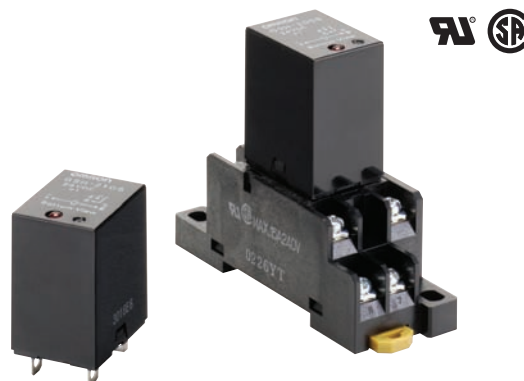


Hybridization of a Magnetic Relay and an SSR Achieves 10-A Switching for 10 Million Operations.

- UL/CSA certified (-US models).
- Using a triac to open and close the circuit reduces chattering and arcing, thereby increasing the electrical durability to 10 million operations.
- Relays contacts for power ON and 10-A switching with high-capacity are provided in a compact body without the need of radiators. Plus, there is almost no effect on heat generation or ambient temperature.
- Operation indicators to easily check operation.
- Built-in temperature fuse prevents internal burning due to triac or relay malfunctions.
- Socket-type Relays the same size as the 1-pole and 2-pole LY Relays.



For the most recent information on models that have been certified for safety standards, refer to your OMRON website.



Refer to *Safety Precautions for All Solid State Relays.*

Ordering Information

List of Model

| Isolation method | Zero cross function | Operation indicator | Applicable output load (See note.) | Rated input voltage | Model |
|------------------|---------------------|---------------------|---------------------------------------|---------------------|-----------------------------------|
| Relay | No | Yes | 5 A 100 to 240 VAC | 5 VDC | G9H-205S DC5 G9H-205S-US DC5 |
| | | | | 12 VDC | G9H-205S DC12 G9H-205S-US DC12 |
| | | | | 24 VDC | G9H-205S DC24 G9H-205S-US DC24 |
| | | | | 5 VDC | G9H-210S DC5 G9H-210S-US DC5 |
| | | | | 12 VDC | G9H-210S DC12 G9H-210S-US DC12 |
| | | | | 24 VDC | G9H-210S DC24 G9H-210S-US DC24 |

Note: 1. The actual product is labeled "250 VAC."

2. For information on products that are certified for international standards, consult your OMRON sales representatives

Accessories (Order Separately)

Connecting Socket Mounting Plate

| Model | Minimum quantity packaged (units) |
|--------|-----------------------------------|
| PYP-1 | 10 |
| PYP-18 | 1 |

Note: Order the models above in increments of the minimum quantity packaged.

Specifications

■ Ratings

Input

| Rated voltage | Item | Operating voltage | Coil resistance | Must operate voltage | Must release voltage | Power consumption |
|---------------|------|-------------------|-----------------|----------------------|----------------------|-------------------|
| DC | 5 V | 4 to 6 VDC | 104 Ω | 4 VDC max. | 0.5 VDC min. | Approx. 240 mW |
| | 12 V | 9.6 to 14.4 VDC | 600 Ω | 9.6 VDC max. | 1.2 VDC min. | |
| | 24 V | 19.2 to 28.8 VDC | 2,400 Ω | 19.2 VDC max. | 2.4 VDC min. | |

Note: 1. The coil resistance is measured at a coil temperature of 23°C with a tolerance of ±10%.

2. Performance characteristic data are measured at a coil temperature of 23°C.

Output

| Model | Item | Applicable load | | | |
|----------|------|--------------------|--------------------|--------------------------|---------------------------|
| | | Rated load voltage | Load voltage range | Load current (See note.) | Inrush current resistance |
| G9H-205S | | 100 to 240 VAC | 75 to 264 VAC | 50 mA to 5 A (at 55°C) | 80 A (60 Hz, 1 cycle) |
| G9H-210S | | | | 50 mA to 10 A (at 55°C) | 170 A (60 Hz, 1 cycle) |

Note: The load current depends on the ambient temperature. For details, refer to *Load Current vs. Ambient Temperature* in Engineering Data.

