



**Relay for control panel of
2c 7A and 4c 5A**

HJ RELAYS



RoHS compliant

FEATURES

- 1. Economical prices achieved**
- 2. Useful for wide range of applications**

Gold-plated contact types are capable of switching under low level (1mA: reference value) to powerful high level (7A: 2-pole) loads.

- 3. Wide range of types available**

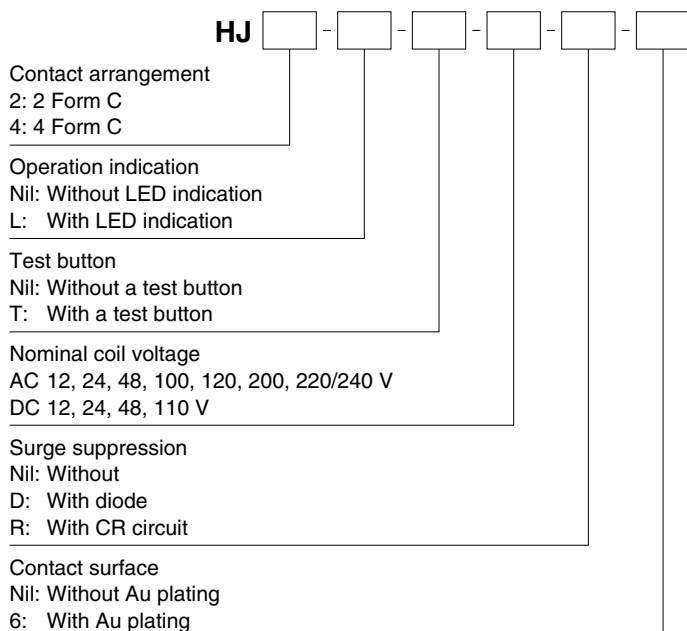
The lineup includes 2-pole and 4-pole products, relays with operating indicator lights, and push-button types. You will also find relays that absorb surge when the coil goes to the off state with diodes (for DC type) or CR circuits (for AC type). Moreover, the availability of a broad range of coil voltages meets a wide range of needs.

- 4. Sockets and terminal sockets are available.**

TYPICAL APPLICATIONS

Control panels
Power supply units
Molding machines
Machine tools
Welding equipment
Agricultural equipment
Office equipment
Vending machines
Communications equipment
Amusement machines

ORDERING INFORMATION



Notes: 1. Certified by UL/C-UL and TÜV
2. The LED indication color is green for the DC coil and red for the AC coil.

TYPES

1. Au plating type

1) Plug-in type

| Nominal coil voltage | 2 Form C | 4 Form C |
|----------------------|------------------|------------------|
| | Part No. | Part No. |
| 12V DC | HJ2-DC 12V-6 | HJ4-DC 12V-6 |
| 24V DC | HJ2-DC 24V-6 | HJ4-DC 24V-6 |
| 48V DC | HJ2-DC 48V-6 | HJ4-DC 48V-6 |
| 100/110V DC | HJ2-DC110V-6 | HJ4-DC110V-6 |
| 12V AC | HJ2-AC 12V-6 | HJ4-AC 12V-6 |
| 24V AC | HJ2-AC 24V-6 | HJ4-AC 24V-6 |
| 48V AC | HJ2-AC 48V-6 | HJ4-AC 48V-6 |
| 100/110V AC | HJ2-AC100V-6 | HJ4-AC100V-6 |
| 110/120V AC | HJ2-AC120V-6 | HJ4-AC120V-6 |
| 200/220V AC | HJ2-AC200V-6 | HJ4-AC200V-6 |
| 220/240V AC | HJ2-AC220/240V-6 | HJ4-AC220/240V-6 |

Standard packing: Carton: 20 pcs.; Case: 200 pcs.

2) Plug-in type (with LED indication)

| Nominal coil voltage | 2 Form C | 4 Form C |
|----------------------|--------------------|--------------------|
| | Part No. | Part No. |
| 12V DC | HJ2-L-DC 12V-6 | HJ4-L-DC 12V-6 |
| 24V DC | HJ2-L-DC 24V-6 | HJ4-L-DC 24V-6 |
| 48V DC | HJ2-L-DC 48V-6 | HJ4-L-DC 48V-6 |
| 100/110V DC | HJ2-L-DC110V-6 | HJ4-L-DC110V-6 |
| 12V AC | HJ2-L-AC 12V-6 | HJ4-L-AC 12V-6 |
| 24V AC | HJ2-L-AC 24V-6 | HJ4-L-AC 24V-6 |
| 48V AC | HJ2-L-AC 48V-6 | HJ4-L-AC 48V-6 |
| 100/110V AC | HJ2-L-AC100V-6 | HJ4-L-AC100V-6 |
| 110/120V AC | HJ2-L-AC120V-6 | HJ4-L-AC120V-6 |
| 200/220V AC | HJ2-L-AC200V-6 | HJ4-L-AC200V-6 |
| 220/240V AC | HJ2-L-AC220/240V-6 | HJ4-L-AC220/240V-6 |

Standard packing: Carton: 20 pcs.; Case: 200 pcs.

3) Plug-in type (with diode)

| Nominal coil voltage | 2 Form C | 4 Form C |
|----------------------|----------------|----------------|
| | Part No. | Part No. |
| 12V DC | HJ2-DC 12V-D-6 | HJ4-DC 12V-D-6 |
| 24V DC | HJ2-DC 24V-D-6 | HJ4-DC 24V-D-6 |
| 48V DC | HJ2-DC 48V-D-6 | HJ4-DC 48V-D-6 |
| 100/110V DC | HJ2-DC110V-D-6 | HJ4-DC110V-D-6 |

Standard packing: Carton: 20 pcs.; Case: 200 pcs.

4) Plug-in type (with diode and LED indication)

| Nominal coil voltage | 2 Form C | 4 Form C |
|----------------------|------------------|------------------|
| | Part No. | Part No. |
| 12V DC | HJ2-L-DC 12V-D-6 | HJ4-L-DC 12V-D-6 |
| 24V DC | HJ2-L-DC 24V-D-6 | HJ4-L-DC 24V-D-6 |
| 48V DC | HJ2-L-DC 48V-D-6 | HJ4-L-DC 48V-D-6 |
| 100/110V DC | HJ2-L-DC110V-D-6 | HJ4-L-DC110V-D-6 |

Standard packing: Carton: 20 pcs.; Case: 200 pcs.

5) Plug-in type (with CR)

| Nominal coil voltage | 2 Form C | 4 Form C |
|----------------------|--------------------|--------------------|
| | Part No. | Part No. |
| 100/110V AC | HJ2-AC100V-R-6 | HJ4-AC100V-R-6 |
| 110/120V AC | HJ2-AC120V-R-6 | HJ4-AC120V-R-6 |
| 200/220V AC | HJ2-AC200V-R-6 | HJ4-AC200V-R-6 |
| 220/240V AC | HJ2-AC220/240V-R-6 | HJ4-AC220/240V-R-6 |

Standard packing: Carton: 20 pcs.; Case: 200 pcs.

