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Relays with forcibly guided contacts

The slim G7SA relay family with forcibly guided contacts is available as a four- or six-pole type in various contact combinations and offers reinforced insulation. Terminals are arranged for easy PCB layout. It can be soldered directly to a PCB or used together with the P7SA sockets.

- Forcibly guided contacts
- Conforms to EN 50205
- 6 A at 240 VAC and 6A at 24 VDC for resistive loads
- Reinforced insulation between inputs and outputs and poles
- 4- and 6-pole relays available

Ordering information

Relays with forcibly guided contacts

Type	Sealing	Poles	Contacts	Rated voltage	Order code
Standard	Flux-tight	4 poles	3PST-NO, SPST-NC	24 VDC*1	G7SA-3A1B
			DPST-NO, DPST-NC		G7SA-2A2B
		6 poles	5PST-NO, SPST-NC		G7SA-5A1B
			4PST-NO, DPST-NC		G7SA-4A2B
			3PST-NO, 3PST-NC		G7SA-3A3B

*1 12 VDC, 21 VDC, 48 VDC are available on request.

Sockets

Type		LED indicator	Poles	Rated voltage	Order code
Track-mounting	Track mounting and screw mounting possible	Yes	4 poles	24 VDC	P7SA-10F-ND
			6 poles		P7SA-14F-ND
Back-mounting	PCB terminals	No	4 poles	–	P7SA-10P
			6 poles		P7SA-14P

Specifications

Coil

Rated voltage	Rated current	Coil resistance	Must-operate voltage	Must-release voltage	Max. voltage	Power consumption
24 VDC	4 poles: 15 mA 6 poles: 20.8 mA	4 poles: 1,600 Ω 6 poles: 1,152 Ω	75% max. (V)	10% min. (V)	110% (V)	4 poles: Approx. 360 mW 6 poles: Approx. 500 mW

Note: Refer to datasheet for details

Contacts

Load	Resistive load (cosϕ = 1)
Rated load	6 A at 250 VAC, 6 A at 30 VDC
Rated carry current	6 A
Max. switching voltage	250 VAC, 125 VDC

Load	Resistive load (cosϕ = 1)
Max. switching current	6 A
Max. switching capacity (reference value)	1,500 VA, 180 W

Relays with forcibly guided contacts

Contact resistance		100 mΩ max. (The contact resistance was measured with 1 A at 5 VDC using the voltage-drop method.)
Operating time *1		20 ms max.
Response time *1		10 ms max. (The response time is the time it takes for the normally open contacts to open after the coil voltage is turned OFF.)
Release time *1		20 ms max.
Insulation resistance		100 MΩ min. (at 500 VDC) (The insulation resistance was measured with a 500 VDC megger at the same places that the dielectric strength was measured.)
Dielectric strength *2 *3		Between coil contacts/different poles: 4,000 VAC, 50/60 Hz for 1 min (2,500 VAC between poles 3-4 in 4-pole Relays or poles 3-5, 4-6, and 5-6 in 6-pole Relays.) Between contacts of same polarity: 1,500 VAC, 50/60 Hz for 1 min
Durability	Mechanical	10,000,000 operations min. (at approx. 36,000 operations/hr)
	Electrical	100,000 operations min. (at the rated load and approx. 1,800 operations/hr)
Min. permissible load *4		5 VDC, 1 mA (reference value)
Ambient temperature *5		Operating: -40 to 85°C (with no icing or condensation)
Ambient humidity		Operating: 35 to 85%
Approved standards		EN61810-1 (IEC61810-1), EN50205, UL508, CSA22.2 No. 14

*1 These times were measured at the rated voltage and an ambient temperature of 23°C. Contact bounce time is not included.
*2 Pole 3 refers to terminals 31-32 or 33-34, pole 4 refers to terminals 43-44, pole 5 refers to terminals 53-54, and pole 6 refers to terminals 63-64.
*3 When using a P7SA socket, the dielectric strength between coil contacts/different poles is 2,500 VAC, 50/60 Hz for 1 min.
*4 Min. permissible load is for a switching frequency of 300 operations/min.
*5 When operating at a temperature between 70°C and 85°C, reduce the rated carry current (6 A at 70°C or less) by 0.1 A for each degree above 70°C.

Note: The values listed above are initial values.

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