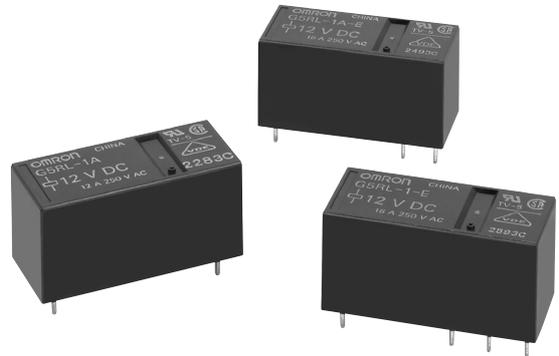


Low-profile (15.7 mm), High-capacity (16 A) Power Relay

- 29.0 × 12.7 × 15.7 mm (L × W × H)
- Conforms to VDE, UL, CSA, and CQC.
Meets TV-5 requirements.
UL class F insulation available.
- One-pole, High-capacity, AC-coil available.
- Low power consumption (400 mW)
- Clearance and creepage distance
Between coil and contacts: 8 mm/8 mm
Between contacts of the same polarity: 3 mm/4 mm
- Cd, Pb, and Chromium free.



Ordering Information

Classification	Enclosure ratings	Contact form	
		SPST-NO	SPDT
Standard	Flux protection	G5RL-1A	G5RL-1
High capacity	Flux protection	G5RL-1A-E	G5RL-1-E

Note: When ordering, add the rated coil voltage to the model number.

Example: G5RL-1-E 100 VAC
└─ Rated coil voltage

Model Number Legend:

G5RL-□□□□
1 2 3 4

1. Number of Poles

1: 1 pole

2. Contact Form/Contact Construction

None: SPDT

A: SPST-NO

3. Enclosure Rating

None: Flux protection

4. Classification

E: High-capacity

Specifications

■ Coil Ratings

Rated voltage	100 VAC	115 VAC/120 VAC		200 VAC	230 VAC/240 VAC	
Rated current at 50 Hz (mA)	7.50	5.85	6.25	3.75	3.00	3.13
Rated current at 60 Hz (mA)	6.88	5.35	5.70	3.45	2.76	2.88
Coil resistance (Ω)	8220	11,600		33,000	47,600	
Must operate voltage	75% of rated voltage (max.)					
Must release voltage	15% of rated voltage (min.)					
Max. voltage	90% to 110% of rated voltage					
Power consumption	Approx. 0.75 VA					

- Note:**
1. The above items are measured at a coil temperature of 23°C.
 2. The tolerance of the rated current is +15%/–20%.
 3. Power consumption drop was measured at 50 Hz.
 4. Coil resistances are provided as reference values.

Rated voltage	5 VDC	12 VDC	24 VDC	48 VDC
Rated current (mA)	80.0	33.3	16.7	8.96
Coil resistance (Ω)	62.5	360	1,440	5,358
Must operate voltage	70% of rated voltage (max.)			
Must release voltage	10% of rated voltage (min.)			
Max. voltage	130% of rated voltage			
Power consumption	Approx. 0.4 W			Approx. 0.43 W

- Note:**
1. The above items are measured at a coil temperature of 23°C.
 2. The tolerance of the rated current is +10%.
 3. The "max. voltage" is the maximum voltage that can be applied to the relay coil. It is not the maximum voltage that can be applied continuously.