6) Plug-in type (with CR and LED indication)

| Nominal coil voltage | 2 Form C | 4 Form C |
|----------------------|----------------------|----------------------|
| | Part No. | Part No. |
| 100/110V AC | HJ2-L-AC100V-R-6 | HJ4-L-AC100V-R-6 |
| 110/120V AC | HJ2-L-AC120V-R-6 | HJ4-L-AC120V-R-6 |
| 200/220V AC | HJ2-L-AC200V-R-6 | HJ4-L-AC200V-R-6 |
| 220/240V AC | HJ2-L-AC220/240V-R-6 | HJ4-L-AC220/240V-R-6 |

Standard packing: Carton: 20 pcs.; Case: 200 pcs.

2. Without Au plating type

1) Plug-in type

| Nominal coil voltage | 2 Form C | 4 Form C |
|----------------------|----------------|----------------|
| | Part No. | Part No. |
| 12V DC | HJ2-DC 12V | HJ4-DC 12V |
| 24V DC | HJ2-DC 24V | HJ4-DC 24V |
| 48V DC | HJ2-DC 48V | HJ4-DC 48V |
| 100/110V DC | HJ2-DC110V | HJ4-DC110V |
| 12V AC | HJ2-AC 12V | HJ4-AC 12V |
| 24V AC | HJ2-AC 24V | HJ4-AC 24V |
| 48V AC | HJ2-AC 48V | HJ4-AC 48V |
| 100/110V AC | HJ2-AC100V | HJ4-AC100V |
| 110/120V AC | HJ2-AC120V | HJ4-AC120V |
| 200/220V AC | HJ2-AC200V | HJ4-AC200V |
| 220/240V AC | HJ2-AC220/240V | HJ4-AC220/240V |

Standard packing: Carton: 20 pcs.; Case: 200 pcs.

2) Plug-in type (with LED indication)

| Nominal coil voltage | 2 Form C | 4 Form C |
|----------------------|------------------|------------------|
| | Part No. | Part No. |
| 12V DC | HJ2-L-DC 12V | HJ4-L-DC 12V |
| 24V DC | HJ2-L-DC 24V | HJ4-L-DC 24V |
| 48V DC | HJ2-L-DC 48V | HJ4-L-DC 48V |
| 100/110V DC | HJ2-L-DC110V | HJ4-L-DC110V |
| 12V AC | HJ2-L-AC 12V | HJ4-L-AC 12V |
| 24V AC | HJ2-L-AC 24V | HJ4-L-AC 24V |
| 48V AC | HJ2-L-AC 48V | HJ4-L-AC 48V |
| 100/110V AC | HJ2-L-AC100V | HJ4-L-AC100V |
| 110/120V AC | HJ2-L-AC120V | HJ4-L-AC120V |
| 200/220V AC | HJ2-L-AC200V | HJ4-L-AC200V |
| 220/240V AC | HJ2-L-AC220/240V | HJ4-L-AC220/240V |

Standard packing: Carton: 20 pcs.; Case: 200 pcs.

3) Plug-in type (with a test button)

| Nominal coil voltage | 2 Form C | 4 Form C |
|----------------------|--------------|--------------|
| | Part No. | Part No. |
| 12V DC | HJ2-T-DC 12V | HJ4-T-DC 12V |
| 24V DC | HJ2-T-DC 24V | HJ4-T-DC 24V |
| 100/110V AC | HJ2-T-AC100V | HJ4-T-AC100V |
| 200/220V AC | HJ2-T-AC200V | HJ4-T-AC200V |

Standard packing: Carton: 20 pcs.; Case: 200 pcs.

4) Plug-in type (with LED indication and a test button)

| Nominal coil voltage | 2 Form C | 4 Form C |
|----------------------|----------------|----------------|
| | Part No. | Part No. |
| 12V DC | HJ2-L-T-DC 12V | HJ4-L-T-DC 12V |
| 24V DC | HJ2-L-T-DC 24V | HJ4-L-T-DC 24V |
| 100/110V AC | HJ2-L-T-AC100V | HJ4-L-T-AC100V |
| 200/220V AC | HJ2-L-T-AC200V | HJ4-L-T-AC200V |

Standard packing: Carton: 20 pcs.; Case: 200 pcs.

5) Plug-in type (with diode)

| Nominal coil voltage | 2 Form C | 4 Form C |
|----------------------|--------------|--------------|
| | Part No. | Part No. |
| 12V DC | HJ2-DC 12V-D | HJ4-DC 12V-D |
| 24V DC | HJ2-DC 24V-D | HJ4-DC 24V-D |
| 48V DC | HJ2-DC 48V-D | HJ4-DC 48V-D |
| 100/110V DC | HJ2-DC110V-D | HJ4-DC110V-D |

Standard packing: Carton: 20 pcs.; Case: 200 pcs.

6) Plug-in type (with diode and LED indication)

| Nominal coil voltage | 2 Form C | 4 Form C |
|----------------------|----------------|----------------|
| | Part No. | Part No. |
| 12V DC | HJ2-L-DC 12V-D | HJ4-L-DC 12V-D |
| 24V DC | HJ2-L-DC 24V-D | HJ4-L-DC 24V-D |
| 48V DC | HJ2-L-DC 48V-D | HJ4-L-DC 48V-D |
| 100/110V DC | HJ2-L-DC110V-D | HJ4-L-DC110V-D |

Standard packing: Carton: 20 pcs.; Case: 200 pcs.

7) Plug-in type (with CR)

| Nominal coil voltage | 2 Form C | 4 Form C |
|----------------------|------------------|------------------|
| | Part No. | Part No. |
| 100/110V AC | HJ2-AC100V-R | HJ4-AC100V-R |
| 110/120V AC | HJ2-AC120V-R | HJ4-AC120V-R |
| 200/220V AC | HJ2-AC200V-R | HJ4-AC200V-R |
| 220/240V AC | HJ2-AC220/240V-R | HJ4-AC220/240V-R |

Standard packing: Carton: 20 pcs.; Case: 200 pcs.

8) Plug-in type (with CR and LED indication)

| Nominal coil voltage | 2 Form C | 4 Form C |
|----------------------|--------------------|--------------------|
| | Part No. | Part No. |
| 100/110V AC | HJ2-L-AC100V-R | HJ4-L-AC100V-R |
| 110/120V AC | HJ2-L-AC120V-R | HJ4-L-AC120V-R |
| 200/220V AC | HJ2-L-AC200V-R | HJ4-L-AC200V-R |
| 220/240V AC | HJ2-L-AC220/240V-R | HJ4-L-AC220/240V-R |

Standard packing: Carton: 20 pcs.; Case: 200 pcs.

