

Specifications

Ratings

Power Input

Item	Model	G9SA-301/TH301	G9SA-501	G9SA-321-T□
Power supply voltage		24 VAC/VDC: 24 VAC, 50/60 Hz, or 24 VDC 100 to 240 VAC: 100 to 240 VAC, 50/60 Hz		
Operating voltage range		85% to 110% of rated power supply voltage		
Power consumption *		24 VAC/VDC: 1.8 VA/1.7 W max. 100 to 240 VAC: 9 VA max.	24 VAC/VDC: 2.8 VA/2.6 W max. 100 to 240 VAC: 11 VA max.	24 VAC/VDC: 3.5 VA/3.3 W max. 100 to 240 VAC: 12.5 VA max.

* When an Expansion Unit is connected, the power consumption is increased by 2 VA/2 W max.

Inputs

Item	Model	G9SA-301/321-T□/TH301	G9SA-501
Input current *		40 mA max.	60 mA max.

* When an Expansion Unit is connected, the input current is increased by 30 mA max.

Contacts

Item	Model	G9SA-301/501/321-T□/TH301/EX301/EX031-T□
	Load	Resistive load
Rated load		250 VAC, 5 A 30 VDC, 5 A
Rated carry current		5 A

Characteristics

Item			Model	G9SA-301/TH301	G9SA-501/321-T□	G9SA-EX301/EX031-T□
Contact resistance *1				100 mΩ		
Operating time *2				30 ms max.		
Response time *3				10 ms max.		
Isolation specification	Isolation voltage (Ui)			250 VAC		
	Impulse withstand voltage (Uimp)			4 kV		
	Insulation resistance *4	Between input and output		100 MΩ min. (at 500 VDC)		
		Between different poles of output				
	Dielectric strength	Between input and output		2,500 VAC 1min.		
		Between different poles of output				
Vibration resistance				10 to 55 to 10 Hz, 0.375-mm single amplitude (0.75-mm double amplitude)		
Shock resistance	Destruction			300 m/s²		
	Malfunction			100 m/s²		
Durability *5	Mechanical			5,000,000 operations min. (at approx. 7,200 operations/hr)		
	Electrical			100,000 operations min. (at approx. 1,800 operations/hr)		
Failure rate (P Level) (reference value)				5 VDC, 1 mA		
Ambient operating temperature				-25 to 55°C (with no icing or condensation)		
Ambient operating humidity				35% to 85%		
Terminal tightening torque				0.98 N·m		
Weight *6				Approx. 210 g	Approx. 270 g	Approx. 130 g

*1. The contact resistance was measured with 1 A at 5 VDC using the voltage-drop method.

*2. Not Including bounce time.

*3. The response time is the time it takes for the main contact to open after the input is turned OFF. Includes bounce time.

*4. The insulation resistance was measured with 500 VDC at the same places that the dielectric strength was checked.

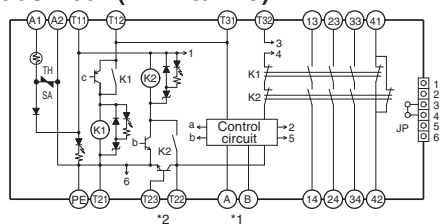
*5. The durability is for an ambient temperature of 15 to 35°C and an ambient humidity of 25% to 75%.

*6. Weight shown is for 24-VAC/VDC type. For 100 to 240-VAC type, add approximately 20 g.

