Power Contactor with Mirror Contacts

G7Z

SpeedSPEC G7Z sti.com

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Multi-pole Power Relay for Contactor Current Range Capable of Carrying and Switching 40 A at 440 VAC

- One pole, 40 A can be carried and switched.
- The maximum load capacity of 160 A when using 4-pole parallel connections.
- All materials used are compliant with the RoHS Directive
- EN 60947-4-1 certification for mirror contact mechanisms has been obtained by using a combination of the relay and auxiliary contact blocks.
- A design with a small number of openings makes it difficult for dust or foreign matter to enter.
- Ideal for supply power to industrial inverters, servo drivers, and other devices, and switching power to motors and other equipment.





Specifications

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Approved Standards

UL Standard: UL508, UL840 (File No. E41643)

Model	Coil Ratings		Contact Ratings	Number of Test Operations
G7Z	12, 24 VDC	NO contact	40 A, 480 VAC, 60 Hz (Resistive)	80,000
			5 A, 120 VDC (Resistive)	100,000
			22 A, 480 VAC, 60 Hz (General Use)	100,000
			D300* (1-A current applied)	
		NC contact	25 A, 480 VAC, 60 Hz (Resistive) 5 A, 120 VDC (Resistive) 10 A, 480 VAC, 60 Hz (General Use)	100,000
			D300* (1-A current applied)	

*Auxiliary contact ratings

Model	Contact Ratings			
G73Z	NO contact			
	NC contact	D300 (1-A current applied)		

CSA Standard: CSA Certification: CSA C22.2 No. 14 EN Standard/TÜV Certification: EN 60947-4-1 (Certification No. R50079155)

Model	Coil Ratings	Contact Ratings			
G7Z	12, 24 VDC	NO contact	AC-1: 40 A, 440 V, 50/60 Hz AC-3: 16 A, 440 V, 50/60 Hz DC-1: 5 A, 110 V *AC-15: 0.5 A, 440 V, 50/60 Hz *DC-13: 0.5 A, 110 V		
		NC contact	AC-1: 25 A, 440 V, 50/60 Hz DC-1: 5 A, 110 V *AC-15: 0.5 A, 440 V, 50/60 Hz *DC-13: 0.5 A, 110 V		
G73Z		NO contact	AC-15: 0.5 A. 440 V . 50/60 Hz		
		NC contact	DC-13: 0.5 A, 110 V		

*Auxiliary contact ratings

Reference Information

UL 508:	Industrial control devices
UL 840:	Insulation coordination including clearance and
	creepage distance for electrical devices

page distance for electrical devices

CSA C22.2 No. 14: Industrial control devices EN 60947-4-1: Contactors





Specifications (continued)

Ratings

Coil

	Rated	Coil Besistance	Must operate Voltage	Must release Voltage	Maximum Voltage	Power
Rated Voltage	(mA)	(Ω)	Percentage of Rated Voltage			(W)
12 VDC	308	39	75% 2001	10% min	1109/	Approx 0.7
24 VDC	154	156	75% max.	10% min.	110%	Approx. 3.7

Notes:

1. The rated current and coil resistance are measured at a coil temperature of 23°C with tolerances of ±15%.

2. Operating characteristics were measured at a coil temperature of 23°C.

3. The maximum allowable voltage is the maximum value of the fluctuation range from the relay coil operating power supply and was measured at an ambient temperature of 23°C. There is, however, no continuous allowance.

Contacts

Relay

	G7Z-4A-□Z, G7Z-3A1B-□Z, G7Z-2A2B-□Z				
		Resistive load	Inductive load cosø = 0.3	Resistive load L/R = 1 ms	
Contact structure			Double break		
Contact material			Ag alloy		
Poted load	NO	40 A at 440 VAC	22 A at 440 VAC	5 A at 110 VDC	
naleu loau	NC	25 A at 440 VAC	10 A at 440 VAC	5 A at 110 VDC	
Poted corru ourrent	NO	40 A			
nated carry current	NC	25 A			
Maximum contact voltage		480 VAC 125 VDC			
Maximum contact	NO	40 A	22 A	5 A	
current	NC	25 A	10 A	5 A	
Maximum switching	NO	17,600 VA	9,680 VA	550 W	
capacity	NC	11,000 VA	4,400 VA	550 W	
Failure rate P value (reference value)		2 A at 24 VDC			

Note: The ratings for the auxiliary contact block mounted on the G7Z are the same as those for the G73Z auxiliary contact block.

