**9**2 **(€** LR △

# **Miniature Power Relays**

# MY/MYK/MYQ-MYH

# Best-selling, general-purpose relays that can be selected based on operating environment and application

- Wiring work can be shortened by as much as 60%\*
  compared to conventional screw terminal sockets by
  combining with push-in plus terminal sockets
  (PYF-□-PU) that feature light insertion force and strong
  pull-out strength to achieve less wiring work.
- In addition to our standard type (MY), an abundant lineup of models including latching relays that retain contact operation status (MYK) and sealed relays suitable for environments where dust and corrosive gases are present (MYQ/MYH) are also available.
- Selection is possible to suit the application, such as models with operation indicators and models with latching levers (MY plug-in terminals).
- \* When both push-in plus terminals and screw terminal sockets are combined with plug-in terminal types (according to actual OMRON measurements as of November 2015)

Refer to Safety Precautions on pages 54 to 55 and Safety Precautions for All Relays.













Refer to the standards certifications and compliance section of your OMRON website for the latest information on certified models.

# **Miniature Power Relay Types**

| MY Miniature Power Relays             | From page 3  |
|---------------------------------------|--------------|
| MYK Miniature Power Latching Relays   | From page 24 |
| MYQ/MYH Miniature Power Sealed Relays | From page 29 |

### **Common Information**

| Common Option        | ns (Order Separately) | From | page 35 |
|----------------------|-----------------------|------|---------|
| <b>Common Safety</b> | Precautions           | From | page 54 |

# Miniature Power Relays: MY

|  |          |                     | Plug-in terminals |                          | PCB terminals       | Case-surface |          |
|--|----------|---------------------|-------------------|--------------------------|---------------------|--------------|----------|
|  |          |                     | 4                 | With operation indicator |                     | 4            | mounting |
|  | Number   |                     |                   |                          |                     | Ľ            |          |
| Classification                           | of poles | Contacts            |                   |                          | With latching lever |              | <b>Т</b> |
|  | 2        | Single              | MY2               | MY2N                     | MY2IN(S)            | MY2-02       | MY2F     |
| Standard models                          | _        | Bifurcated          | MY2Z              | MY2ZN                    |                     |              |          |
| (compliant with                          | 3        | Single              | MY3               | MY3N                     |                     | MY3-02       | MY3F     |
| Electrical Appliances                    |          | Single              | MY4               | MY4N                     | MY4IN(S)            | MY4-02       | MY4F     |
| and Material Safety Act)                 | 4        | Bifurcated          | MY4Z              | MY4ZN                    | MY4ZIN(S)           | MY4Z-02      | MY4ZF    |
|  |          | Crossbar bifurcated | MY4Z-CBG          | MY4ZN-CBG                |                     |              |          |
| Models with built-in                     | 2        | Single              | MY2-D             | MY2N-D2                  | MY2IN-D2(S)         |              |          |
| diode for coil surge                     | 2        | Bifurcated          | MY2Z-D            | MY2ZN-D2                 |                     |              |          |
| absorption (compliant with               | 3        | Single              | MY3-D             | MY3N-D2                  |                     |              |          |
| Electrical Appliances                    | 4        | Single              | MY4-D             | MY4N-D2                  | MY4IN-D2(S)         |              |          |
| and Material Safety Act)                 | 4        | Bifurcated          | MY4Z-D            | MY4ZN-D2                 | MY4ZIN-D2(S)        |              |          |
| Models with built-in CR                  | ,        | Single              | MY2-CR            | MY2N-CR                  |                     |              |          |
| circuit for coil surge absorption        | 2        | Bifurcated          | MY2Z-CR           | MY2ZN-CR                 |                     |              |          |
| (compliant with<br>Electrical Appliances | 4        | Single              | MY4-CR            | MY4N-CR                  | MY4IN-CR(S)         |              |          |
| and Material Safety Act)                 | 4        | Bifurcated          | MY4Z-CR           | MY4ZN-CR                 | MY4ZIN-CR(S)        |              |          |

Note: 1. The models in this table are UL/CSA certified. This is indicated with a certification mark on the products. (Except crossbar bifurcated models MY4Z-CBG

and MY4ZN-CBG)
The standard models with plug-in terminals, models with built-in diodes for coil surge absorption, and models with built-in CR circuits for coil surge absorption were used in combination with the PYF□A-E, PYF□-S and PYF-□-PU for the EC Declaration of Conformity. These products display the CE Marking.

### Miniature Power Latching Relays (MYK)

|                 |                 |          | Plug-in terminals |                          | PCB terminals |
|-----------------|-----------------|----------|-------------------|--------------------------|---------------|
| Classification  | Number of poles | Contacts |                   | With operation indicator | T             |
| Standard models | 2               | Single   | MY2K              |                          | MY2K-02       |

# Miniature Power Sealed Relays (MYQ/MYH)

|                       |                    |            | Plug-in terminals |                          | PCB terminals |
|-----------------------|--------------------|------------|-------------------|--------------------------|---------------|
| Classification        | Number<br>of poles | Contacts   |                   | With operation indicator | F             |
| Disatio Cooled Delays |                    | Single     | MYQ4              | MYQ4N                    | MYQ4-02       |
| Plastic Sealed Relays | 4                  | Bifurcated | MYQ4Z             |                          | MYQ4Z-02      |
| Hermetically Sealed   |                    | Single     | MY4H              |                          | MY4H-0        |
| Relays                | 4                  | Bifurcated | MY4ZH             |                          | MY4ZH-0       |

Refer to Front-connecting Sockets and Back-connecting Sockets in Common Options (Order Separately) on pages 35 and 37 for main unit and socket combinations.

# **Miniature Power Relays**

# Best-selling, general-purpose relays

- AC/DC coil voltage specifications can now be more easily distinguished thanks to the use of color-coded coil tape and operation indicators (LED).
- · Latching levers convenient for circuit checking and types equipped with mechanical operation indicators and operation indicators for monitoring operation status are also available.
- · Contact materials and contact structures can be selected based on contact reliability and corrosion resistance.
- \*Voltage is printed on white tape in the case of the Standard 3-pole model (MY3).

Refer to Safety Precautions on pages 54 to 55 and Safety Precautions for All Relays.



Refer to the standards certifications and compliance section of your OMRON website for the latest information on certified models.

### **Features**

### 1. More easily distinguished AC/DC coil voltage specifications

**Example: MY4** 

- Distinguished using color-coded coil tape\*
- \* Voltage is printed on white tape in the case of the Standard 3-pole model (MY3).
- · Distinguished using color-coded operation indicators (LED)



Coil tape Pink = AC voltage



Coil tape Blue = DC voltage



### **Example: MY4**



Operation indicator (LED) Red = AC voltage

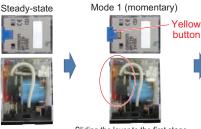


Operation indicator (LED) Green = DC voltage



# 2. Latching levers convenient for circuit checking and types equipped with mechanical operation indicators and operation indicators for monitoring operation status are available.

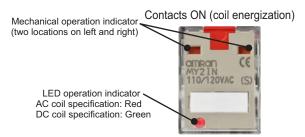
· Latching lever operating procedure



Sliding the lever to the first stage and pressing the yellow button using an insulated flat-blade screwdriver, etc., will operate the contacts



· Mechanical operation indicator/LED operation indicator



AC coil specification (LED: Red)

### 3. Contact materials and contact structures can be selected based on contact reliability and corrosion resistance.

| Contact reliat | pility                       | Corrosion re  | sistance  |               |
|----------------|------------------------------|---------------|---|---------------|
|                | Contact structure            |               | Contact material                                | Typical model |
| High 🔨         | Crossbar bifurcated contacts | High <b>↑</b> | Au cladding + AgPd                              | MY4Z-CBG      |
|                | Bifurcated contacts          |               | Au cladding + Ag alloy<br>Au plating + Ag alloy | MY4Z<br>MY2Z  |
|                | Single contacts              |               | Au cladding + Ag alloy                          | MY4           |
| Low            | Single contacts              | Low           | Ag alloy  | MY2           |

### **Model Number Structure**

### **Model Number Legend**

### ●Plug-in Terminals

### Standard models

M Y (Example: MY4ZIN(S))