■ Contact Ratings

Item	Standard Models	High-capacity Models
Load	Resistive load ($\cos \phi=1$)	
Rated load	12 A at 250 VAC (NO), 5 A at 250 VAC (NC) 16 A at 250 VAC (NO), 5 A at 250 VAC (NC) 12 A at 24 VDC (NO), 5 A at 24 VDC (NO) 16 A at 24 VDC (NO), 5 A at 24 VDC (NO)	
Rated carry current	12 A (NO), 5 A (NC)	16 A (NO), 5 A (NC)
Max. switching voltage	250 VAC, 24 VDC	
Max. switching current	12 A (NO), 5 A (NC)	16 A (NO), 5 A (NC)
Max. switching capacity	3,000 VA AC (NO), 1,250 VA AC (NC) 288 W DC (NO), 120 W DC (NC)	4,000 VA AC (NO), 1,250 VA AC (NC) 384 W DC (NO), 120 W DC (NC)
Min. permissible load	100 mA at 5 VDC (AC Coil type: 40 mA at 24 VDC)	

■ Approved Standards

UL 508 (File No. E41643 Vol. 4 Sec.38) and CSA C22.2 No. 1, C22.2 No. 14 (Certificate No.: 1419093)

Model	Coil Rating	Contact rating
G5RL-1	5 to 48 VDC	12 A, 277 VAC General, 80,000 c - NO 12 A, 250 VAC General, 80,000 c - NO 12 A, 24 VDC Resistive, 100,000 c - NO TV-5, 25,000 c - NO A 300 Pilot Duty, 720 VA, 240 VAC, 30,000 c - NO 1 Hp, 240 VAC, 6,000 c - NO 1/2 Hp, 120 VAC, 6,000 c - NO 60 LRA/10 FLA, 250 VAC, 6,000 c - NO 5 A, 250 VAC General, 50,000 c - NC 5 A, 24 VDC Resistive, 50,000 c - NC
G5RL-1A	5 to 48 VDC	12 A, 277 VAC General, 80,000 c - NO 12 A, 250 VAC General, 80,000 c - NO 12 A, 24 VDC Resistive, 100,000 c - NO TV-5, 25,000 c - NO A 300 Pilot Duty, 720 VA, 240 VAC, 30,000 c - NO 1 Hp, 240 VAC, 6,000 c - NO 1/2 Hp, 120 VAC, 6,000 c - NO 60 LRA/10 FLA, 250 VAC, 6,000 c - NO
G5RL-1-E	5 to 48 VDC 24 to 240 VAC	16 A, 277 VAC General, 50,000 c - NO 16 A, 250 VAC General, 50,000 c - NO 16 A, 24 VDC Resistive, 50,000 c - NO (DC Coil Models only) TV-5, 25,000 c - NO A 300 Pilot Duty, 720 VA, 240 VAC, 30,000 c - NO 1 Hp, 240 VAC, 6,000 c - NO (DC Coil Models only) 1/2 Hp, 120 VAC, 6,000 c - NO 60 LRA/10 FLA, 250 VAC, 6,000 c - NO 5 A, 250 VAC General, 50,000 c - NC 5 A, 24 VDC Resistive, 50,000 c - NC
G5RL-1A-E	5 to 48 V DC	16 A, 277 VAC General, 50,000 c - NO 16 A, 250 VAC General, 50,000 c - NO 16 A, 24 VDC Resistive, 50,000 c - NO TV-5, 25,000 c - NO A 300 Pilot Duty, 720 VA, 240 VAC, 30,000 c - NO 1 Hp, 240 VAC, 6,000 c - NO 1/2 Hp, 120 VAC, 6,000 c - NO 60 LRA/10 FLA, 250 VAC, 6,000 c - NO

VDE DIN EN 61810-1 Edition 2 and EN60255-25 (Reg. No. A662)