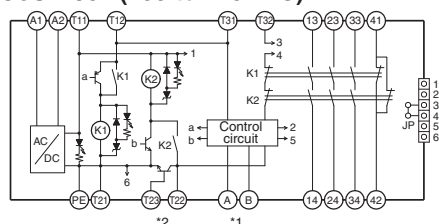
Connections

Internal Connections

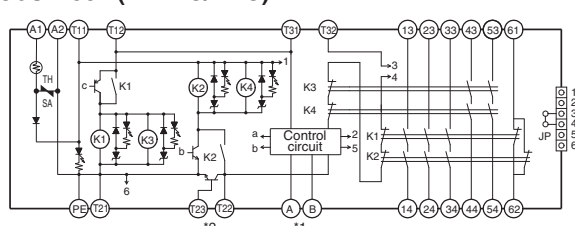
G9SA-301 (24 VAC/VDC)



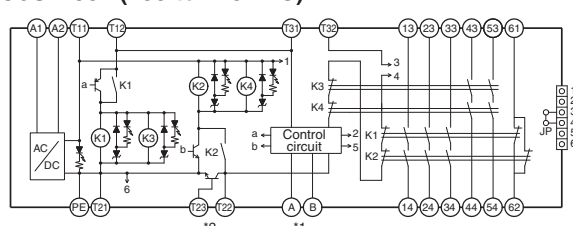
G9SA-301 (100 to 240 VAC)



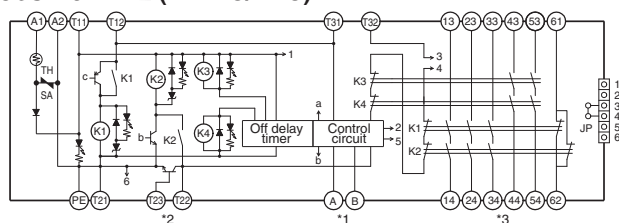
G9SA-501 (24 VAC/VDC)



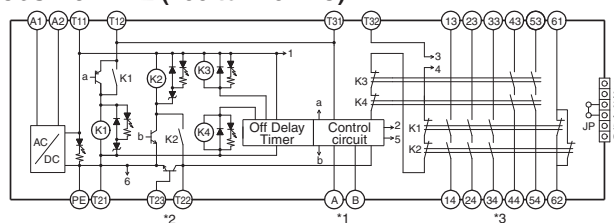
G9SA-501 (100 to 240 VAC)



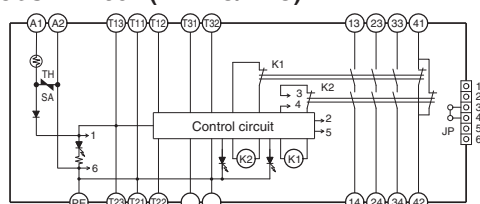
G9SA-321-T□ (24 VAC/VDC)



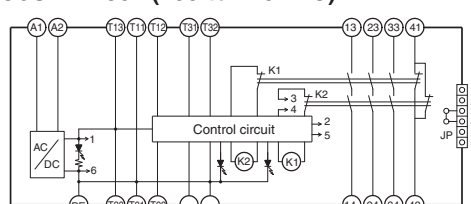
G9SA-321-T□ (100 to 240 VAC)



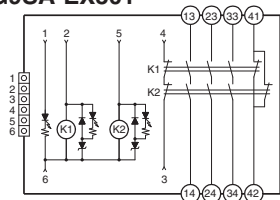
G9SA-TH301 (24 VAC/VDC)



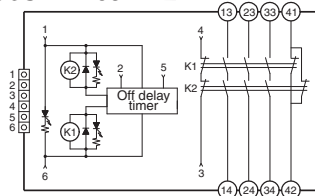
G9SA-TH301 (100 to 240 VAC)



G9SA-EX301



G9SA-EX031-T□



Note: 1. With 100 to 240-VAC type, be sure to connect PE to a protective ground. With 24-VAC/VDC type, if the power supply is not connected to a protective ground, be sure to connect PE to a protective ground.

2. With 24-VAC/VDC type, the power supply terminals A1 and A2 have polarities. A2 is the negative pole.

*1. Use terminals A and B to switch reset mode.

A to B open: Manual reset

A to B closed: Auto-reset

*2. Terminal T23 is used for 2-channel input with a positive common (when connecting a safety sensor with a PNP output).

When using T23, make sure that T21 and T22 are open.

For 1-channel input, make sure that T12 and T23 are shorted.

*3. Terminals 43-44 and terminals 53-54 are OFF-delayed outputs.