
Performance Parameters	Isolation Voltage	≥ 1800~2500 V				
	Insulation Voltage	≥ 2000~2500 V				
	Operating Temperature	-25 ~ 75 °C				
	Heat Dissipation	Heatsink with additional fan cooling				
	Load Current Safety Factor	2.5-4 times for resistive load, 3-6 times for inductive load				
	Dimensions (Model Code)	120×52×32 (M-3); 135×60×66 (M-3D)				

**Outline Dimensions. Installation Wiring Diagram: (Unit: mm)**

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M-3


**Product Selection Notes:**

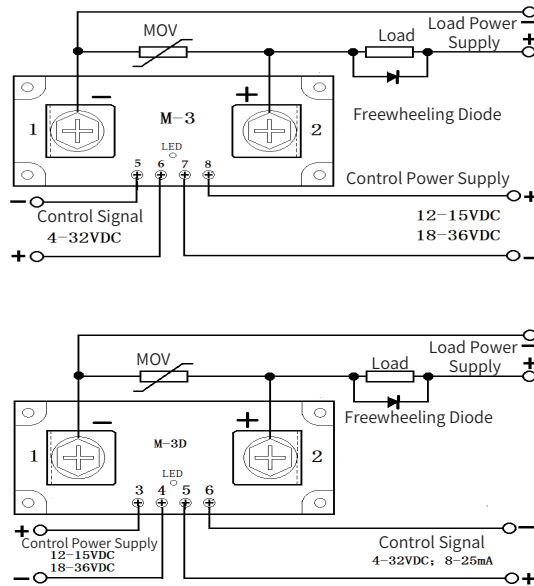
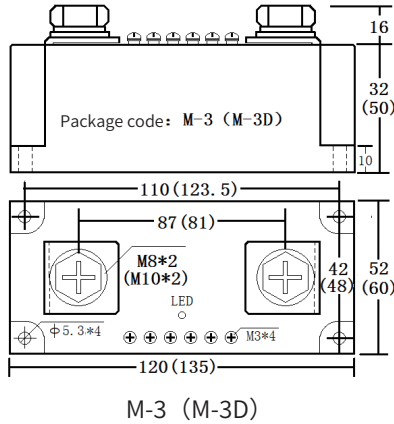
- Since the DC SSR load voltage equals the off-state voltage, and the load current is the maximum current at room temperature, a margin should be left when selecting the product.. For resistive loads: select 2.5 to 4 times the load current and 2 to 3 times the load voltage; for inductive loads: select 4 to 6 times the load current and 2 to 3 times the load voltage.
- According to the relationship between load current and ambient temperature, when the ambient temperature is high or heat dissipation conditions are not good, the current capacity of the solid state relay should be increased accordingly. To prevent load short-circuit damage, install a fast-acting circuit breaker in series with the load circuit. Alternatively, you can select GDZ09L overcurrent type and GDZ09Z short-circuit protection self-locking type solid state relays.
- For inductive loads, a freewheeling diode must be connected to both ends of the load, and a varistor must be connected to the output end (the varistor (MOV) is selected according to 1~1.5 times of the power supply voltage) to damage to the contactless switch during overvoltage.
- For normal on-off operation, the load power supply must be connected first, followed by applying the control signal voltage; otherwise, the internal chip may be easily damaged.
- When the product is installed, it is required that the contact surface between the heatsink and the product must be flat and clean, and a layer of thermally conductive silicone grease is applied to its surface, and then finally the screws set with flat washers and Spring washers are tightened symmetrically to fix .

**GDZ09C / GDZ09CL**

- Electromagnetic optocoupler isolation between input and output circuits.
- Smaller control signals and faster response speed, facilitating PLC driving.
- LED indicator for operational status.
- Built-in undervoltage, overvoltage, overcurrent, and short-circuit protection functions.
- Solid non-contact output, fast switching speed, no spark and no arcing on and off.
- Epoxy resin encapsulation, anti-corrosion and shock resistance, stable and reliable switch work.
- The product is primarily designed for control equipment in high-power DC power supply systems. Such as DC motors, PTC heaters, and battery/capacitor charging/discharging devices.



Parameter \ Model		GDZ09C	GDZ09CL(Overcurrent protection)
Input Parameters	Control Power Supply	12~15VDC-2W or 18~36VDC-2W	
	Control Signal	4-32VDC switch signal or PWM Signal	
	Control Current	8-20mA	
	Operating Indicator	LED	
Output Parameters	Maximum Voltage	100、200、600、1200VDC	
	Maximum Current	600.....2000 A	
	On-state Voltage Drop	0.5~4.8 VDC	
	Off-state Voltage	100VDC 200VDC 600VDC 1200VDC	
	Transient Voltage Protection	80V 180V 480V 1000V	
	Overcurrent Protection	\	L: Output current 50%; Z: Output current 100%
	Switching Time	≤0.08mS (120A-200A) ; ≤0.1mS (300A-2000A)	
	Switching Characteristics	MOS or IGBT	
Performance Parameters	Isolation Voltage	≥ 1800 ~2500 V	
	Insulation Voltage	≥ 2000 ~2500 V	
	Operating Temperature	-25 ~ 75 °C	
	Heat Dissipation	≥60A with heat sink, ≥80A with additional fan cooling	
	Load Current Safety Factor	2-4 times for resistive load, 4-8 times for inductive load	
	Dimensions (Model Code)	120×52×32 (M-3); 135×60×66 (M-3D)	

**Outline Dimensions. Installation Wring Diagram: (Unit: mm)**

**Product Selection Notes:**

- Since the maximum output voltage in the parameters table equals the off-state voltage, and the maximum output current is the peak current at room temperature, a margin should be left when selecting the product. For resistive loads: select 2 to 4 times the load current and 2 to 3 times the load voltage; for inductive loads: select 4 to 6 times the load current and 2 to 3 times the load voltage.
- According to the relationship between load current and ambient temperature, when the ambient temperature is high or heat dissipation conditions are not good, the current capacity of the solid state relay should be increased.
- To prevent load short-circuit damage, install a fast-acting circuit breaker or fuse in series with the load circuit. Alternatively, you can select GDZ09CL overcurrent type and GDZ09CZ short-circuit protection self-locking type solid state relays.
- For inductive loads, a freewheeling diode must be connected to both ends of the load, and a varistor must be connected to the output end (the varistor (MOV) is selected according to 1~1.5 times of the power supply voltage) to damage to the contactless switch during overvoltage.
- When the product is installed, it is required that the contact surface between the heatsink and the product must be flat and clean, and a layer of thermally conductive silicone grease is applied to its surface, and then finally the screws set with flat washers and Spring washers are tightened symmetrically to fix to improve heat dissipation performance.
- When connecting the load for operation, first energize the control power supply, then activate/deactivate the control signal for switching. Turning the control power supply on/off for switching operations must never be used.