Auxiliary Contact Block

	G73Z-20Z, G73Z-11Z, G73Z-02Z			
	Resistive load	Inductive load cosø = 0.3	Resistive load L/R = 1 ms	
Contact structure		Double break		
Contact material	Au clad + Ag			
Rated load	1 A at 440 VAC	0.5 A at 440 VAC	0.5 A at 110 VDC	
Rated carry current	1 A			
Maximum contact voltage	480 VAC 125 VDC			
Maximum contact current	1 A	0.5	δA	
Maximum switching capacity	440 VA	220 VA	55 W	
Failure rate P value (reference value)	1 mA at 5 VDC			





Mirror Contacts

Safety Function with Mirror Contacts

EN 60947-4-1 certification for mirror contact mechanisms has been obtained by using a combination of a relay and auxiliary contact blocks (5 VDC, 1 mA), enabling application in feedback circuits of safety circuits.

Application Example: General Safety Circuit

G9SA-301 (24-VAC/DC) (two limit switch input channels with manual reset)



Mirror Contact Mechanism

By combining a Relay with an auxiliary contact block, all NC contacts of the auxiliary contact block will satisfy an impulse withstand voltage of 2.5 kV or higher or maintain a gap of 0.5 mm or greater when the coil is de-energized even if at least one NO contact (main contact) of the Relay is welded.



Contact welding



I-18

Dimensions

Relay (12 VDC, 24 VDC) with Auxiliary Contact Block 4 Poles







5

0 0 0

0



(mm)

Auxiliary Contact Block



DIN Track Mounting Height (when using PFP-100N or PFP-50N mounting rail)



Note: The dimensions are typical values.



Ordering

Model Number Legend

Relay with Auxiliary Contact Block

G7Z – 🗆 – 🗆 🗆 0 2 8

- Relay Contact Configuration 4A: 4PST-NO 3A1B: 3PST-NO/SPST-NC 2A2B: DPST-NO/DPST-NC
- Contact Configuration of Auxiliary Contacts
 20: DPST-NO
 11: SPST-NO/SPST-NC
 - 02: DPST-NC
- Contact Mechanism of Auxiliary Contacts
 - Z: Bifurcated crossbar contact

Auxiliary Contact Block



- Contact Configuration of Auxiliary Contacts
 20: DPST-NO
 11: SPST-NO/SPST-NC
 - 02: DPST-NC
- Contact Mechanism of Auxiliary Contacts Z: Bifurcated crossbar contact

Relay with Auxiliary Contact Block

Relay with Auxiliary Contact Block (for Screw Terminals)

Classification		Contact configuration			
		Relay	Auxiliary Contact Block	Rated Voltage	Model
			DPST-NO		G7Z-4A-20Z
	4 poles + 2 poles	4PST-NO	SPST-NO/SPST-NC	12, 24 VDC	G7Z-4A-11Z
			DPST-NC		G7Z-4A-02Z
		3PST-NO/SPST-NC	DPST-NO		G7Z-3A1B-20Z
Relay with Auxiliary Contact Block			SPST-NO/SPST-NC		G7Z-3A1B-11Z
			DPST-NC		G7Z-3A1B-02Z
		DPST-NO/DPST-NC	DPST-NO		G7Z-2A2B-20Z
			SPST-NO/SPST-NC	-	G7Z-2A2B-11Z
			DPST-NC		G7Z-2A2B-02Z

Notes:

1. Relay contact terminals are M5, and the coil terminals are M3.5.

2. Auxiliary contact block terminals are M3.5

Accessories (Order Separately)

Auxiliary Contact Block

Classification		Contact Configuration	Model
		DPST-NO	G73Z-20Z
Auxiliary Contact Block	2 poles	SPST-NO/SPST-NC	G73Z-11Z
CONTACT DIOCK		DPST-NC	G73Z-02Z

