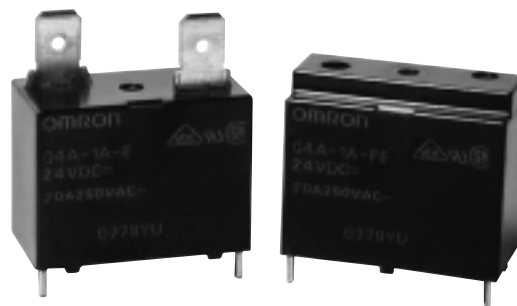


- High switching capacity from normally open contact loop terminal construction
- Miniature power relay ideal for motor switching in appliances and HVAC equipment
- Designed specifically for high inrush compressor loads
- Space-saving design
- Semi-sealed construction, standard
- Standard versions approved by UL, CSA, and VDE



## Ordering Information

To Order: Select the part number and add the desired coil voltage rating, (e.g., G4A-1A-E-DC12).

Type	Contact form	Construction	Part number	
			PCB and quick-connect	PCB terminal
Standard	SPST-NO	Semi-sealed	<b>G4A-1A-E</b>	<b>G4A-1A-P-E</b>

## Specifications

### CONTACT DATA

Load	Motor load
Rated load	Inrush 80 A (cosφ 0.7) 0.35/20 A steady state (cosφ 0.9)
Contact material	AgSnO <sub>2</sub>
Max. carry current	20 A
Max. operating voltage	250 VAC
Max. operating current	20 A
Max. switching capacity	5,000 VA
Min. permissible load	100 mA at 5 VDC

### COIL DATA

Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω)	Pick-up voltage	Dropout voltage	Maximum voltage	Power consumption (W)
			% of rated voltage			
12	75	160	70% max.	10% min.	110%	Approx. 0.90
24	37.50	640				

Note: 1. The rated current and coil resistance are measured at a coil temperature of 23°C (73°F) with a tolerance of ±10% for DC coil resistance.  
2. Operating characteristics are measured at a coil temperature of 23°C (73°F).

## ■ CHARACTERISTICS

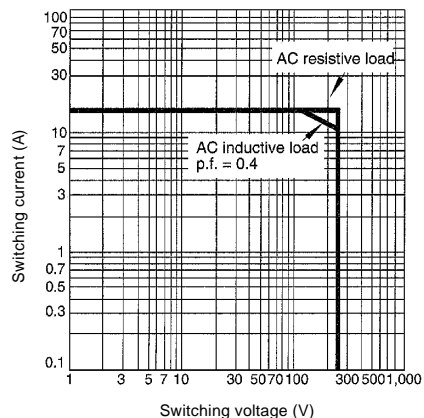
Contact resistance		100 mΩ
Operate time		20 ms max.
Release time		10 ms max.
Maximum operating frequency	Mechanical	18,000 operations/hour
	Electrical	1,200 operations/hour (under rated load)
Insulation resistance		1,000 MΩ min (at 500 VDC)
Dielectric strength		4,500 VAC, 50/60 Hz for 1 minute between coil and contacts 1,000 VAC, 50/60 Hz for 1 minute between contacts of same polarity
Vibration	Mechanical durability	10 to 55 Hz, 1.50 mm (0.06 in) double amplitude range for 2 hours
	Malfunction durability	10 to 55 Hz, 1.50 mm (0.06 in) double amplitude range for 5 minutes
Shock	Mechanical durability	1,000 m/s <sup>2</sup> (approx. 100 G)
	Malfunction durability	200 m/s <sup>2</sup> (approx. 20 G)
Life expectancy	Mechanical	2 million operations min. (at 18,000 operations/hour)
	Electrical	200,000 operations min. (at 1,200 operations/hour under rated)
Ambient operating temperature		-25° to 60°C (-13° to 140°F) with no icing
Ambient operating humidity		35% to 85%
Weight		23 g (0.81 oz)

Note: Data shown are of initial value.

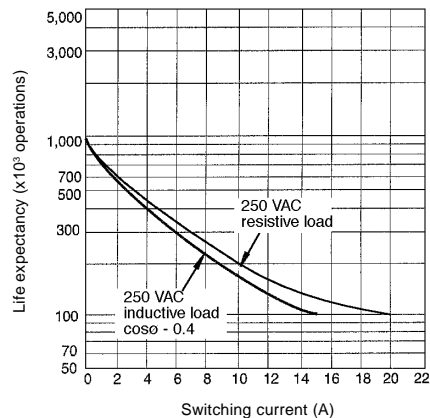
## ■ CHARACTERISTIC DATA

### G4A-1A

#### Maximum switching capacity



#### Electrical service life

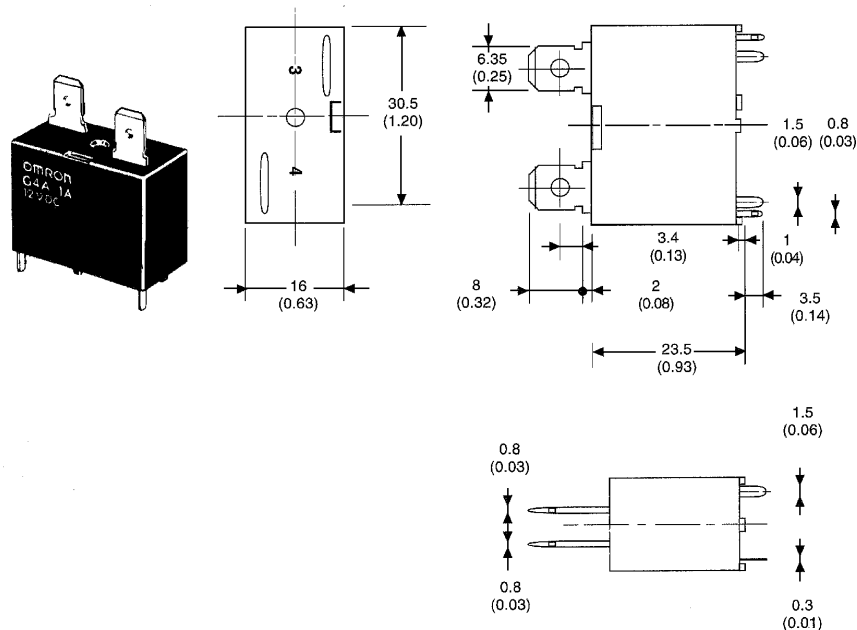


# Dimensions

Unit: mm (inch)