RATING

1. Coil data

1) AC coils (50/60Hz)

| Nominal coil voltage | Pick-up voltage (at 20°C 68°F) | Drop-out voltage (at 20°C 68°F) | Nominal coil current [±20%] | | Nominal operating power | | Max. applied voltage (at 70°C 158°F) |
|----------------------|---|---|-----------------------------|---------------|-------------------------|------------------------|--------------------------------------|
| | | | 50Hz | 60Hz | 50Hz | 60Hz | |
| 12V AC | 80%V or less of nominal voltage (Initial) | 30%V or more of nominal voltage (Initial) | 102.9mA | 85.4mA | Approx. 1.2 to 1.5 V A | Approx. 1.0 to 1.3 V A | 110%V of nominal voltage |
| 24V AC | | | 54.5mA | 45.6mA | | | |
| 48V AC | | | 30.7mA | 25.9mA | | | |
| 100/110V AC | | | 11.8mA/13.9mA | 10.0mA/11.6mA | | | |
| 110/120V AC | | | 10.9mA/12.5mA | 9.1mA/10.3mA | | | |
| 200/220V AC | | | 6.8mA/8.1mA | 5.7mA/6.7mA | | | |
| 220/240V AC | | | 6.8mA/7.8mA | 5.6mA/6.4mA | | | |

2) DC coils

| Nominal coil voltage | Pick-up voltage (at 20°C 68°F) | Drop-out voltage (at 20°C 68°F) | Nominal coil current | Coil resistance (at 20°C 68°F) | Nominal operating power | Max. applied voltage (at 70°C 158°F) |
|----------------------|---|---|----------------------|--------------------------------|-------------------------|--------------------------------------|
| 12V DC | 80%V or less of nominal voltage (Initial) | 10%V or more of nominal voltage (Initial) | 75mA [±10%] | 160Ω | 0.9W | 110%V of nominal voltage |
| 24V DC | | | 37mA [±10%] | 650Ω | | |
| 48V DC | | | 18mA [±15%] | 2,600Ω | | |
| 100/110V DC | | | 9.1mA/10mA [±15%] | 11,000Ω | 1.1W | |

2. Specifications

| Characteristics | Item | | Specifications | |
|----------------------------|--|--|---|--|
| Contact | Arrangement | | 2 Form C | 4 Form C |
| | Contact resistance (Initial) | | Max. 50 mΩ (By voltage drop 6 V DC 1A) | |
| | Contact material | | Au plating type: Au plating Ag Without Au plating type: Ag | |
| Rating | Nominal switching capacity (resistive load) | | 7 A 250V AC, 7 A 30V DC | 5 A 250V AC, 5 A 30V DC |
| | Max. switching power (resistive load) | | 1,750 VA | 1,250 VA |
| | Max. switching voltage | | 250V AC, 125V DC | |
| | Max. switching current*4 | | 7 A | 5 A |
| | Nominal operating power | | 0.9W 1.2 VA | |
| | Min. switching capacity (Reference value)*1 | Au plating type | 1mA 1V DC | |
| | | Without Au plating type | 1mA 5V DC | |
| Electrical characteristics | Insulation resistance (Initial) | | Min. 100MΩ (at 500V DC) Measurement at same location as "Breakdown voltage" section. | |
| | Breakdown voltage (Initial) | Between open contacts | 1,000 Vrms for 1min. (Detection current: 10mA.) | |
| | | Between contact sets | 2,000 Vrms for 1min. (Detection current: 10mA.) | |
| | | Between contact and coil | 2,000 Vrms for 1min. (Detection current: 10mA.) | |
| | Temperature rise (coil) (at 70°C 158°F) | | Max. 60°C 140°F (By resistive method, nominal coil voltage) | |
| | Operate time*2 | | Max. 20ms (Nominal coil voltage applied to the coil, excluding contact bounce time.) | |
| Release time*2 | | Max. 20ms (Nominal coil voltage applied to the coil, excluding contact bounce time.) (without diode) | | |
| Mechanical characteristics | Shock resistance | Functional | Min. 100 m/s ² (Half-wave pulse of sine wave: 11 ms; detection time: 10μs.) | |
| | | Destructive | Min. 1,000 m/s ² (Half-wave pulse of sine wave: 6 ms.) | |
| | Vibration resistance | Functional | 10 to 55 Hz at double amplitude of 1.0 mm (Detection time: 10μs.) | |
| | | Destructive | 10 to 55 Hz at double amplitude of 1.0 mm | |
| Expected life | Mechanical | | Min. 2×10 ⁷ (at 180 times/min.) | |
| | Electrical (resistive load) (at 20 times/min.) | | Min. 10 ⁵ (7A 250V AC) Min. 5×10 ⁵ (5A 250V AC) Min. 10 ⁵ (7A 30V DC) | Min. 10 ⁵ (5A 250V AC) Min. 2×10 ⁵ (3A 250V AC) Min. 10 ⁵ (5A 30V DC) |
| Conditions | Conditions for operation, transport and storage*3 (Not freezing and condensing at low temperature) | | Ambient temperature: -40°C to +70°C -40°F to +158°F Humidity: 5 to 85% R.H. (Not freezing and condensing at low temperature) | |
| | Max. Operating speed | | 20 times/min. (at nominal switching capacity) | |
| Unit weight | | | Approx. 34g 1.20 oz | |

Notes: In accordance with the Electrical Appliance and Material Safety Law, you cannot exceed a voltage of 150V AC when using the 4 Form C type.

For more information, please inquire.

When using low level loads, contact instability may result depending on conditions of use (switching frequency and ambient conditions, etc.); therefore, please use the Au plating type.

*1. This value can change due to the switching frequency, environmental conditions and desired reliability level, therefore it is recommended to check this with the actual load.

*2. For the AC coil types, the operate/release time will differ depending on the phase.

*3. The upper limit of the ambient temperature is the maximum temperature that can satisfy the coil temperature rise value. Refer to Usage, transport and storage conditions in NOTES.

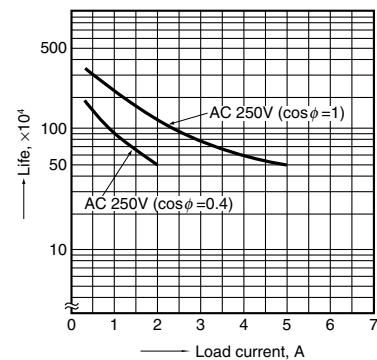
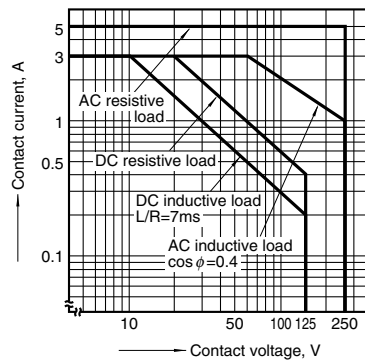
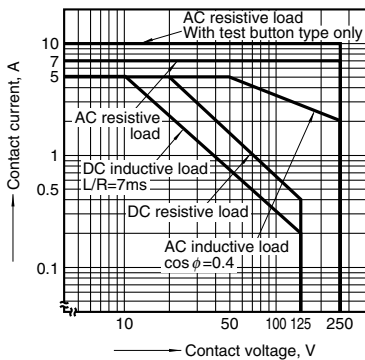
*4. When using the socket and terminal socket, be sure to verify the max. continuous current.