### (1) Number of poles

2: 2-pole 3: 3-pole

4: 4-pole

### (2) Contacts

None: Single Z: Bifurcated

Z-CBG: Crossbar bifurcated

### (3) Options

None: None

N: With operation indicator

IN(S): With operation indicator/latching lever

### Models with built-in diode for coil surge absorption



### (1) Number of poles/contacts (2) Op

2: 2-pole, single contacts 2Z: 2-pole, bifurcated contacts

3: 3-pole, single contacts4: 4-pole, single contacts

4Z: 4-pole, bifurcated contacts

### (2) Options

-D: Models with built-in diode for coil surge absorption

N-D2: Built-in diode for coil surge absorption, with operation indicator

IN-D2(S): Built-in diode for coil surge absorption, with operation indicator/latching lever

### Models with built-in CR circuit for coil surge absorption

| M | Y |     |     | (Example: MY4ZIN-CR(S)) |
|---|---|-----|-----|-------------------------|
|   |   | (1) | (2) |                         |

### (1) Number of poles/contacts

2: 2-pole, single contacts2Z: 2-pole, bifurcated contacts

4: 4-pole, single contacts

4Z: 4-pole, bifurcated contacts

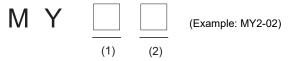
(2) Options
-CR: Models with but

-CR: Models with built-in CR circuit for coil surge absorption
N-CR: Built-in CR circuit for coil surge absorption, with operation indicator

IN-CR(S): Built-in CR circuit for coil surge absorption, with operation indicator/latching lever\*

\*4-pole: Single/bifurcated contacts only

### ●PCB terminals/case surface mounted



### (1) Number of poles/contacts (2) Terminals

2: 2-pole, single contacts

3: 3-pole, single contacts

4: 4-pole, single contacts4Z: 4-pole, bifurcated contacts

-02: PCB terminals

F: Case-surface mounting

# Ordering Information When your order, specify the rated voltage.

## ●Plug-in Terminals

### Without operation indicator

| Classification                  | Number of poles | Contacts   | Model                        | Rated voltage                                  |
|---------------------------------|-----------------|------------|------------------------------|--|
|                                 |                 | Single     | MY2                          | 12, 24, 100/110, 110/120, 200/220, 220/240 VAC |
|                                 | 2               | Siligle    | IVI T Z                      | 12, 24, 48, 100/110 VDC                        |
|                                 | _               | Bifurcated | MY2Z                         | 12, 24, 100/110, 110/120, 200/220, 220/240 VAC |
|                                 |                 | Bilurcated | IVI T ZZ                     | 12, 24, 48, 100/110 VDC                        |
| Standard models                 | 3               | Cinala     | MY3                          | 12, 24, 100/110, 110/120, 200/220, 220/240 VAC |
| (compliant with                 | 3               | Single     | IVITS                        | 12, 24, 48, 100/110 VDC                        |
| Electrical Appliances           |                 | O'm mi     | MY4                          | 12, 24, 100/110, 110/120, 200/220, 220/240 VAC |
| and Material Safety Act)        |                 | Single     | IVI Y 4                      | 12, 24, 48, 100/110 VDC                        |
|                                 | 4               | Bifurcated | MY4Z                         | 100/110, 110/120, 200/220, 220/240 VAC         |
|                                 |                 |            |                              | 12, 24, 48, 100/110 VDC                        |
|                                 |                 | Crossbar   | Crossbar bifurcated MY4Z-CBG | 100/110, 110/120, 200/220 VAC                  |
|                                 |                 | bifurcated |                              | 12, 24, 48, 100/110 VDC                        |
|                                 | _               | Single     | MY2-D                        | 12, 24, 48, 100/110 VDC                        |
| Models with built-in            | 2               | Bifurcated | MY2Z-D                       | 12, 24, 100/110 VDC                            |
| diode for coil surge absorption | 3               | Single     | MY3-D                        | 12, 24, 100/110 VDC                            |
| (DC coil specification only)    |                 | Single     | MY4-D                        | 12, 24, 48, 100/110 VDC                        |
|                                 | 4               | Bifurcated | MY4Z-D                       | 12, 24, 48, 100/110 VDC                        |
| Models with built-in CR         |                 | Single     | MY2-CR                       | 100/110, 110/120, 200/220, 220/240 VAC         |
| circuit for coil surge          | 2               | Bifurcated | MY2Z-CR                      | 100/110, 200/220 VAC,                          |
| absorption                      |                 | Single     | MY4-CR                       | 100/110, 110/120, 200/220, 220/240 VAC         |
| (AC coil specification only)    | 4               | Bifurcated | MY4Z-CR                      | 100/110, 110/120, 200/220, 220/240 VAC         |

### With operation indicator

| Classification                  | Number of poles | Contacts           | Model                | Rated voltage                                  |
|---------------------------------|-----------------|--------------------|----------------------|--|
|                                 |                 | Single             | MY2N                 | 12, 24, 100/110, 110/120, 200/220, 220/240 VAC |
|                                 | 2               | Single             | IVI Y ZIN            | 12, 24, 48, 100/110 VDC                        |
|                                 |                 | Bifurcated         | MY2ZN                | 12, 24, 100/110, 110/120, 200/220, 220/240 VAC |
|                                 |                 | Biluicateu         | IVI I ZZIN           | 12, 24, 48, 100/110 VDC                        |
| Standard models                 | 3               | Cinalo             | MY3N                 | 12, 24, 100/110, 110/120, 200/220, 220/240 VAC |
| (compliant with                 | 3               | Single             | IVITOIN              | 12, 24, 48, 100/110 VDC                        |
| Electrical Appliances           |                 | Cinala             | MY4N                 | 12, 24, 100/110, 110/120, 200/220, 220/240 VAC |
| and Material Safety Act)        |                 | Single             | IVI T 4IN            | 12, 24, 48, 100/110 VDC                        |
|                                 |                 | Bifurcated         | MY4ZN                | 24, 100/110, 110/120, 200/220, 220/240 VAC     |
|                                 | 4               |                    |                      | 12, 24, 48, 100/110 VDC                        |
|                                 |                 | Crossbar MY4ZN-CBG | 100/110, 200/220 VAC |  |
|                                 |                 |                    | WIT4ZN-CBG           | 24 VDC   |
|                                 | •               | Single             | MY2N-D2              | 12, 24, 48, 100/110 VDC                        |
| Models with built-in            | 2               | Bifurcated         | MY2ZN-D2             | 12, 24, 100/110 VDC                            |
| diode for coil surge absorption | 3               | Single             | MY3N-D2              | 12, 24, 100/110 VDC                            |
| (DC coil specification only)    |                 | Single             | MY4N-D2              | 12, 24, 48, 100/110 VDC                        |
| , ,                             | 4               | Bifurcated         | MY4ZN-D2             | 12, 24, 48, 100/110 VDC                        |
| Models with built-in CR         | 2               | Single             | MY2N-CR              | 100/110, 110/120, 200/220, 220/240 VAC         |
| circuit for coil surge          | 2               | Bifurcated         | MY2ZN-CR             | 100/110, 200/220 VAC                           |
| absorption                      | 4               | Single             | MY4N-CR              | 100/110, 110/120, 200/220, 220/240 VAC         |
| (AC coil specification only)    | 4               | Bifurcated         | MY4ZN-CR             | 100/110, 110/120, 200/220, 220/240 VAC         |

# With operation indicator/latching lever

| Classification   | Number of poles | Contacts   | Model        | Rated voltage        |
|--|-----------------|------------|--------------|----------------------|
|  | 2               | Single     | MY2IN(S)     | 100/110, 200/220 VAC |
| Standard models  |                 | Siligle    | WITZIN(3)    | 12, 24, 48 VDC       |
| (compliant with  |                 | Single     | MY4IN(S)     | 100/110, 200/220 VAC |
| Electrical Appliances  | 4               | Siligle    | W 14 (S)     | 12, 24, 48 VDC       |
| and Material Safety Act)   | 4               | Bifurcated | MY4ZIN(S)    | 100/110, 200/220 VAC |
|  |                 |            |              | 12, 24, 48 VDC       |
| Models with built-in   | 2               | Single     | MY2IN-D2(S)  | 12, 24, 48 VDC       |
| diode for coil surge absorption  | _               | Single     | MY4IN-D2(S)  | 12, 24, 48 VDC       |
| (DC coil specification only)   | 4               | Bifurcated | MY4ZIN-D2(S) | 12, 24, 48 VDC       |
| Models with built-in CR circuit for coil surge absorption (AC coil specification only) | 4               | Single     | MY4IN-CR(S)  | 100/110, 200/220 VAC |
|  | 4               | Bifurcated | MY4ZIN-CR(S) | 100/110, 200/220 VAC |