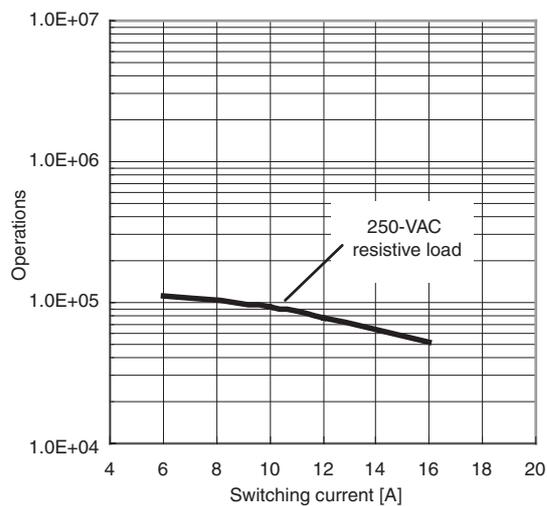
Model	Coil Rating	Contact rating
G5RL-1(A)	5, 12, 24, 48 VDC	12A, 250 VAC, 40,000(NO) 20,000(CO) 12A, 24 VDC, 100,00 (NO, CO)
G5RL-1(A)-E	5, 12, 24, 48 VDC	16A, 250 VAC, 15,000(NO) 10,000(CO) 16A, 24 VDC, 5,000 (NO, CO)
G5RL-1-E	24, 100, 115/120, 200, 230/240 VAC (50 Hz)	16A, 250 VAC 15,000 c

■ Characteristics

Item	Standard Models	High-capacity Models
Contact resistance	100 mΩ max.	
Operate time	15 ms max. (AC Coil Models: 20 ms max.)	
Release time	5 ms max. (AC Coil Models: 20 ms max.)	
Max. switching frequency	Mechanical: 18,000 operations/hr Electrical: 1,800 operations/hr (under rated load)	
Insulation resistance	1,000 MΩ min. (at 500 VDC)	
Dielectric strength	1,000 VAC, 50/60 Hz for 1 min. between contacts of same polarity 6,000 VAC, 50/60 Hz for 1 min. between coil and contacts	
Impulse withstand voltage	10,000 V between coil and contacts, $1.2 \times 50 \mu\text{s}$	
Vibration resistance	Destruction: 10 to 55 to 10 Hz, 1.5-mm double amplitude Malfunction: 10 to 55 to 10 Hz, 1.5-mm double amplitude	
Shock resistance	Destruction: 1,000 m/s ² (approx. 100 G) Malfunction: 100 m/s ² (approx. 10 G)	
Life expectancy	Mechanical: 10,000,000 operations min. (at 18,000 operations/hr)	
	Electrical 50,000 operations min. 5 A at 250 VAC (NC) 5 A at 24 VDC (NC) 100,000 operations min. 12 A at 250 VAC (NO) 12 A at 24 VDC (NO)	Electrical 50,000 operations min. 5 A at 250 VAC (NC) (AC Coil Models only) 5 A at 24 VDC (NC) (AC Coil Models only) 50,000 operations min. 16 A at 250 VAC (NO) 16 A at 24 VDC (NO) 100,000 operations min. 12 A at 250 VAC (NO) (DC Coil Models only)
Ambient temperature	Operating: -40°C to 70°C (AC Coil Models), -40°C to 85°C (DC Coil Models),	
Ambient humidity	Operating: 5% to 85%	
Weight	Approx.: 10 g	

Engineering Data

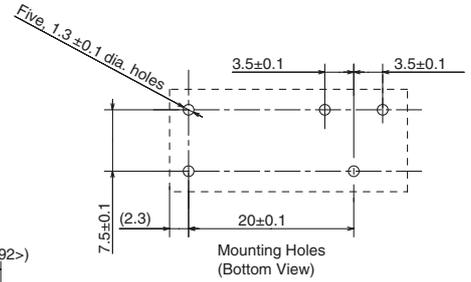
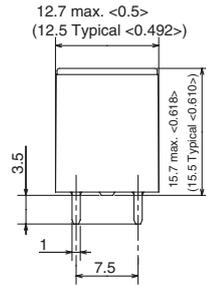
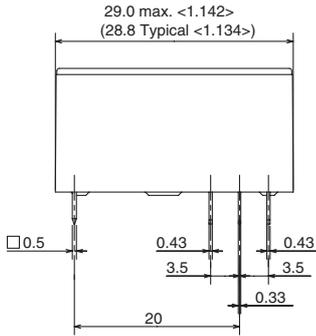
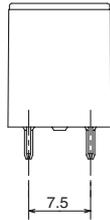
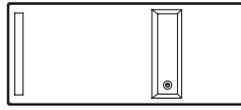
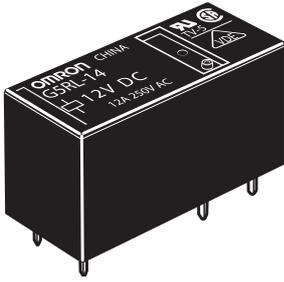
Life Expectancy G5RL-1-E