REFERENCE DATA

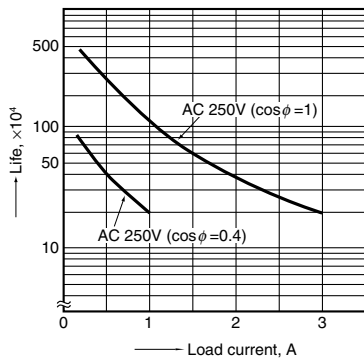
1-(1). Max. switching capacity (2 Form C type)

1-(2). Max. switching capacity (4 Form C type)

2-(1). Life curve (2 Form C)

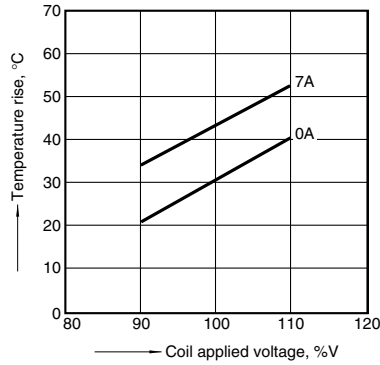


2-(2). Life curve (4 Form C)



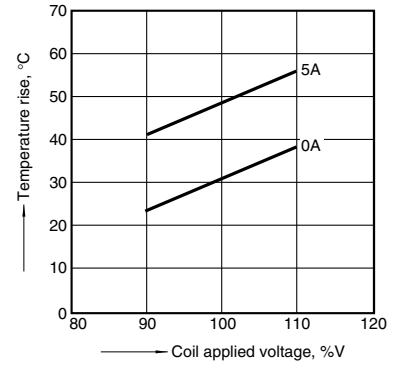
3-(1). Coil temperature rise (2 Form C/AC type)

Measured portion: Inside the coil
Ambient temperature: 70°C 158°F



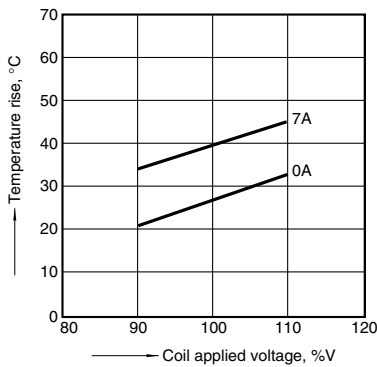
3-(2). Coil temperature rise (2 Form C/DC type)

Measured portion: Inside the coil
Ambient temperature: 70°C 158°F



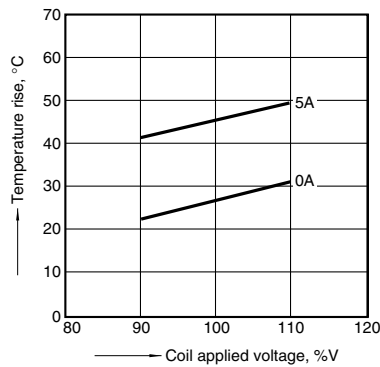
3-(3). Coil temperature rise (4 Form C/AC type)

Measured portion: Inside the coil
Ambient temperature: 70°C 158°F



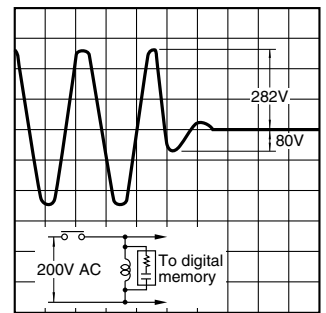
3-(4). Coil temperature rise (4 Form C/DC type)

Measured portion: Inside the coil
Ambient temperature: 70°C 158°F



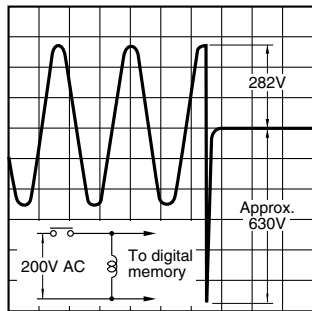
4-(1). AC coil surge voltage waveform (With CR circuit)

Tested sample: HJ4-AC200V-R

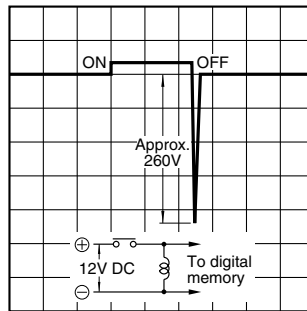


4-(2). AC coil surge voltage waveform (Without CR circuit)

Tested sample: HJ4-AC200V

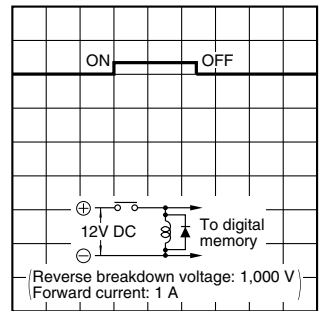


5-(1). DC coil surge voltage waveform (Without diode)



5-(2). DC coil surge voltage waveform (With diode)

Diode characteristics:
Reverse breakdown voltage: 1,000 V
Forward current: 1 A



DIMENSIONS (mm inch)

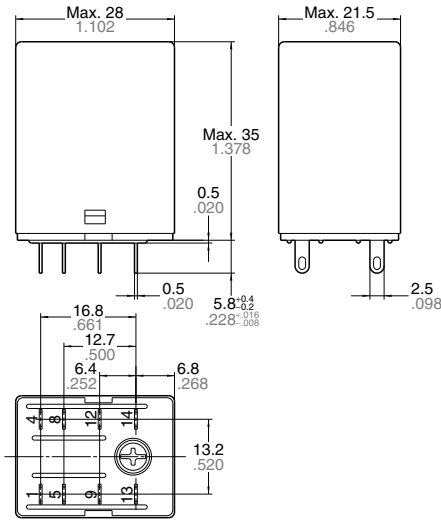
The CAD data of the products with a **CAD Data** mark can be downloaded from: <http://industrial.panasonic.com/ac/e/>

**1. Plug-in type (2 Form C)
(including diode/CR)**

CAD Data

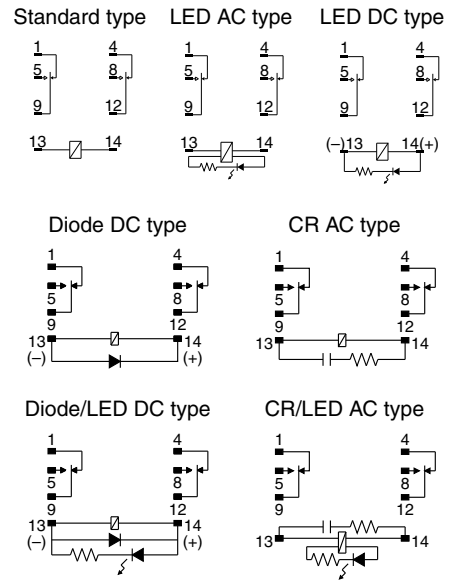


External dimensions



| | |
|--|--------------------|
| Dimension: | Tolerance |
| Less than 1mm .039inch: | $\pm 0.1 \pm 0.04$ |
| Min. 1mm .039inch less than 3mm .118 inch: | $\pm 0.2 \pm 0.08$ |
| Min. 3mm .118 inch: | $\pm 0.3 \pm 0.12$ |