### ●PCB terminals

| Classification           | Number of poles |                  | Model                         | Rated voltage                                  |
|--------------------------|-----------------|------------------|-------------------------------|--|
|                          | 2               | Single           | MY2-02                        | 12, 24, 100/110, 110/120, 200/220, 220/240 VAC |
|                          |                 | Single<br>Single | IVI 1 2-02                    | 12, 24, 48, 100/110 VDC                        |
| Standard models          | 3               |                  | MY3-02                        | 12, 24, 100/110, 110/120, 200/220, 220/240 VAC |
| (compliant with          | 3               |                  |                               | 12, 24, 48, 100/110 VDC                        |
| Electrical Appliances    |                 | Single           | MY4-02                        | 12, 24, 100/110, 110/120, 200/220, 220/240 VAC |
| and Material Safety Act) |                 | Single           |                               | 12, 24, 48, 100/110 VDC                        |
| 4                        |                 | MY4Z-02          | 100/110, 110/120, 200/220 VAC |  |
|                          |                 | Bifurcated       | IVI T 42-U2                   | 12, 24, 48, 100/110 VDC                        |

# ● Case-surface mounting

| Classification                                    | Number of poles |            | Model     | Rated voltage                              |
|---|-----------------|------------|-----------|--|
|   | 2               | Single     | MY2F      | 24, 100/110, 110/120, 200/220, 220/240 VAC |
|   |                 | Siligle    | IVI Y Z F | 12, 24, 48, 100/110 VDC                    |
| Standard models                                   | 3               | Single     | MY3F      | 100/110, 200/220 VAC                       |
| (compliant with                                   | 3               |            |           | 24, 100/110 VDC                            |
| Electrical Appliances<br>and Material Safety Act) |                 | Single     | MY4F      | 24, 100/110, 110/120, 200/220 VAC          |
|   | 4               |            |           | 12, 24, 48, 100/110 VDC                    |
|   |                 | Bifurcated | MY4ZF     | 200/220 VAC                                |
|   |                 |            |           | 12, 24 VDC                                 |

# **Ratings and Specifications**

## **Ratings Operating Coils**

| Terminal Type     | Classification                  | Number of poles | Contacts   | Without operation indicator | With operation indicator |
|-------------------|---------------------------------|-----------------|------------|-----------------------------|--------------------------|
|                   |                                 | 2               | Single     | MY2                         | MY2N                     |
|                   | Standard models                 | 4               | Single     | MY4                         | MY4N                     |
|                   |                                 | 4               | Bifurcated | MY4Z                        | MY4ZN                    |
|                   | Models with built-in diode for  | 2               | Single     | MY2-D                       | MY2N-D2                  |
| Plug-in terminals | coil surge absorption           | 4               | Single     | MY4-D                       | MY4N-D2                  |
|                   | (DC coil specification only)    | 4               | Bifurcated | MY4Z-D                      | MY4ZN-D2                 |
|                   | Models with built-in CR circuit | 2               | Single     | MY2-CR                      | MY2N-CR                  |
|                   | for coil surge absorption       | 4               | Single     | MY4-CR                      | MY4N-CR                  |
|                   | (AC coil specification only)    | 4               | Bifurcated | MY4Z-CR                     | MY4ZN-CR                 |

|       | Item        | Rated cur | rrent (mA) | Coil resistance | Coil induc   | ctance (H)  | Must                   | Must                   | Maximum       | Power                  |
|-------|-------------|-----------|------------|-----------------|--------------|-------------|------------------------|------------------------|---------------|------------------------|
| Rated | voltage (V) | 50 Hz     | 60 Hz      | (Ω)             | Armature OFF | Armature ON | operate<br>voltage (V) | release<br>voltage (V) | voltage (V)   | consumption<br>(VA, W) |
|       | 12          | 106.5     | 91         | 46              | 0.17         | 0.33        |                        |                        |               |                        |
|       | 24          | 53.8      | 46         | 180             | 0.69         | 1.3         |                        |                        |               |                        |
| AC    | 100/110     | 11.7/12.9 | 10/11      | 3,750           | 14.54        | 24.6        |                        | 30% min.*2             |               | Approx. 0.9<br>to 1.3  |
| AC    | 110/120     | 9.9/10.8  | 8.4/9.2    | 4,430           | 19.2         | 32.1        |                        | 30% 11111. 2           |               | (at 60 Hz)             |
|       | 200/220     | 6.2/6.8   | 5.3/5.8    | 12,950          | 54.75        | 94.07       | 80% max.*1             |                        | 110% of rated |                        |
|       | 220/240     | 4.8/5.3   | 4.2/4.6    | 18,790          | 83.5         | 136.4       | 60% max. 1             |                        | voltage       |                        |
|       | 12          | 72        | 2.7        | 165             | 0.73         | 1.37        |                        |                        | Ü             |                        |
| DC    | 24          | 36        | 5.3        | 662             | 3.2          | 5.72        |                        | 10% min.*2             |               | Ammray 0.0             |
| ЪС    | 48          | 17        | 7.6        | 2,725           | 10.6         | 21.0        |                        | 1070 IIIII. Z          | 4             | Approx. 0.9            |
|       | 100/110     | 8.7       | /9.6       | 11,440          | 45.6         | 86.2        |                        |                        |               |                        |

- Note: 1. The rated current and coil resistance are measured at a coil temperature of 23°C with tolerances of +15%/-20% for AC rated current and ±15% for DC coil resistance.
  - The AC coil resistance and inductance values are reference values only (at 60 Hz).
  - Operating characteristics were measured at a coil temperature of 23°C
  - The maximum voltage capacity was measured at an ambient temperature of 23°C.
- \*1. There is variation between products, but actual values are 80% maximum.
  - To ensure operation, apply at least 80% of the rated value (at a coil temperature of 23°C).
- There is variation between products, but actual values are 30% minimum for AC and 10% minimum for DC. To ensure release, use a value that is lower than the specified value.

| Terminal Type     | Classification   | Number of poles | Contacts   | Without operation indicator | With operation indicator |
|-------------------|--|-----------------|------------|-----------------------------|--------------------------|
|                   | Standard models  | 2               | Bifurcated | MY2Z                        | MY2ZN                    |
|                   | Models with built-in diode for coil surge absorption                                   | 2               | Bifurcated | MY2Z-D                      | MY2ZN-D2                 |
| Plug-in terminals | (DC coil specification only)   | 3               | Single     | MY3-D                       | MY3N-D2                  |
|                   | Models with built-in CR circuit for coil surge absorption (AC coil specification only) | 2               | Bifurcated | MY2Z-CR                     | MY2ZN-CR                 |

|       | Item        | Rated cur | rent (mA) | Coil resistance | Coil indu    | ctance (H)  | Must                   | Must                   | Maximum                     | Power                  |
|-------|-------------|-----------|-----------|-----------------|--------------|-------------|------------------------|------------------------|-----------------------------|------------------------|
| Rated | voltage (V) | 50 Hz     | 60 Hz     | (Ω)             | Armature OFF | Armature ON | operate<br>voltage (V) | release<br>voltage (V) | voltage (V)                 | consumption<br>(VA, W) |
|       | 12          | 106.5     | 91        | 46              | 0.17         | 0.33        |                        |                        |                             |                        |
|       | 24          | 53.8      | 46        | 180             | 0.69         | 1.3         |                        |                        |                             |                        |
| AC    | 100/110     | 11.7/12.9 | 10/11     | 3,750           | 14.54        | 24.6        |                        | 30% min.*2             |                             | Approx. 0.9<br>to 1.3  |
| AC    | 110/120     | 9.9/10.8  | 8.4/9.2   | 4,430           | 19.2         | 32.1        |                        | 30% 111111. 2          |                             | (at 60 Hz)             |
|       | 200/220     | 6.2/6.8   | 5.3/5.8   | 12,950          | 54.75        | 94.07       | 80% max.*1             |                        | 110% of<br>rated<br>voltage | ,                      |
|       | 220/240     | 4.8/5.3   | 4.2/4.6   | 18,790          | 83.5         | 136.4       | 00 % IIIax. I          |                        |                             |                        |
|       | 12          | 7         | 5         | 160             | 0.73         | 1.37        |                        |                        |                             |                        |
| DC    | 24          | 36        | 5.9       | 650             | 3.2          | 5.72        |                        | 10% min.*2             |                             | Ammray 0.0             |
| ЪС    | 48          | 18        | 3.5       | 2,600           | 10.6         | 21.0        |                        | 1070 111111. 2         | III. Z                      | Approx. 0.9            |
|       | 100/110     | 9.1       | /10       | 11,000          | 45.6         | 86.2        |                        |                        |                             |                        |

- Note: 1. The rated current and coil resistance are measured at a coil temperature of 23°C with tolerances of +15%/-20% for AC rated current and ±15% for DC coil

  - The AC coil resistance and inductance values are reference values only (at 60 Hz). Operating characteristics were measured at a coil temperature of 23°C. The maximum voltage capacity was measured at an ambient temperature of 23°C.