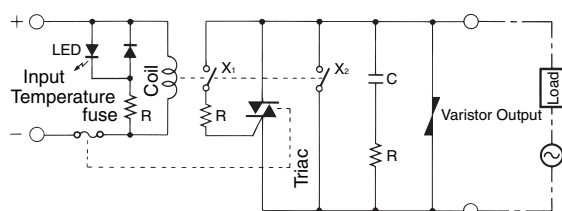
■ Characteristics

| Item | Model | G9H-205S | G9H-210S |
|-------------------------------|-------------|---|----------------------------|
| Operate time | | 10 ms max. | |
| Release time | | 1/2 cycle max. + 10 ms | |
| Output ON voltage drop | | 1.6 V max. (RMS) (at 5 A) | 1.6 V max. (RMS) (at 10 A) |
| Leakage current | | 5 mA max. at 250 VAC | |
| Inrush current resistance | | 80 A | 170 A |
| Temperature rise | | 50°C max. (rated voltage applied using resistance method) | |
| Insulation resistance | | 100 MΩ min. (at 500 VDC) | |
| Dielectric strength | | 2,000 VAC 50/60 Hz 1 min | |
| Vibration resistance | Destruction | 10 to 55 to 10 Hz, 1-mm single amplitude (2-mm double amplitude) | |
| | Malfunction | 10 to 45 to 10 Hz, 1-mm single amplitude (2-mm double amplitude) | |
| Shock resistance (See note.) | Destruction | 1,000 m/s ² | |
| | Malfunction | 100 m/s ² | |
| Life expectancy | Mechanical | 10 million operations min. (switching frequency: 18,000 operations/hour) | |
| | Electrical | 10 million operations min. (resistive load and switching frequency: 18,000 operations/hour) | |
| Storage temperature | | -25 to 70°C (with no icing or condensation) | |
| Ambient operating temperature | | -25 to 60°C (with no icing or condensation) | |
| Ambient operating humidity | | 35% to 85% | |
| Weight | | Approx. 25 g | |

Note: Value when excited.

Connection

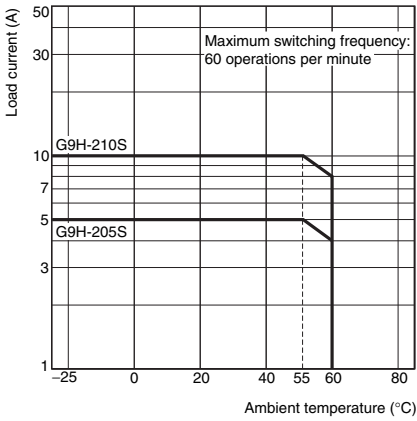
■ Layout



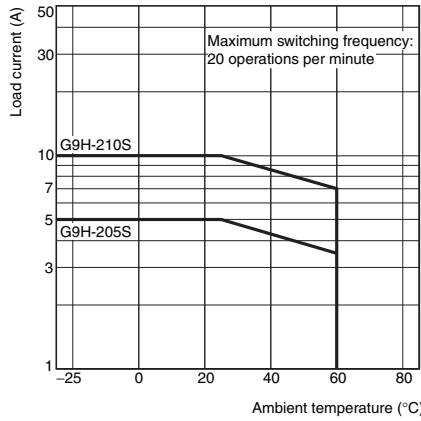
Engineering Data

Load Current vs. Ambient Temperature

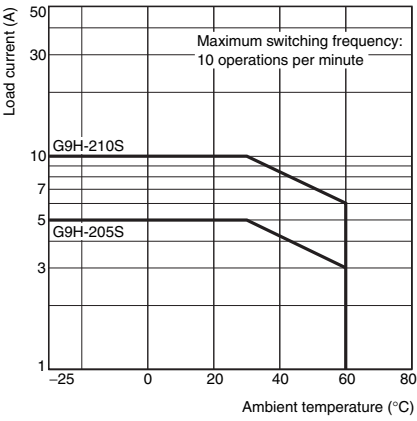
Resistive load



Lamp load (Inrush current: 6 times the rated current, Inrush current time: 2 cycles)