Schematic (Bottom view)

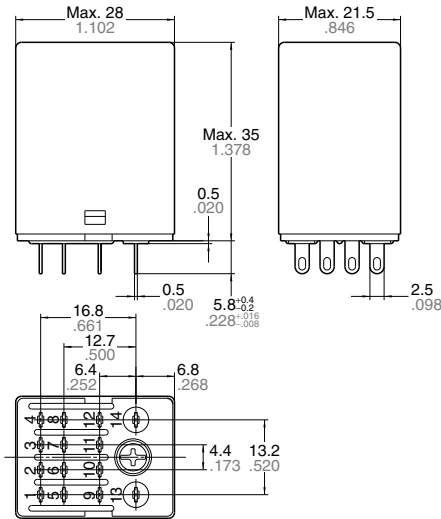


**2. Plug-in type (4 Form C)
(including diode/CR)**

CAD Data

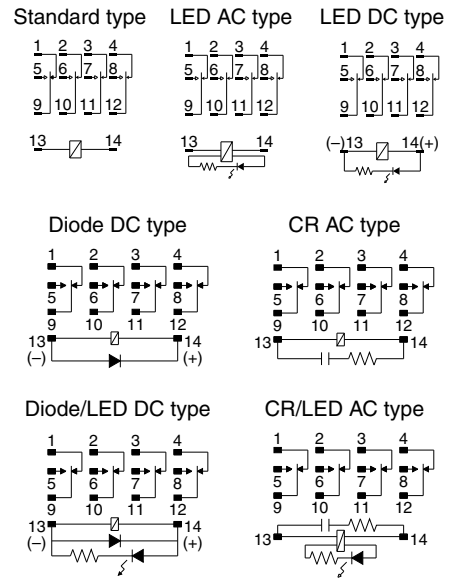


External dimensions



| | |
|--|--------------------|
| Dimension: | Tolerance |
| Less than 1mm .039inch: | $\pm 0.1 \pm 0.04$ |
| Min. 1mm .039inch less than 3mm .118 inch: | $\pm 0.2 \pm 0.08$ |
| Min. 3mm .118 inch: | $\pm 0.3 \pm 0.12$ |

Schematic (Bottom view)

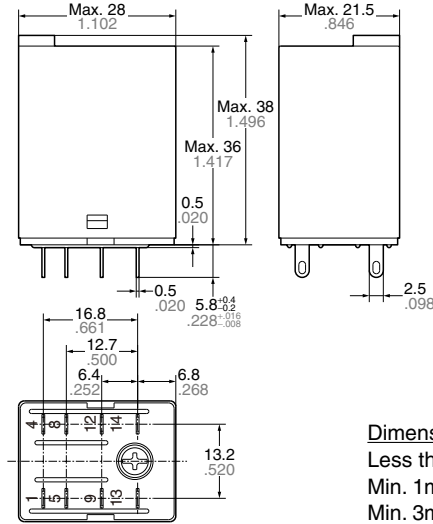


3. Plug-in type with a test button (2 Form C)

CAD Data

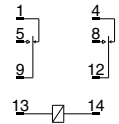


External dimensions

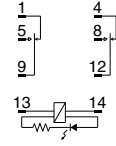


Schematic (Bottom view)

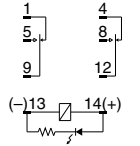
Standard type



LED AC type



LED DC type



Dimension:

Less than 1mm .039inch:

Min. 1mm .039inch less than 3mm .118 inch:

Min. 3mm .118 inch:

Tolerance

±0.1 ±.004

±0.2 ±.008

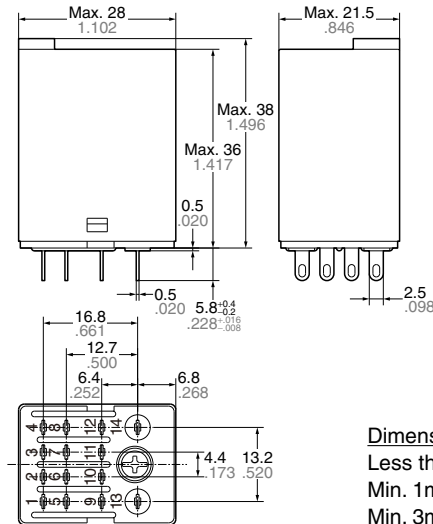
±0.3 ±.012

4. Plug-in type with a test button (4 Form C)

CAD Data

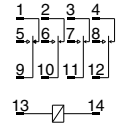


External dimensions

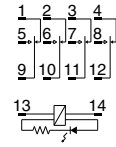


Schematic (Bottom view)

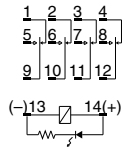
Standard type



LED AC type



LED DC type



Dimension:

Less than 1mm .039inch:

Min. 1mm .039inch less than 3mm .118 inch:

Min. 3mm .118 inch:

Tolerance

±0.1 ±.004

±0.2 ±.008

±0.3 ±.012

SAFETY STANDARDS

| | File No. | Certification authority: UL/C-UL | File No. | Certification authority: TÜV |
|----------|----------|----------------------------------|-----------|---|
| 2 Form C | E43149* | 7A 250V AC, 7A 30V DC | R50049126 | 7A 250V AC (cosφ=1.0), 7A 30V DC (0ms) Test button type: 10A 250V AC (cosφ=1.0), 10A 30V DC (0ms) |
| 4 Form C | E43149* | 5A 250V AC, 5A 30V DC | R50049126 | 5A 250V AC (cosφ=1.0), 5A 30V DC (0ms) |

* CSA standard: Certified by C-UL

NOTES

1. For cautions for use, please read "General Application Guidelines".

2. Coil applied voltage

Please refer to "RATING" about coil input power supply.

3. LED display

Operation is displayed by the light emitted from the LED. The LED may remain briefly lit if voltage remains after the relay opens.

4. Switching lifetime

The switching lifetime is defined under the standard test condition specified in the JIS* C 5442 standard (temperature 15 to 35°C 59 to 95°F, humidity 25 to 75%). Check this with the real device as it is affected by coil driving circuit, load type, activation frequency, activation phase, ambient conditions and other factors.

Also, be especially careful of loads such as those listed below.

1) When used for AC load-operating and the operating phase is synchronous. Rocking and fusing can easily occur due to contact shifting.

2) High-frequency load-operating
When high-frequency opening and closing of the relay is performed with a load that causes arcs at the contacts, nitrogen and oxygen in the air is fused by the arc energy and HNO₃ is formed. This can corrode metal materials.

Three countermeasures for these are listed here.