- \*1. There is variation between products, but actual values are 80% maximum.

  To ensure operation, apply at least 80% of the rated value.

  \*2. There is variation between products, but actual values are 30% minimum for AC and 10% minimum for DC. To ensure release, use a value that is lower than the

| Terminal Type     | Classification   | Number of poles | Contacts   | With latching lever |
|-------------------|--|-----------------|------------|---------------------|
|                   |  | 2               | Single     | MY2IN(S)            |
|                   | Standard models  | 4               | Single     | MY4IN(S)            |
|                   |  | -               | Bifurcated | MY4ZIN(S)           |
|                   | Models with built-in diode for                         | 2               | Single     | MY2IN-D2(S)         |
| Plug-in terminals | coil surge absorption                                  | 4               | Single     | MY4IN-D2(S)         |
|                   | (DC coil specification only)                           | 4               | Bifurcated | MY4ZIN-D2(S)        |
|                   | Models with built-in CR circuit                        | 2               | Single     | MY4IN-CR(S)         |
|                   | for coil surge absorption (AC coil specification only) | 4               | Bifurcated | MY4ZIN-CR(S)        |

|       | Item        | Rated cur | rent (mA) | Coil resistance | Coil induc   | ctance (H)  | Must                   | Must                   | Maximum     | Power                  |
|-------|-------------|-----------|-----------|-----------------|--------------|-------------|------------------------|------------------------|-------------|------------------------|
| Rated | voltage (V) | 50 Hz     | 60 Hz     | (Ω)             | Armature OFF | Armature ON | operate<br>voltage (V) | release<br>voltage (V) | voltage (V) | consumption<br>(VA, W) |
|       | 100/110     | 11.7/12.9 | 10/11     | 3,750           | 14.54        | 24.6        |                        |                        |             | Approx. 0.9            |
| AC    | 200/220     | 6.2/6.8   | 5.3/5.8   | 12,950          | 54.75        | 94.07       |                        | 30% min.*2             | 110% of     | to 1.3<br>(at 60 Hz)   |
|       | 12          | 7         | 5         | 160             | 0.73         | 1.37        | 80% max.*1             |                        | rated       |                        |
| DC    | 24          | 37        | 7.7       | 636             | 3.2          | 5.72        |                        | 10% min.*2             | voltage     | Approx. 0.9            |
|       | 48          | 18        | 3.8       | 2,560           | 10.6         | 21          |                        |                        |             |                        |

- Note: 1. The rated current and coil resistance are measured at a coil temperature of 23°C with tolerances of +15%/-20% for AC rated current and ±15% for DC coil
  - The AC coil resistance and inductance values are reference values only (at 60 Hz).
  - Operating characteristics were measured at a coil temperature of 23°C
  - 4. The maximum voltage capacity was measured at an ambient temperature of 23°C.
- \*1. There is variation between products, but actual values are 80% maximum. To ensure operation, apply at least 80% of the rated value.
- There is variation between products, but actual values are 30% minimum for AC and 10% minimum for DC. To ensure release, use a value that is lower than the specified value.

| Terminal Type     | Classification    | Number of poles        | Contacts               | Without operation indicator | With operation indicator |
|-------------------|-------------------|------------------------|------------------------|-----------------------------|--------------------------|
|                   |                   | 3                      | Single                 | MY3                         | MY3N                     |
| Plug-in terminals | Standard models   | 4                      | Crossbar<br>bifurcated | MY4Z-CBG                    | MY4ZN-CBG                |
|                   |                   | 2                      | Single                 | MY2-02                      | _                        |
| PCB terminals     | Standard models   | 3                      | Single                 | MY3-02                      | _                        |
| PCB terminais     | Standard models   |                        | Single                 | MY4-02                      | _                        |
|                   |                   | 4                      | Bifurcated             | MY4Z-02                     | _                        |
|                   |                   | 2                      | Single                 | MY2F                        | _                        |
| Case-surface      | Cton doud woodele | 3                      | Single                 | MY3F                        | _                        |
| mounting          | Stanuaru models   | ard models Single MY4F |                        | MY4F                        | _                        |
|                   |                   | 4                      | Bifurcated             | MY4ZF                       | _                        |

|       | Item        | Rated cur | rent (mA) | Coil resistance | Coil indu    | ctance (H)  | Must                   | Must                   | Maximum          | Power                               |
|-------|-------------|-----------|-----------|-----------------|--------------|-------------|------------------------|------------------------|------------------|-------------------------------------|
| Rated | voltage (V) | 50 Hz     | 60 Hz     | (Ω)             | Armature OFF | Armature ON | operate<br>voltage (V) | release<br>voltage (V) | voltage (V)      | consumption<br>(VA, W)              |
|       | 12          | 106.5     | 91        | 46              | 0.17         | 0.33        |                        |                        |                  |                                     |
|       | 24          | 53.8      | 46        | 180             | 0.69         | 1.3         |                        |                        |                  |                                     |
| AC    | 100/110     | 11.7/12.9 | 10/11     | 3,750           | 14.54        | 24.6        |                        | 30% min.*2             |                  | Approx. 0.9<br>to 1.3<br>(at 60 Hz) |
| AC    | 110/120     | 9.9/10.8  | 8.4/9.2   | 4,430           | 19.2         | 32.1        |                        | 30% IIIII. Z           |                  |                                     |
|       | 200/220     | 6.2/6.8   | 5.3/5.8   | 12,950          | 54.75        | 94.07       | 80% max.*1             |                        | 110% of          |                                     |
|       | 220/240     | 4.8/5.3   | 4.2/4.6   | 18,790          | 83.5         | 136.4       | 00% max. 1             |                        | rated<br>voltage |                                     |
|       | 12          | 7         | 5         | 160             | 0.73         | 1.37        |                        |                        |                  |                                     |
| DC    | 24          | 36        | 5.9       | 650             | 3.2          | 5.72        |                        | 100/ min *0            |                  | A m m m a v . O . O                 |
| DC .  | 48          | 18        | 3.5       | 2,600           | 10.6         | 21.0        |                        | 10% min.*2             |                  | Approx. 0.9                         |
|       | 100/110     | 9.1       | /10       | 11,000          | 45.6         | 86.2        |                        |                        |                  |                                     |

- Note: 1. The rated current and coil resistance are measured at a coil temperature of 23°C with tolerances of +15%/-20% for AC rated current and ±15% for DC coil resistance.
  - The AC coil resistance and inductance values are reference values only (at 60 Hz).
  - Operating characteristics were measured at a coil temperature of 23°C 3.
  - The maximum voltage capacity was measured at an ambient temperature of 23°C.
- \*1. There is variation between products, but actual values are 80% maximum.
- To ensure operation, apply at least 80% of the rated value.
- There is variation between products, but actual values are 30% minimum for AC and 10% minimum for DC. To ensure release, use a value that is lower than the specified value.

# **Contact Ratings**

| Number of poles (contact configuration) |                                 |  | 2-pole                          | (DPDT)   |                                 |  | 3-pole                          | (3PDT)   |
|---|---------------------------------|--|---------------------------------|--|---------------------------------|--|---------------------------------|--|
| Contact structure                       | Sin                             | igle   | With latchi                     | ng lever (S)                                   | Bifur                           | cated  | Single                          |  |
| Load                                    | Resistive load                  | Inductive load<br>(cos φ = 0.4,<br>L/R = 7 ms) | Resistive load                  | Inductive load<br>(cos φ = 0.4,<br>L/R = 7 ms) | Resistive load                  | Inductive load<br>(cos φ = 0.4,<br>L/R = 7 ms) | Resistive load                  | Inductive load<br>(cos φ = 0.4,<br>L/R = 7 ms) |
| Rated load                              | 5 A at 220 VAC<br>5 A at 24 VDC | 2 A at 220 VAC<br>2 A at 24 VDC                | 5 A at 250 VAC<br>5 A at 30 VDC | 2 A at 250 VAC<br>2 A at 30 VDC                | 5 A at 220 VAC<br>5 A at 24 VDC | 2 A at 220 VAC<br>2 A at 24 VDC                | 5 A at 220 VAC<br>5 A at 24 VDC | 2 A at 220 VAC<br>2 A at 24 VDC                |
| Rated carry current*1                   | 5 A (10 A*2)                    |  |                                 |  | 5 A                             |  | 5 A                             |  |
| Maximum switching voltage               | 250 VAC, 125 VI                 | DC .   |                                 |  |                                 |  | 250 VAC, 125 VDC                |  |
| Maximum switching current               | 5 A                             |  | 10 A                            |  | 5 A                             |  | 5 A                             |  |
| Maximum switching power                 | 1,100 VA<br>120 W               | 440 VA<br>48 W                                 | 2,500 VA<br>300 W               | ,  |                                 | 440 VA<br>48 W                                 | 1,100 VA<br>120 W               | 440 VA<br>48 W                                 |
| Contact material                        | Ag                              |  |                                 |  | Au plating + Ag                 |  | Ag                              |  |