Dimensions

Note: All units are in millimeters unless otherwise indicated.

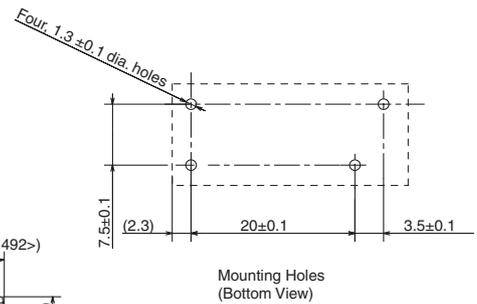
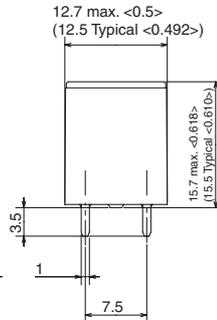
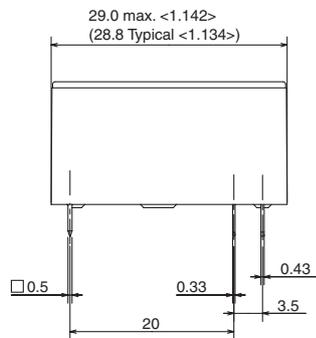
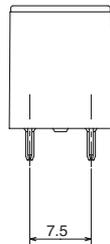
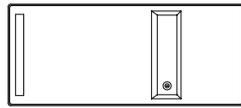
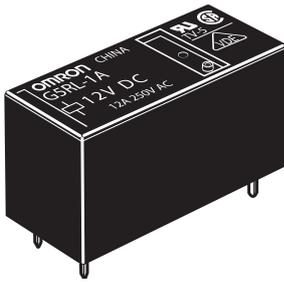
G5RL-1



Terminal Arrangement/
Internal Connections
(Bottom View)

<> Inches

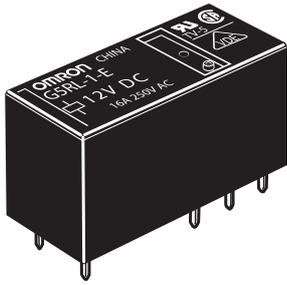
G5RL-1A



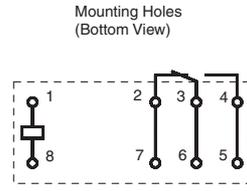
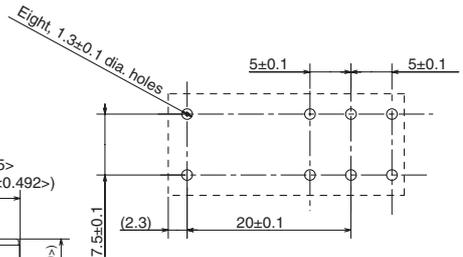
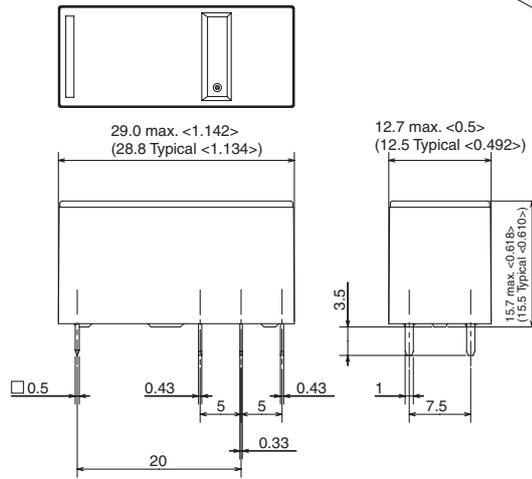
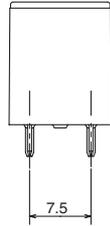
Terminal Arrangement/
Internal Connection
(Bottom View)