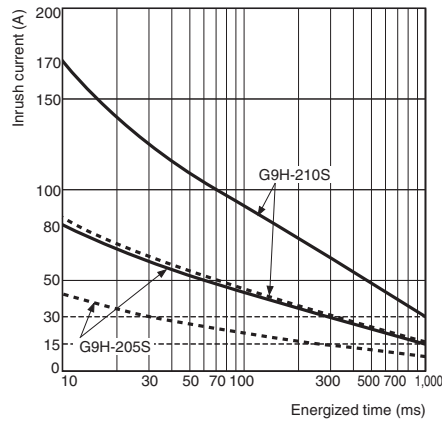


Motor load (Inrush current: 4 times the rated current, Inrush current time: 12 cycles)



Inrush Current Resistance vs. ON Time

Non-repetitive (Keep the inrush current below the dotted line if it occurs repetitively.)

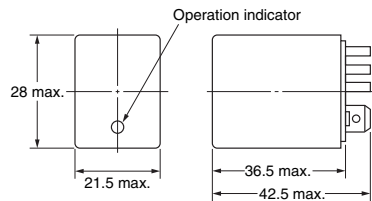


Dimensions

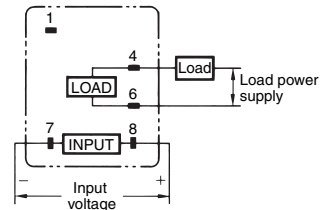
Note: All units are in millimeters unless otherwise indicated.

Hybrid Power Relays

G9H-205S
G9H-210S



Terminal Arrangement/Internal Connections (Bottom View)



■ Accessories (Order Separately)

Connecting Socket/Hold-Down Clips

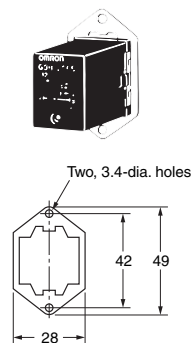
| | Front-mounting Sockets | Back-mounting Sockets | | |
|----------------|------------------------|-----------------------|--------|----------------|
| Socket | PTF08A(-E) | PT08 | PT08-0 | PT08QN |
| Hold-down Clip | PYC-A1 | PYC-P PYC-S | PYC-P | PYC-P PYC-S |

Connecting Socket Mounting Plate (t = 1.6)

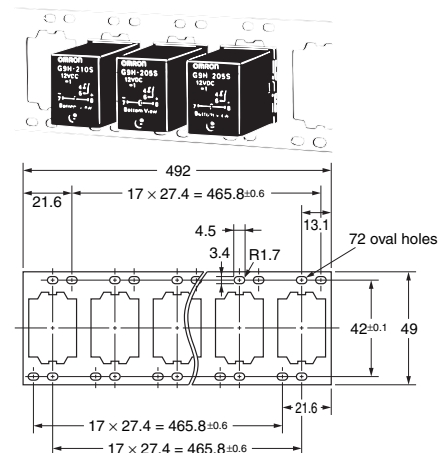
Use a Mounting Plate when two or more Connecting Sockets are mounted side by side.

Types of Mounting Plates are available: the PYP-1 (for mounting one Unit) and the PYP-18 (for mounting up to 18 Units). The Mounting Plate for 18 Units can be cut to the desired length before use.

PYP-1



PYP-18



Safety Precautions

Refer to *Safety Precautions for All Solid State Relays*.

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

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

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