| Number of poles (contact configuration) |                                 | 4-pole (4PDT)                              |                                 |  |                                 |  |                                 |  |                                 |  |  |  |
|---|---------------------------------|--|---------------------------------|--|---------------------------------|--|---------------------------------|--|---------------------------------|--|--|--|
| Contact structure                       | Sir                             | ngle                                       |                                 |  | Bifur                           | Bifurcated                                     |                                 |  | Crossbar bifurcated (CBG)       |  |  |  |
|   |                                 |  | With latchi                     | ng lever (S)                                   |                                 |  | With latchi                     | ng lever (S)                                   | (0)                             | 56)  |  |  |
| Load                                    | Resistive<br>load               | load $(\cos \varphi = 0.4,$<br>L/R = 7 ms) |                                 | Inductive load<br>(cos φ = 0.4,<br>L/R = 7 ms) | Resistive<br>load               | Inductive load<br>(cos φ = 0.4,<br>L/R = 7 ms) | Resistive<br>load               | Inductive load<br>(cos φ = 0.4,<br>L/R = 7 ms) | Resistive<br>load               | Inductive load<br>(cos φ = 0.4,<br>L/R = 7 ms) |  |  |
| Rated load                              | 3 A at 220 VAC<br>3 A at 24 VDC | 0.8 A at 220 VAC<br>1.5 A at 24 VDC        | 3 A at 250 VAC<br>3 A at 30 VDC | 0.8 A at 250 VAC<br>1.5 A at 30 VDC            | 3 A at 220 VAC<br>3 A at 24 VDC | 0.8 A at 220 VAC<br>1.5 A at 24 VDC            | 3 A at 250 VAC<br>3 A at 30 VDC | 0.8 A at 250 VAC<br>1.5 A at 30 VDC            | 1 A at 220 VAC<br>1 A at 24 VDC | 0.3 A at 220 VAC<br>0.5 A at 24 VDC            |  |  |
| Rated carry current*1                   | 3 A (5 A*2)                     |  |                                 |  |                                 |  |                                 |  | 1 A                             |  |  |  |
| Maximum switching voltage               | 250 VAC, 12                     | 5 VDC                                      |                                 |  |                                 |  |                                 |  |                                 |  |  |  |
| Maximum switching current               | 3 A (5 A*2)                     |  |                                 |  |                                 |  |                                 |  | 1 A                             |  |  |  |
| Maximum switching power                 | 660 VA<br>72 W                  | 176 VA<br>36 W                             | 1,250 VA<br>150 W               | 200 VA<br>45 W                                 | 660 VA<br>72 W                  | 176 VA<br>36 W                                 | 1,250 VA<br>150 W               | 200 VA<br>45 W                                 | 220 VA<br>24 W                  | 66 VA<br>12 W                                  |  |  |
| Contact material                        | Au cladding -                   | + Ag alloy (Au լ                           | Au cladding                     | + AgPd   |                                 |  |                                 |  |                                 |  |  |  |

<sup>\*1.</sup> If you use a Socket, do not exceed the rated carry current of the Socket.

\*2. Values shown in parentheses are for the MY□(S) model with latching lever.

\*3. For MY□-02 relays with PCB terminals and MY□F case-surface-mounting relays.

### **Characteristics**

|                        | of poles  | 2-pole   | (DPDT)  | 3-pole (3PDT)  |  | 4-pole (4PDT)  |   |  |  |  |  |  |
|------------------------|---|--|---|--|--|--|---|--|--|--|--|--|
| (contact co            | nfiguration)                                    | 2-pole   | (5, 51)   | 3-pole (3FD1)  |  | 4-pole (4FD1)  |   |  |  |  |  |  |
| s                      | Contact structure                               | Single   | Bifurcated  | Single   | Single   | Bifurcated   | Crossbar bifurcated (CBG)   |  |  |  |  |  |
| Contact resistance     | ce*1 *2   | 50 mΩ max.   |   |  |  |  | 100 mΩ max.   |  |  |  |  |  |
| Operate t              | time*3  | 20 ms max.   |   |  |  |  |   |  |  |  |  |  |
| Release t              | time*3  | 20 ms max.   |   |  |  |  |   |  |  |  |  |  |
|                        | Mechanical                                      | 18,000 operations/h  |   |  |  |  |   |  |  |  |  |  |
| switching frequency    | Rated load                                      | 1,800 operations/h   |   |  |  |  |   |  |  |  |  |  |
| Insulation resistance  |   | 100 MΩ min.  |   |  |  |  |   |  |  |  |  |  |
|                        | Between coil and contacts                       |  |   |  |  |  |   |  |  |  |  |  |
| Dielectric<br>strength | Between<br>contacts of<br>different<br>polarity | 2,000 VAC, 50/60 Hz for 1 min  |   |  |  |  |   |  |  |  |  |  |
|                        | Between<br>contacts of<br>the same<br>polarity  | 1,000 VAC at 50/60 Hz  | for 1 min   |  |  |  | 700 VAC at 50/60 Hz<br>for 1 min  |  |  |  |  |  |
|                        | Destruction                                     |  | nm single amplitude (1.0  | O-mm double amplitude)   |  |  |   |  |  |  |  |  |
| resistance             | Malfunction                                     | 10 to 55 to 10 Hz, 0.5-r   | nm single amplitude (1.0  | O-mm double amplitude)   |  |  |   |  |  |  |  |  |
| OHOUR                  |   | 1,000 m/s <sup>2</sup>   |   |  |  |  |   |  |  |  |  |  |
| resistance             | Malfunction                                     | 200 m/s <sup>2</sup>   |   |  |  |  |   |  |  |  |  |  |
| Endurance              | Mechanical                                      | AC: 50,000,000<br>operations min.<br>DC: 100,000,000<br>operations min.<br>(switching frequency:<br>18,000 operations/h) | AC: 50,000,000<br>operations min.<br>DC: 50,000,000<br>operations min.<br>(switching frequency:<br>18,000 operations/h) | AC: 50,000,000<br>operations min.<br>DC: 100,000,000<br>operations min.<br>(switching frequency:<br>18,000 operations/h) | AC: 50,000,000<br>operations min.<br>DC: 100,000,000<br>operations min.<br>(switching frequency:<br>18,000 operations/h) | AC: 20,000,000 operations min. DC: 20,000,000 operations min. (switching frequency: 18,000 operations/h) | AC: 5,000,000<br>operations min.<br>DC: 5,000,000<br>operations min.<br>(switching frequency:<br>18,000 operations/h) |  |  |  |  |  |
|                        | Electrical*6                                    | 500,000 operations min.<br>(rated load, switching<br>frequency: 1,800<br>operations/h)                                   | 200,000 operations min.<br>(rated load, switching<br>frequency: 1,800<br>operations/h)                                  | 500,000 operations min.<br>(rated load, switching<br>frequency: 1,800<br>operations/h)                                   | 200,000 operations min.<br>(rated load, switching<br>frequency: 1,800<br>operations/h)                                   | 100,000 operations min.<br>(rated load, switching<br>frequency: 1,800<br>operations/h)                   | 50,000 operations min.<br>(rated load, switching<br>frequency: 1,800<br>operations/h)                                 |  |  |  |  |  |
| Failure rat            |   | 1 mA at 5 VDC  | 100 μA at 1 VDC   | 1 mA at 5 VDC  | 1 mA at 1 VDC  | 100 μA at 1 VDC  | 100 μA at 1 VDC   |  |  |  |  |  |
| Weight                 |   | Approx. 35 g   | Approx. 35 g  | Approx. 35 g   | Approx. 35 g   | Approx. 35 g   | Approx. 35 g  |  |  |  |  |  |
|                        |   |  |   |  |  |  |   |  |  |  |  |  |

- Note: The data shown above are initial values.

  \*1. Models with latching lever are 100 m $\Omega$  maximum.