<> Inches

G5RL-1-E

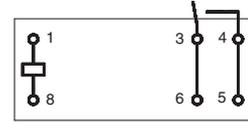
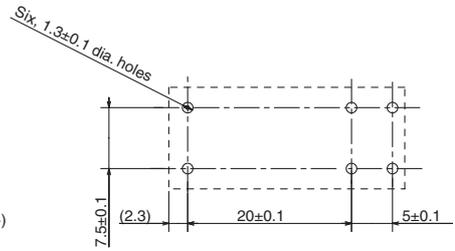
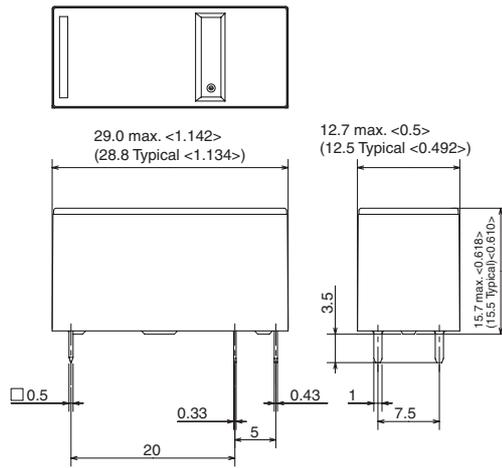
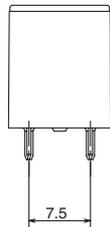
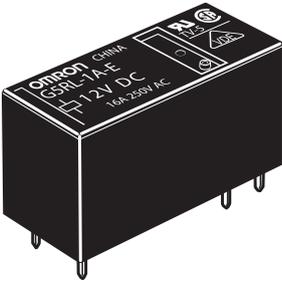


* Indicates average dimensions.



< > Inches

G5RL-1A-E



< > Inches

Packaging

Note: All units are in millimeters unless otherwise indicated.

■ Polystyrene Tray Packing

1 Polystyrene tray = 100 relays

1 Sleeve = 5 polystyrene trays

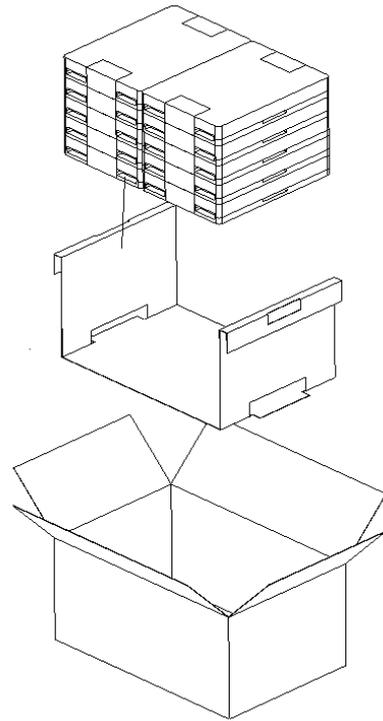
1 Carton = 2 sleeves

= 1,000 relays

Weight = Approx. 12 kg per carton

- Size of polystyrene tray: 340 × 120 × 48 mm (L × W × H)

- Size of Carton box: 535 × 355 × 250 mm (L × W × H)



ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

Cat. No. K126-E1-01 **In the interest of product improvement, specifications are subject to change without notice.**

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