- (1) Incorporate an arc-extinguishing circuit.
- (2) Lower the operating frequency
- (3) Lower the ambient humidity

5. Usage, transport and storage conditions

1) Temperature, humidity and pressure during usage, storage and transport

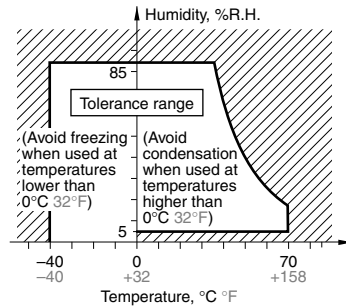
(1) Temperature:

–40 to +70°C –40 to +158°F

(2) Humidity: 5 to 85% RH
(Avoid freezing and condensation.)

The humidity range varies with the temperature. Use within the range indicated in the graph below.

Temperature and humidity range for usage, transport, and storage



(3) Atmospheric pressure: 86 to 106 kPa

2) Condensation

Condensation forms when there is a sudden change in temperature under high temperature and high humidity conditions. Condensation will cause deterioration of the relay insulation.

3) Freezing

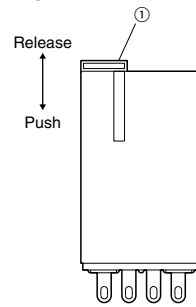
Condensation or other moisture may freeze on the relay when the temperatures is lower than 0°C 32°F. This causes problems such as sticking of movable parts or operational time lags.

4) Low temperature, low humidity environments

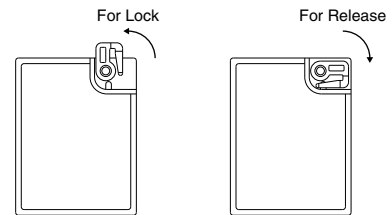
The plastic becomes brittle if the relay is exposed to a low temperature, low humidity environment for long periods of time.

6. Operation method for test button

1) Push and release ① gently to confirm relay switching.



2) To lock to one side turn 90° counter-clockwise while pushing lock and turn 90° clockwise to release.



3) Do not use the test button for anything other than testing, such as when checking the circuit.

7. Diode characteristics

- 1) Reverse breakdown voltage: 1,000 V
- 2) Forward current: 1 A

8. Diode and CR built-in type

Since the diode and CR inside the relay coil are designed to absorb the counter emf, the element may be damaged if a large surge, etc., is applied to the diode and CR. If there is the possibility of a large surge voltage from the outside, please implement measures to absorb it.

9. Please connect DC coil types with LED and built-in diode correctly by verifying the coil polarity ("+" and "-"). Connecting with reverse polarity will cause the LED not to light and damage the built-in diode due to its specification.

ACCESSORIES

HJ RELAYS

(Sockets and DIN rail terminal sockets)

TYPES

1. Sockets (HC sockets)

| Type | No. of poles | Product name | Part No. | Standard packing | |
|-----------------|-------------------|------------------------------------|---------------|------------------|----------|
| | | | | Carton | Case |
| Plug-in socket | 2-pole | HC2-socket (for HJ relay) | HC2-SS-K-H105 | 10 pcs. | 100 pcs. |
| | 2/4-pole (common) | HC4-socket (for HJ relay) | HC4-SS-K-H105 | | |
| PC board socket | 2-pole | HC2-PC board socket (for HJ relay) | HC2-PS-K-H105 | | |
| | 2/4-pole (common) | HC4-PC board socket (for HJ relay) | HC4-PS-K-H105 | | |

- Notes: 1. Use the hold-down clip that is shipped with the terminal socket or socket.
 2. DIN rail terminal sockets conform to UL/C-UL and TÜV, as standard. Sockets conform to UL and CSA, as standard.
 3. In order to prevent breakage and disfiguring, the screw tightening torque for the terminal socket should be within the range of 0.49 to 0.69 N·m (5 to 7 kgf·cm).
 4. When attaching directly to a chassis, please use an M4 × 10 metric coarse screw thread, a spring washer, and a hexagonal nut.
 5. For S1DX/S1DXM timer, use the leaf holding clip (Part No. ADX18012).

2. Terminal sockets (HJ terminal sockets)

| Type | No. of poles | Product name | Part No. | Standard packing | | Applicable HJ relay (Plug-in type) | |
|--------------|-------------------|---|-----------|------------------|----------|------------------------------------|----------|
| | | | | Carton | Case | 2 Form C | 4 Form C |
| For DIN rail | 2-pole | HJ2 terminal socket | HJ2-SFD | 10 pcs. | 100 pcs. | ● | |
| | | HJ2 terminal socket (Finger protect type) | HJ2-SFD-S | | | ● | |
| | 2/4-pole (common) | HJ4 terminal socket | HJ4-SFD | | | ▲*1 | ● |
| | | HJ4 terminal socket (Finger protect type) | HJ4-SFD-S | | | ▲*1 | ● |

*1 When using 2/4-pole common type, please use within a range that does not exceed the max. continuous current (5A)

3. Terminal sockets (HC terminal sockets)

| Type | No. of poles | Product name | Part No. | Standard packing | | Applicable HJ relay (Plug-in type) | |
|--------------|---------------------|-----------------------------------|-----------|------------------|----------|------------------------------------|----------|
| | | | | Carton | Case | 2 Form C | 4 Form C |
| For DIN rail | 2-pole | HC2-slim type DIN terminal socket | HC2-SFD-S | 20 pcs. | 100 pcs. | ● | |
| | 2/3-pole (common) | HC3-DIN terminal socket | HC3-SFD-K | 5 pcs. | 50 pcs. | ● | |
| | 1/2/4-pole (common) | HC vertical terminal socket | HC4-TSF-K | | | ● | ● |

Note: 1. For rating of HC terminal sockets, please refer to page 52.

RATING

Specifications (Sockets and terminal sockets)

| Item | Performance | | | | | | | |
|---|--|---|---------------------|---|------------------------------------|----------------------------|---------------------|---|
| | For HC2/HJ Plug in terminal socket | For HC2/HJ PC board socket | HJ2 terminal socket | HJ2 terminal socket (Finger protect type) | For HC4/HJ Plug in terminal socket | For HC4/HJ PC board socket | HJ4 terminal socket | HJ4 terminal socket (Finger protect type) |
| Contact arrangement | 2 Form C (2-pole) | | | | 4 Form C (2/4-pole common) | | | |
| Max. continuous current (Ambient temperature: -40/-50 to +70°C -40/-58 to +158°F) | 7A | 7A | 7A | 7A | 5A | 5A | 5A | 5A |
| Breakdown voltage (Initial) | Between open contacts | 2,000 Vrms for 1 min. (Detection current: 10mA) | | | | | | |
| | Between contact sets | | | | | | | |
| | Between contact and coil | | | | | | | |
| Initial insulation resistance | 100 MΩ between each terminal (500V DC) | | | | | | | |

Note: When using 2-pole of HJ relay (7A rating) on a 4 Form C socket and terminal socket that is 2/4-pole common, please use within a range that does not exceed the max. continuous current (5A).