  \*2. Measurement conditions: 1 A at 5 VDC using the voltage drop method.

  \*3. Measurement conditions: With rated operating power applied, not including contact bounce.

  \*4. Measurement conditions: For 500 VDC applied to the same location as for dielectric strength measurement.

  \*5. Models with latching lever are 1,000 m $\Omega$  minimum.

  \*6. Ambient temperature condition: 23°C

- This value was measured at a switching frequency of 120 operations per minute.

| Classification                  |                        |                     | Standard models     | 3                   |                          |               | in diode for coil sur<br>CR circuit for coil su |             |
|---------------------------------|------------------------|---------------------|---------------------|---------------------|--------------------------|---------------|---|-------------|
| Contacts                        |                        | Single/bifurcated   | ı                   | Crossbar/bifu       | rcated (CBG)             |               | l   |             |
|                                 |                        |                     | indicator           | Without             | With operation indicator | Without       | With operation indicator                        |             |
| Features                        | operation<br>indicator | With latching lever | operation indicator | operation indicator |                          |               | With latching lever                             |             |
| Ambient operating temperature*1 | -55 to 70°C            | -55 to 60°C*2       | -55 to 70°C         | -25 to 70°C         | -25 to 60°C              | -55 to 60°C*2 | -55 to 60°C*2                                   | -55 to 70°C |
| Ambient operating humidity      | 5% to 85%              |                     |                     |                     |                          | 5% to 85%     |   |             |

<sup>\*1.</sup> With no icing or condensation.
\*2. This limitation is due to the diode junction temperature and elements used.

# **Certified Standards**

●UL certification (File No. E41515)

| Model  | Standard number                                       | Category | Listed/<br>Recognized   | Operating Coil ratings       | No. of poles | Contact ratings   | Certified<br>number of<br>operations |
|--|---|----------|---|------------------------------|--------------|---|--------------------------------------|
| MY2<br>MY2N<br>MY2IN(S)<br>MY2-D<br>MY2N-D2<br>MY2IN-D2(S)<br>MY2-CR<br>MY2N-CR  | UL508   | NRNT2    | Recognition   | 6 to 240 VAC<br>6 to 125 VDC | 2            | 10 A, 250 VAC (General Use)<br>10 A, 30 VDC (General Use)<br>7 A, 240 VAC (General Use)<br>7 A, 24 VDC (Resistive)<br>5 A, 240 VAC (General Use)<br>5 A, 250 VAC (Resistive)<br>5 A, 30 VDC (Resistive)<br>3 A, 265 VAC (Resistive) | 6,000                                |
|  |   |          |   |                              |              | 1/6 HP, 250 VAC<br>1/8 HP, 265 VAC<br>1/10 HP, 120 VAC  | 1,000                                |
|  |   |          |   |                              |              | B300 Pilot Duty (Same polarity)   | 6,000                                |
| MY2Z<br>MY2ZN<br>MY2-02<br>MY2F<br>MY2Z-D<br>MY2ZN-D2  | ZN 6 to 125 VDC 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 |          | 7 A, 240 VAC (General Use) 7 A, 24 VDC (Resistive) 5 A, 240 VAC (General Use) 5 A, 250 VAC (Resistive) 5 A, 30 VDC (Resistive) 3 A, 265 VAC (Resistive) | 6,000                        |              |   |                                      |
| MY2Z-CR<br>MY2ZN-CR  |   |          |   |                              |              | 1/6 HP, 250 VAC<br>1/8 HP, 265 VAC<br>1/10 HP, 120 VAC  | 1,000                                |
|  |   |          |   |                              |              | B300 Pilot Duty (Same polarity)   | 6,000                                |
| MY3<br>MY3N<br>MY3-D<br>MY3N-D2<br>MY3-02  | UL508   | NRNT2    | Recognition   | 6 to 240 VAC<br>6 to 125 VDC | 3            | 5 A, 28 VDC (Resistive)<br>5 A, 240 VAC (General Use)   | 6,000                                |
| MY3F   |   |          |   |                              |              | 1/6 HP, 250 VAC   | 1,000                                |
| MY4<br>MY4N<br>MY4N(S)<br>MY4-D<br>MY4N-D2<br>MY4IN-D2(S)<br>MY4Z<br>MY4ZN<br>MY4ZIN(S)<br>MY4Z-D<br>MY4ZN-D2<br>MY4ZIN-D2(S)<br>MY4Z-CR<br>MY4ZN-CR<br>MY4ZN-CR<br>MY4ZN-CR | UL508   | NRNT2    | Recognition   | 6 to 240 VAC<br>6 to 125 VDC | 4            | 5 A, 28 VDC (General Use) (Same polarity)<br>5 A, 240 VAC (General Use) (Same polarity)<br>5 A, 30 VDC (Resistive) (Same polarity)<br>5 A, 250 VAC (Resistive) (Same polarity)<br>0.2 A, 120 VDC (Resistive) (Same polarity)        | 6,000                                |
| MY4-02<br>MY4F<br>MY4Z-02  |   |          |   |                              |              | 1/6 HP, 250 VAC (Same polarity)<br>1/10 HP, 120 VAC (Same polarity)   | 1,000                                |
| MY4ZF  |   |          |   |                              |              | B300 Pilot Duty (Same polarity)   | 6,000                                |

## ●CSA certification (File No. LR31928)

| Model   | Standard number  | Class<br>number | Operating Coil ratings       | No. of poles | Contact ratings   | Certified<br>number of<br>operations |
|---|--|-----------------|------------------------------|--------------|---|--------------------------------------|
| MY2<br>MY2N<br>MY2IN(S)<br>MY2-D<br>MY2N-D2<br>MY2N-D2(S)   |  |                 | 6 to 240 VAC<br>6 to 125 VDC | 2            | 7 A, 240 VAC (Resistive) 7 A, 24 VDC (Resistive) 5 A, 240 VAC (General Use) 5 A, 250 VAC (Resistive) 5 A, 30 VDC (Resistive)  | 6,000                                |
| MY2-CR<br>MY2N-CR   |  |                 |                              |              | 1/6 HP, 250 VAC (Same polarity)<br>1/10 HP, 120 VAC (Same polarity)   | 1,000                                |
| MY2Z<br>MY2ZN<br>MY2-02<br>MY2F<br>MY2Z-D<br>MY2ZN-D2   | Y2Z C22.2 No.0, No.14 6 to 240 VA<br>Y2ZN 6 to 125 VD<br>Y2-02<br>Y2F<br>Y2Z-D |                 | 6 to 240 VAC<br>6 to 125 VDC | 2            | 7 A, 240 VAC (General Use) (Same polarity) 7 A, 24 VDC (Resistive) (Same polarity) 5 A, 240 VAC (General Use) (Same polarity) 5 A, 30 VDC (Resistive) 5 A, 250 VAC (Resistive) (Same polarity) 0.2 A, 120 VDC (Resistive) | 6,000                                |
| MY2Z-CR<br>MY2ZN-CR   |  |                 |                              |              | 1/6 HP, 250 VAC<br>1/10 HP, 120 VAC   | 1,000                                |
| MY3<br>MY3N<br>MY3-D<br>MY3N-D2<br>MY3-02   | C22.2 No.0, No.14  |                 | 6 to 240 VAC<br>6 to 125 VDC | 3            | 5 A, 28 VDC (Resistive)<br>5 A, 240 VAC (General Use)<br>7 A, 240 VAC (General Use)<br>7 A, 24 VDC (Resistive)  | 6,000                                |
| MY3F  | <u></u>  |                 |                              |              | 1/6 HP, 250 VAC   | 1,000                                |
| MY4<br>MY4N<br>MY4N(S)<br>MY4-D<br>MY4N-D2<br>MY4IN-D2(S)<br>MY4-CR<br>MY4IN-CR(S)<br>MY4Z<br>MY4ZN<br>MY4ZIN(S)<br>MY4Z-D<br>MY4ZN-D2<br>MY4ZN-D2(S) | C22.2 No.14  | 3211 07         | 6 to 240 VAC<br>6 to 125 VDC |              | 5 A, 240 VAC (General Use) (Same polarity) 5 A, 28 VDC (General Use) (Same polarity) 5 A, 250 VAC (Resistive) (Same polarity) 5 A, 30 VDC (Resistive) (Same polarity) 0.2 A, 120 VDC (Resistive) (Same polarity)          | 6,000                                |
| MY4Z-C<br>MY4ZN-CR  |  |                 |                              |              | 1/6 HP, 250 VAC (Same polarity)<br>1/10 HP, 120 VAC (Same polarity)   | 1,000                                |
| MY4ZIN-CR(S)  |  |                 |                              |              | B300 Pilot Duty (Same polarity)   | 6,000                                |
| MY4-02<br>MY4F<br>MY4Z-02<br>MY4ZF  | C22.2 No.0, No.14  | 3211 07         | 6 to 240 VAC<br>6 to 125 VDC | 4            | 7 A, 240 VAC (General Use) (Same polarity) 7 A, 24 VDC (Resistive) (Same polarity) 5 A, 240 VAC (General Use) (Same polarity) 5 A, 30 VDC (Resistive) 5 A, 250 VAC (Resistive) (Same polarity) 0.2 A, 120 VDC (Resistive) | 6,000                                |
|   |  |                 |                              |              | 1/6 HP, 250 VAC<br>1/10 HP, 120 VAC   | 1,000                                |

