

■ Contact Ratings

Item	Resistive load ($\cos \phi = 1$)	Inductive load ($\cos \phi = 0.4$)	Resistive load
Contact mechanism	Double break		
Contact material	Ag alloy		
Rated load	NO: 25 A at 220 VAC (24 A at 230 VAC) NC: 8 A at 220 VAC (7.5 A at 230 VAC)		NO: 25 A at 30 VDC NC: 8 A at 30 VDC
Rated carry current	NO: 25 A (1 A) NC: 8 A (1 A)		
Max. switching voltage	250 VAC		125 VDC
Max. switching current	NO: 25 A (1 A) NC: 8 A (1 A)		

Note: The values in parentheses indicate values for a bifurcated contact.

■ Characteristics

Contact resistance (see note 2)	50 m Ω max.
Operate time (see note 3)	50 ms max.
Release time (see note 3)	50 ms max.
Max. operating frequency	Mechanical: 1,800 operations/hr Electrical: 1,800 operations/hr
Insulation resistance (see note 4)	1,000 M Ω min. (at 500 VDC)
Dielectric strength	4,000 VAC, 50/60 Hz for 1 min between coil and contacts 4,000 VAC, 50/60 Hz for 1 min between contacts of different polarity 2,000 VAC, 50/60 Hz for 1 min between contacts of same polarity
Impulse withstand voltage	10,000 V between coil and contact (with 1.2 x 50 μ s impulse wave)
Vibration resistance	Destruction: 10 to 55 Hz, 1.5-mm double amplitude Malfunction: NO: 10 to 55 Hz, 1.5-mm double amplitude NC: 10 to 26 Hz, 1.5-mm double amplitude
Shock resistance	Destruction: 1,000 m/s ² Malfunction: NO: 100 m/s ² NC: 20 m/s ²
Life expectancy	Mechanical: 1,000,000 operations min. (at 1,800 operations/hr) Electrical: 100,000 operations min. (at 1,800 operations/hr) (see note 5)
Error rate (see note 6)	100 mA at 24 VDC (bifurcated contact: 24 VDC 10 mA)
Ambient temperature	Operating: -25°C to 60°C (with no icing or condensation) Storage: -25°C to 60°C (with no icing or condensation)
Ambient humidity	Operating: 35% to 85% Storage: 35% to 85%
Weight	PCB terminal: approx. 140 g Screw terminal: approx. 165 g Quick-connect terminal: approx. 140 g

- Note:**
- The above values are all initial values.
 - The contact resistance was measured with 1 A at 5 VDC using the voltage drop method.
 - The operate and the release times were measured with the rated voltage imposed with any contact bounce ignored at an ambient temperature of 23°C.
 - The insulation resistance was measured with a 500-VDC megger applied to the same places as those used for checking the dielectric strength.
 - The electrical life expectancy was measured at an ambient temperature of 23°C.
 - This value was measured at a switching frequency of 60 operations per minute.

■ Approved by Standards

The G7J satisfies the following international standards. Approval for some international markings and symbols are still pending, however, and information on them will be added when they are approved.

UL (File No. E41643)

CSA (File No. LR35535)

Coil ratings	Contact ratings		Number of test operations
	NO contact		
24 to 265 VAC 6 to 110 VDC	NO contact	25 A 277 VAC, Resistive	30,000
		25 A 120 VAC, General Use	
		25 A 277 VAC, General Use	
		1.5 kW 120 VAC, Tungsten	6,000
		1.5 hp 120 VAC	
		3 hp 240/265/277 VAC	
		3-phase 3 hp 240/265/277 VAC	
		3-phase 5 hp 240/265/277 VAC	30,000
		20FLA/120LRA 120 VAC	
		17FLA/102LRA 277 VAC	
	TV-10 120 VAC	25,000	
	25 A 30 VDC, Resistive	30,000	
	1 A 277 VAC, General Use	6,000	
	NC contact	8 A 277 VAC, Resistive	30,000
		8 A 120 VAC, General Use	
		8 A 277 VAC, General Use	
8 A 30 VDC, Resistive			
1 A 277 VAC, General Use		6,000	

Reference

UL approval: UL508 for industrial control devices

UL1950 for information processing equipment including business machines

CSA approval: CSA C22.2 No. 14 for industrial control devices

CSA C22.2 No. 950 for information processing equipment including business machines

VDE (File No. 5381UG)

Model	Coil ratings	Contact ratings	
		NO contact	NC contact
G7J-4A-B(P) (T) (Z) G7J-2A2B(P) (T) G7J-3A1B-B(P) (T) (Z)	6, 12, 24, 48, 100 VDC 24, 50, 100 to 120, 200 to 240 VAC	25 A 240 VAC $\cos\phi = 0.4$ 25 A 240 VAC $\cos\phi = 1$ 25 A 30 VDC $L/R \geq 1$ *1 A 240 VAC $\cos\phi = 0.4$	8 A 240 VAC $\cos\phi = 0.4$ 8 A 240 VAC $\cos\phi = 1$ 8 A 30 VDC $L/R \geq 1$ *1 A 240 VAC $\cos\phi = 0.4$

Note: Add the suffix "-KM" to the model number when ordering.

* These ratings are bifurcated contact ratings.

Reference

VDE approval: VDE0435 for electromagnetic relays

IEC255 for relays

KEMA (File No. 97.9140.01)

Model	Coil ratings	Contact ratings
		NO contact
G7J-4A-B(P) (T) (Z) G7J-2A2B(P) (T) G7J-3A1B-B(P) (T) (Z)	6, 12, 24, 48, 100 VDC 24, 50, 100 to 120, 200 to 240 VAC	Class AC1: 25 A at 220 VAC 11.5 A at 380 to 480 VAC Class AC3: 11.5 A at 220 VAC and 8.5 A at 380 to 480 VAC *Class AC 1 : 1 A at 220 VAC

Note: Add the suffix "-KM" to the model number when ordering.

* This rating is the bifurcated contact rating.

Reference

KEMA approval: EN60947-4-1 for contacts

IEC947-4-1 for contacts