HJ RELAY ACCESSORIES

DIMENSIONS (mm inch)

The CAD data of the products with a **CAD Data** mark can be downloaded from: <http://industrial.panasonic.com/ac/e/>

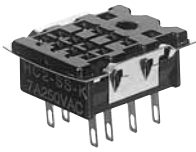
1. Plug-in socket

HC2 - Socket for HJ relay (HC2-SS-K-H105)

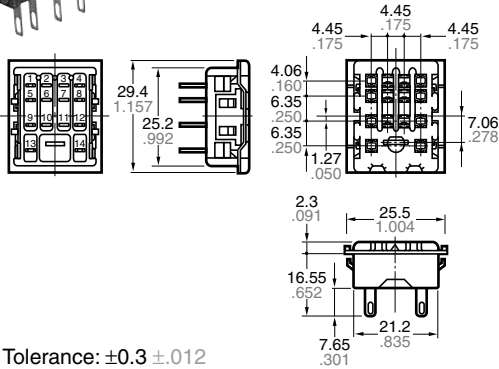
HC4 - Socket for HJ relay (HC4-SS-K-H105)

CAD Data

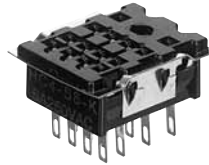
CAD Data



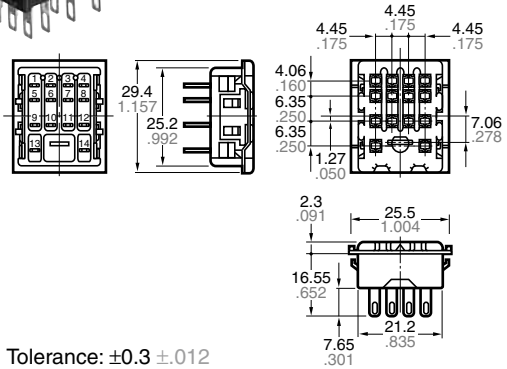
External dimensions



Tolerance: $\pm 0.3 \pm 0.12$

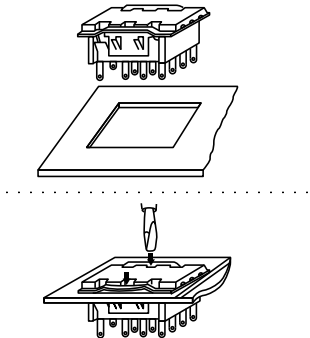


External dimensions

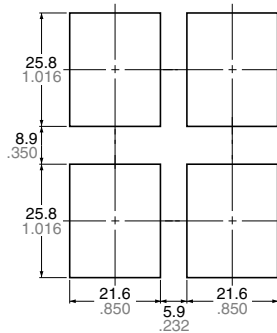


Tolerance: $\pm 0.3 \pm 0.12$

Mounting hole diagram



Chassis cutout (Side-by-side installation)



Tolerance: $\pm 0.2 \pm 0.08$

- Notes: 1. Applicable chassis board thickness is 1.0 to 2.0 mm.
2. Installation is easy by inserting the socket from the top into the holes and by depressing the two down arrows on the retention fitting from the front.

With a relay mounted (HC2-SS-K-H105)



Hold-down clip is packaged with the socket. (Same product as plug-in socket (Part No.: HC2-SS-K) for HC relay except that hold-down clip shape is different.)

2. PC board socket

HC2 - PC board socket for HJ relay (HC2-PS-K-H105)

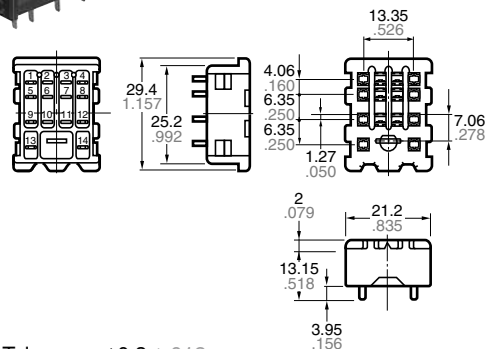
HC4 - PC board socket for HJ relay (HC4-PS-K-H105)

CAD Data

CAD Data



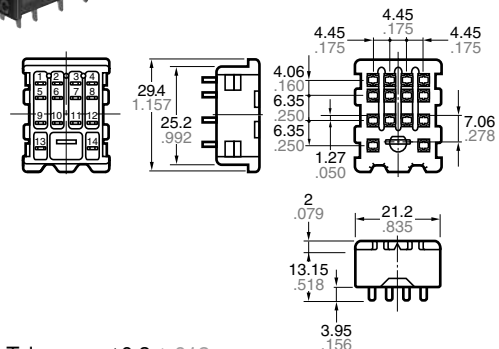
External dimensions



Tolerance: $\pm 0.3 \pm 0.12$

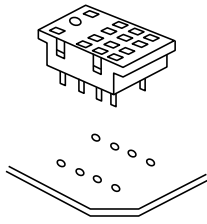


External dimensions

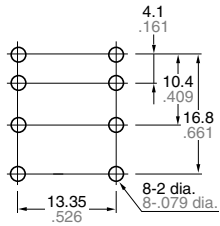


Tolerance: $\pm 0.3 \pm 0.12$

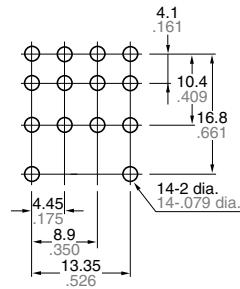
PC board pattern (BOTTOM VIEW)



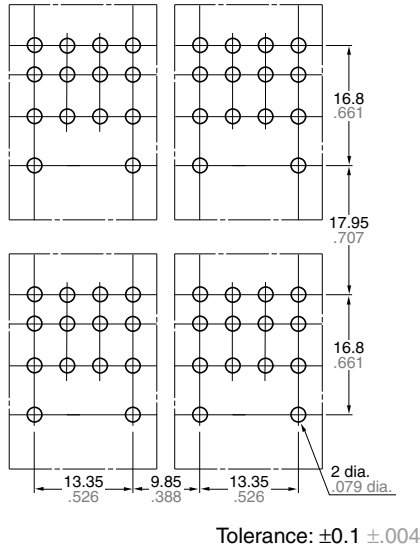
2 Form C



4 Form C



Chassis cutout (Side-by-side installation)



With a relay mounted (HC2-PS-K-H105)



Hold-down clip is packaged with the socket. (Same product as PC board socket (Part No.: HC2-PS-K) for HC relay except that hold-down clip shape is different.)