# ●TÜV Rheinland certification (Certification No. R50030059)

| Model  | Operating Coil ratings        | Contact ratings  | Certified number of operations |
|--|-------------------------------|--|--------------------------------|
| MY2Z<br>MY2ZN<br>MY2-02<br>MY2F<br>MY2Z-D<br>MY2Z-D<br>MY2ZN-D2<br>MY2Z-CR<br>MY2ZN-CR | 6 to 125 VDC,<br>6 to 240 VAC | 5 A, 250 VAC (cos φ = 1.0)   | 100,000                        |
| MY3<br>MY3N<br>MY3-D<br>MY3N-D2<br>MY3-02<br>MY3F                                      |                               | 5 A, 250 VAC ( $\cos \varphi = 1.0$ )<br>0.8 A, 250 VAC ( $\cos \varphi = 0.4$ ) |                                |
| MY4-02<br>MY4F<br>MY4Z-02<br>MY4ZF   |                               | 3 A, 120 VAC ( $\cos \phi$ = 1.0)<br>0.8 A, 250 VAC ( $\cos \phi$ = 0.4)         |                                |

# ●CE Marking

| Model   | EMC Directive  | Low Voltage Directive | Machinery Directive | Safety Category |
|---|----------------|-----------------------|---------------------|-----------------|
| MY2<br>MY2N<br>MY2IN(S)<br>MY2Z<br>MY2ZN<br>MY2-D<br>MY2N-D2<br>MY2IN-D2(S)<br>MY2-CR<br>MY2N-CR<br>MY2Z-CR<br>MY2ZN-CR<br>MY2ZN-CR<br>MY2ZN-CR<br>MY2ZN-D2<br>MY2ZN-D2 | Not applicable | Applicable            | Not applicable      | 1               |
| MY3<br>MY3N<br>MY3-D<br>MY3N-D2<br>MY3F<br>MY4<br>MY4N<br>MY4IN(S)<br>MY4Z<br>MY4ZN<br>MY4ZIN(S)<br>MY4-D<br>MY4N-D2  |                |                       |                     |                 |
| MY4IN-D2(S) MY4IN-D2(S) MY4Z-D MY4ZN-D2 MY4ZIN-D2(S) MY4-CR MY4N-CR MY4Z-CR MY4Z-CR MY4Z-CR MY4ZN-CR MY4ZN-CR MY4ZN-CR  |                |                       |                     |                 |

# ●LR certification (Lloyd's Register)

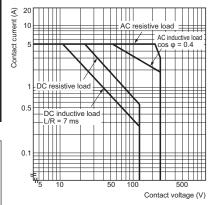
| Model   | File No.         | Environmental Category | Operating Coil ratings       | Contact ratings   | Certified number of operations |
|---|------------------|------------------------|------------------------------|---|--------------------------------|
| MY2<br>MY2N<br>MY2IN(S)<br>MY2-D<br>MY2N-D2<br>MY2IN-D2(S)<br>MY2-CR<br>MY2N-CR   | File No.98/10014 | ENV2,3                 | 6 to 240 VAC<br>6 to 125 VDC | 10 A, 250 VAC (Resistive)<br>2 A, 250 VAC (PF0.4)<br>10 A, 30 VDC (Resistive)<br>2 A, 30 VDC (L/R = 7 ms)   | MY2:<br>50,000                 |
| MY2Z<br>MY2ZN<br>MY2Z-D<br>MY2ZN-D2   | File No.90/10270 | ENV2,3                 | 6 to 240 VAC<br>6 to 125 VDC | 2 A, 30 VDC inductive load<br>2 A, 200 VAC inductive load   | MY2:<br>50,000                 |
| MY4<br>MY4N<br>MY4IN(S)<br>MY4-D<br>MY4N-D2<br>MY4IN-D2(S)<br>MY4-CR<br>MY4IN-CR(S)<br>MY4Z<br>MY4ZN<br>MY4ZIN<br>MY4ZIN<br>MY4ZIN-D2<br>MY4ZIN-D2(S)<br>MY4Z-CR<br>MY4ZIN-CR<br>MY4ZIN-CR(S) | File No.98/10014 | ENV2,3                 | 6 to 240 VAC<br>6 to 125 VDC | 5 A, 250 VAC (Resistive)<br>0.8 A, 250 VAC (PF0.4)<br>5 A, 30 VDC (Resistive)<br>1.5 A, 30 VDC (L/R = 7 ms) | MY4:<br>50,000                 |

# ●VDE certification

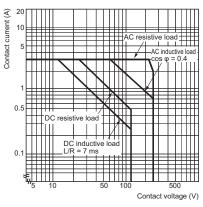
| Model   | Standard number | Certification No. | Operating Coil ratings   | Contact ratings                                      | Certified number of operations                             |
|---|-----------------|-------------------|--|--|--|
| MY2<br>MY2N<br>MY2IN(S)<br>MY2-D<br>MY2N-D2<br>MY2IN-D2(S)  | EN 61810-1      | 112467UG          | 6, 12, 24,<br>48/50,<br>100/110,<br>110/120,<br>200/220,<br>220/240 VAC  | 10A, 250 VAC (cos φ = 1)<br>10A, 30 VDC (L/R = 0 ms) | MY2:<br>100,000<br>MY4:<br>100,000<br>MY4Z:<br>50,000 (AC) |
| MY2-CR<br>MY2N-CR   |                 |                   | 6, 12, 24,<br>48, 100/110,<br>125 VDC  |  |  |
| MY4<br>MY4N<br>MY4IN(S)<br>MY4ZN<br>MY4ZN<br>MY4ZIN(S)<br>MY4-D<br>MY4N-D2<br>MY4IN-D2(S)<br>MY4Z-D<br>MY4ZN-D2<br>MY4ZN-D2<br>MY4ZN-D2<br>MY4-CR<br>MY4N-CR<br>MY4N-CR(S)<br>MY4Z-CR<br>MY4ZN-CR<br>MY4ZN-CR |                 |                   | 6, 12, 24,<br>48/50,<br>100/110,<br>110/120,<br>200/220,<br>220/240 VAC<br>6, 12, 24,<br>48, 100/110,<br>125 VDC | 5 A, 250 VAC (cos φ = 1)<br>5 A, 30 VDC (L/R = 0 ms) |  |

# **Engineering Data (Reference Value)**

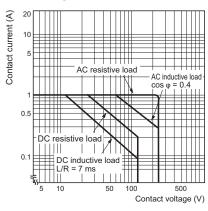
### •Maximum Switching Capacity MY2 and MY3



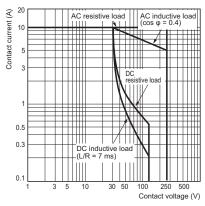
### MY4 and MY4Z



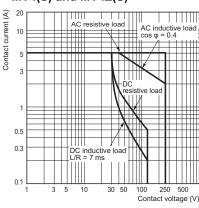
### MY4Z-CBG



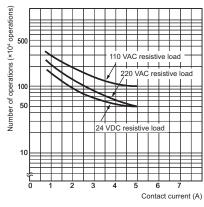
# With latching lever MY2(S)



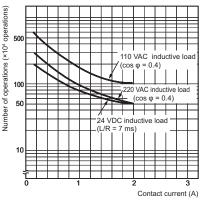
### MY4(S) and MY4Z(S)



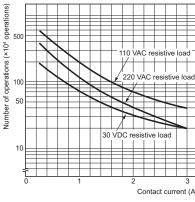
# ●Endurance Curve MY2 and MY3



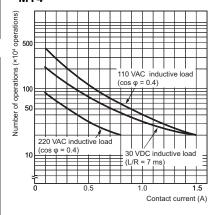
MY2 and MY3



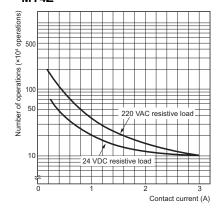
MY4



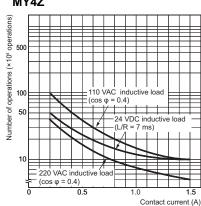




MY4Z



MY4Z



250 VAC

1.5

Contact current (A)