## RELAYS

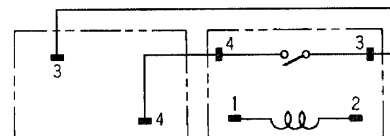
### G4A-1A-E



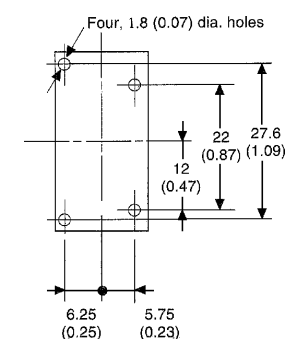
### Terminal arrangement/ Internal connections

Tab terminals  
(Top view)

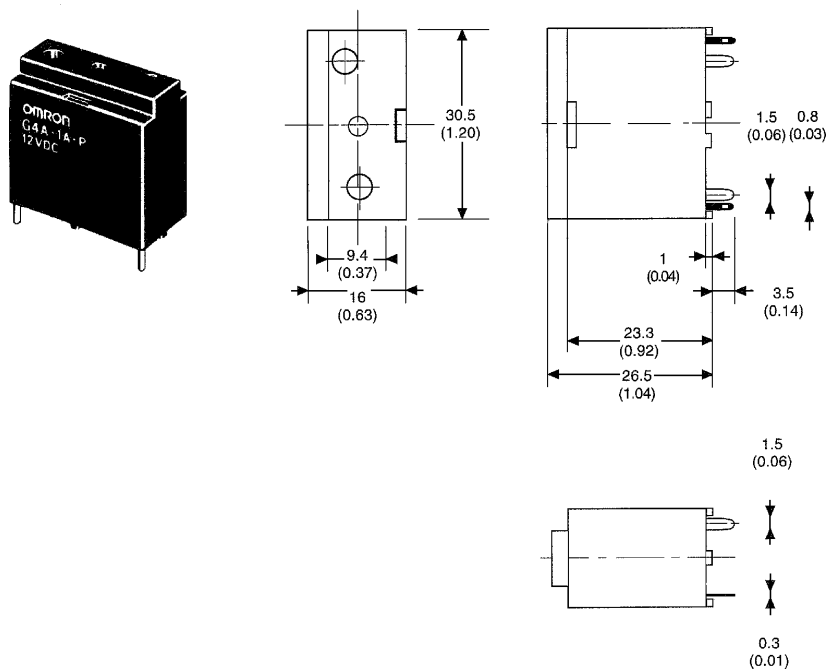
PCB terminals  
(Bottom terminals)



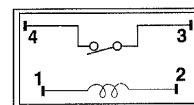
### Mounting holes (Bottom view)



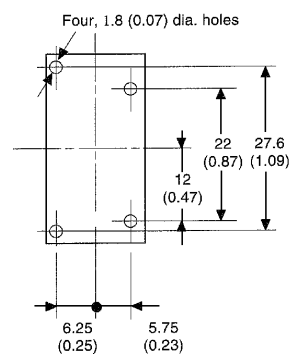
### G4A-1A-P-E



### Terminal arrangement/ Internal connections (Bottom view)



### Mounting holes (Bottom view)



## ■ APPROVALS

UL (File No. E41643)/CSA (File No. LR31928)

Type	Contact form	Coil ratings	Contact ratings	
G4A-1A-E G4A-1A-P-E	SPST-NO	5 to 100 VDC	Motor load	80 A, 250 VAC (make)
				20 A, 250 VAC (break), 100,000 cycles
			Horsepower	1 HP, 120 VAC, 125 VAC, 240 VAC, 250 VAC, 277 VAC
				2 HP, 240 VAC, 277 VAC, 30,000 cycles
			FLA/LRA	16 FLA, 96 LRA, 120 VAC, 30,000 cycles
				12 FLA, 72 LRA, 150 VAC, 30,000 cycles
				12 FLA, 72 LRA, 240 VAC, 30,000 cycles
			General purpose	23 A, 277 VAC, 30,000 cycles
			Resistive	15 A, 30 VDC
				20 A, 250 VAC, 100,000 cycles
			Definite purpose	18 FLA, 90.5 LRA, 240 VAC, 100,000 cycles, 55°C (131°F) ambient
			Tungsten	20 A, 120 VAC, 6,000 cycles
			Ballast	20 A, 277 VAC, 6,000 cycles

Note: 1. The rated values approved by each of the safety standards may be different from the performance characteristics individually defined in this catalog.  
2. In the interest of product improvement, specifications are subject to change.

**NOTE: DIMENSIONS ARE SHOWN IN MILLIMETERS. To convert millimeters to inches divide by 25.4.**

# OMRON

**OMRON ELECTRONICS, INC.**

One East Commerce Drive  
Schaumburg, IL 60173

**1-800-55-OMRON**

**OMRON CANADA, INC.**

885 Milner Avenue  
Scarborough, Ontario M1B 5V8

**416-286-6465**