3. Terminal socket

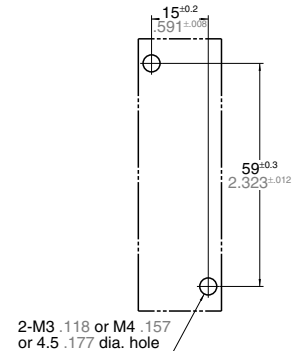
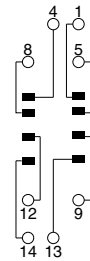
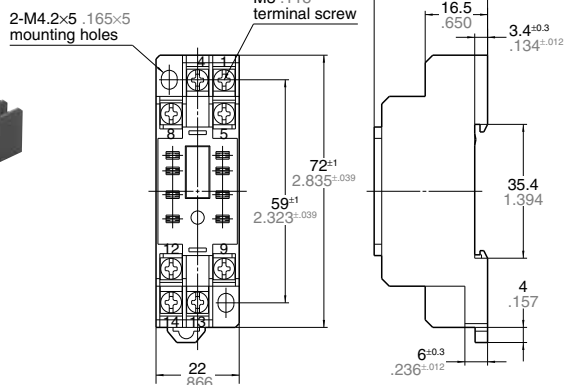
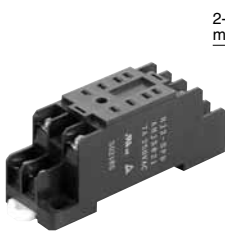
HJ2 terminal socket (HJ2-SFD)

CAD Data

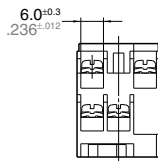
External dimensions

Schematic (Bottom view)

Mounting hole dimensions



Note: Hold-down clip is packaged with the terminal socket.



General tolerance: $\pm 0.5 \pm .020$

HJ RELAY ACCESSORIES

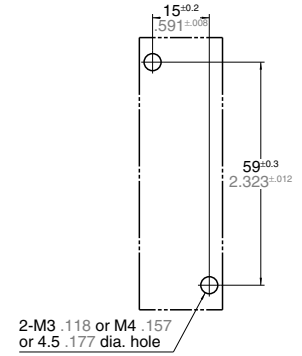
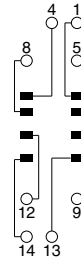
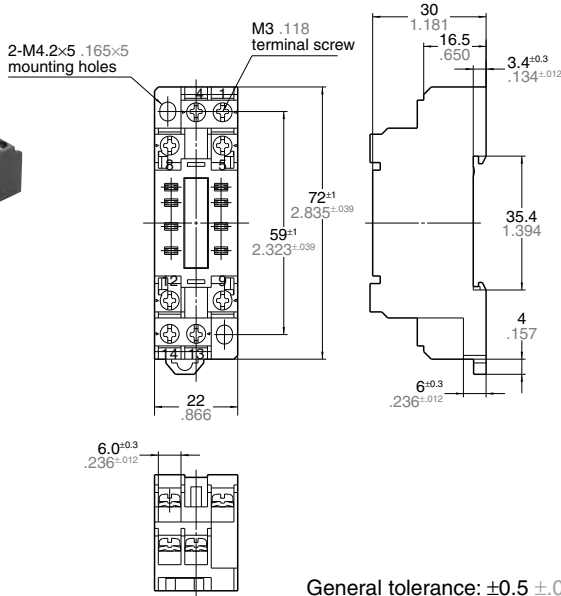
HJ2 terminal socket (Finger protect type) (HJ2-SFD-S)

CAD Data

External dimensions

Schematic (Bottom view)

Mounting hole dimensions



Notes: 1. Hold-down clip is packaged with the terminal socket.
2. Round type terminal is unable to attach.

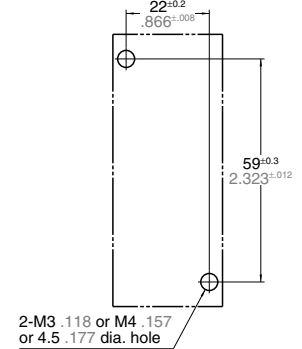
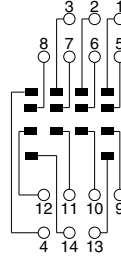
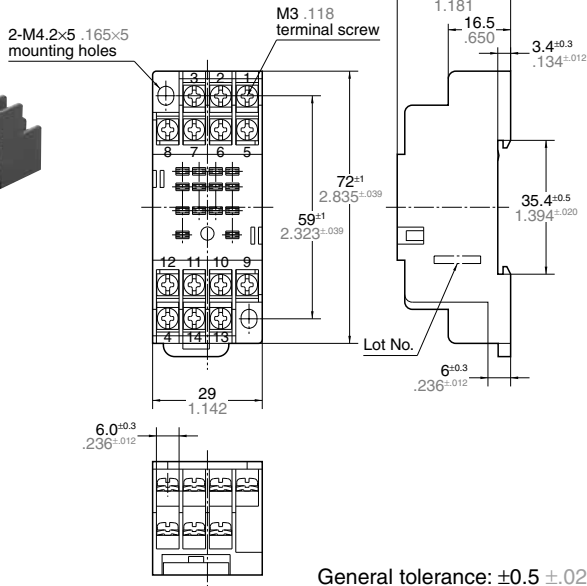
HJ4 terminal socket (HJ4-SFD)

CAD Data

External dimensions

Schematic (Bottom view)

Mounting hole dimensions



Note: Hold-down clip is packaged with the terminal socket.

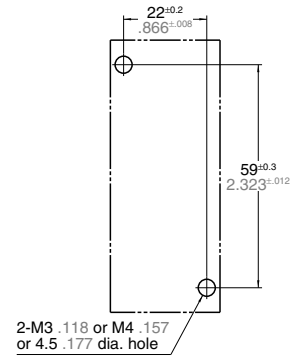
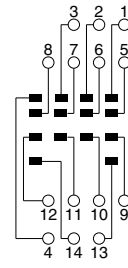
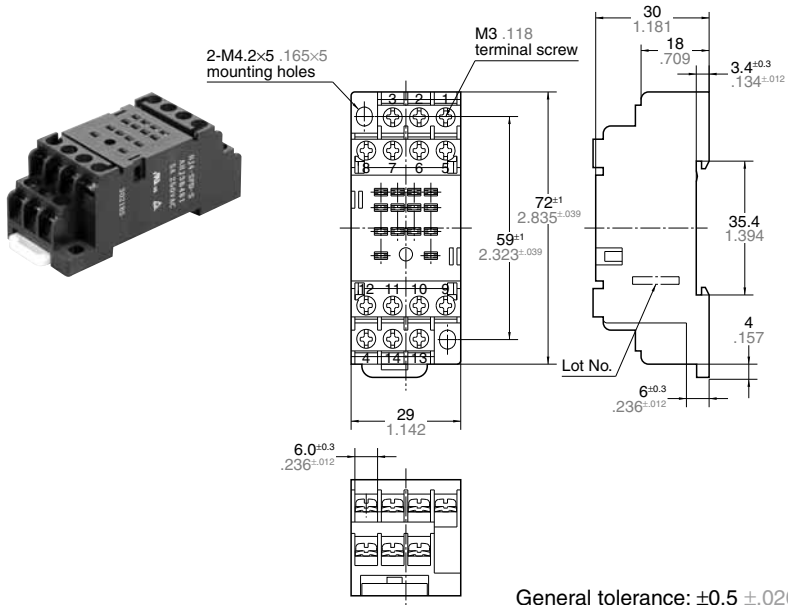
HJ4 terminal socket (Finger protect type) (HJ4-SFD-S)

CAD Data

External dimensions

Schematic (Bottom view)

Mounting hole dimensions



- Notes: 1. Hold-down clip is packaged with the terminal socket.
2. Round type terminal is unable to attach.