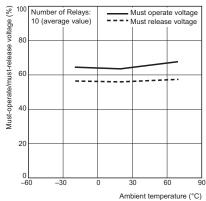
### With latching lever MY2(S) MY2(S) MY4(S) 10,000 operations) Number of operations (×103 operations) operations) 5,000 5,000 5,000 250 VAC 3,000 250 VAC 3,000 3,000 250 VAC Number of operations (×103 Number of operations (×10³ 1,000 1,000 30 VDC 1,000 30 VDC resistive load 30 VDC resistive load 500 500 500 30 VDC resistive load 300 300 30 VDC 300 - 30 VDC resistive load 250 VAC 250 VAC resistive load inductive load 250 VAC resistive lo 50 30 Contact current (A) MY4(S) MY4Z(S) MY4Z(S) Number of operations (×103 operations) Number of operations (×103 operations) operations) 5.000 5,000 5,000 3,000 3,000 3,000 30 VDC Number of operations (×103 inductive load 250 VAC resistive load 1,000 1,000 1,000 30 VDC inductive load inductive load 300 300 30 VDC resistive load 30 VDC 250 VAC inductive 100 100 100 250 VÁC 30 VDC 250 VAC inductive load resistive load 250 VAC

### ●Ambient Temperature vs. Must-operate and Must-release Voltage

Contact current (A)

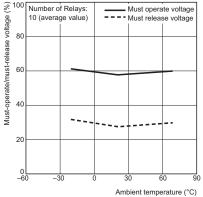
### MY2 AC Models

30



### MY2 DC Models

30

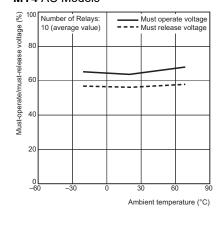


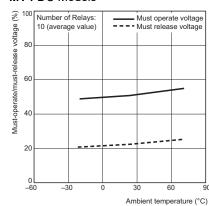
30

Contact current (A)

0.5

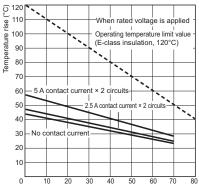
### MY4 AC Models



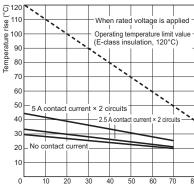


### ● Ambient Temperature vs. Coil Temperature Rise

### MY2 AC Models, 50 Hz

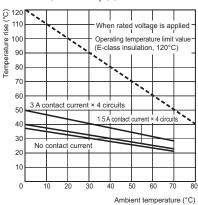


### MY2 DC Models

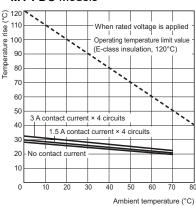


### Ambient temperature (°C) Ambient temperature (°C)

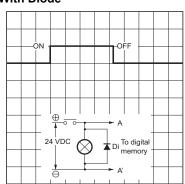
### MY4 AC Models, 50 Hz

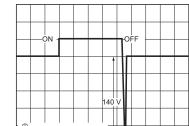


### MY4 DC Models



### Models with built-in diode for coil surge absorption MY□-D With Diode **Without Diode**

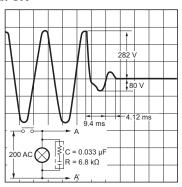


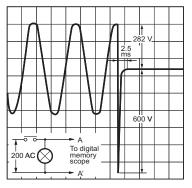


To digital A'

Make sure that the polarity is correct.
The release time will increase, but the 20-ms specification for standard models is satisfied.
Diode properties: The diode has a reversed dielectric strength of 1,000 V.
Forward current: 1 A

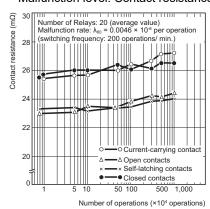
# Models with built-in CR circuit for coil surge absorption MY□-CR With CR Without CR





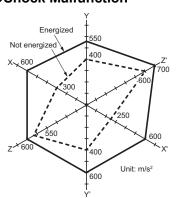
# ● Contact Reliability Test MY4Z-CBG (Modified Allen Bradley Circuit)

Contact load: 5 VDC, 1 mA resistive load Malfunction level: Contact resistance of 100  $\Omega$ 



# Common Specifications for MY2, MY3, MY4, MY4Z, MY□-02, MY□F, and MY(S)

### Shock Malfunction



N = 20

Measurement: Shock was applied 3 times each in 6 directions along 3 axes with the Relay energized and not energized to check the shock values that cause the Relay to malfunction.

Criteria: Non-energized: 200 m/s², Energized: 200 m/s²

### Shock direction

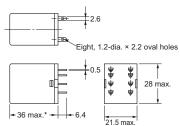


**Dimensions** (Unit: mm)

### ●Plug-in terminals

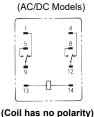
MY2, MY2N, MY2-D and MY2N-D2 MY2-CR, MY2N-CR



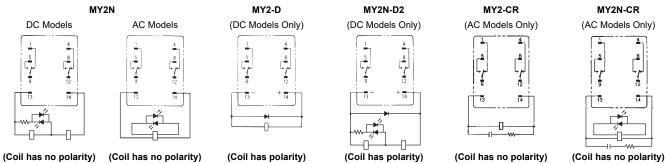


For the MY2-CR 24 VAC and MY2N-CR 24 VAC, this dimension is 53 mm maximum.

# Terminal Arrangement/ Internal Connection Diagram (Bottom View) MY2 (AC/DC Models)

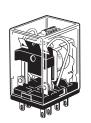


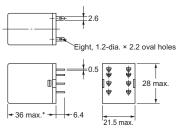
(----



- Note: 1. An AC model has coil disconnection self-diagnosis.
  - 2. The indicator is red for AC and green for DC.
  - 3. The operation indicator indicates the energization of the coil and does not represent contact operation.

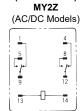
### MY2Z, MY2ZN, MY2Z-D and MY2ZN-D2 MY2Z-CR, MY2ZN-CR





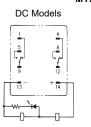
\* For the MY2Z-CR and MY2ZN-CR, this dimension is 53 mm maximum.

### Terminal Arrangement/Internal Connection Diagram (Bottom View)

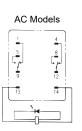


(Coil has no polarity)

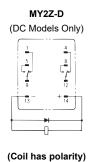
# \* For the MY this dimens

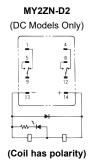


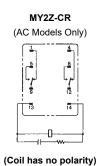
(Coil has polarity)

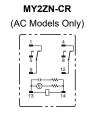


(Coil has no polarity)







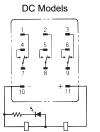


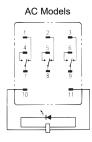
(Coil has no polarity)

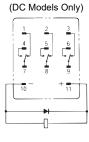
- ote: 1. An AC model has coil disconnection self-diagnosis.
  - 2. The indicator is red for AC and green for DC.
  - 3. The operation indicator indicates the energization of the coil and does not represent contact operation.

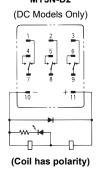
### MY3, MY3N, MY3-D, and MY3N-D2

### **Internal Connection Diagram** (Bottom View) MY3 (AC/DC Models) Eleven, 1.2-dia. × 2.2 oval holes 0.5 (Coil has no polarity) MY3N MY3-D MY3N-D2









Terminal Arrangement/

(Coil has polarity)

(Coil has no polarity)

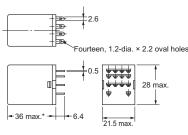
(Coil has polarity)

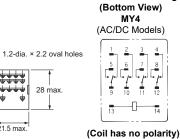
Note: 1. An AC model has coil disconnection self-diagnosis.

- The indicator is red for AC and green for DC.
- 3. The operation indicator indicates the energization of the coil and does not represent contact operation.

### MY4, MY4N, MY4-D and MY4N-D2 MY4-CR, MY4N-CR



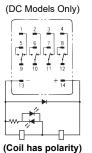


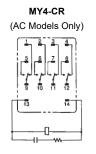


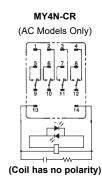
\* For the MY4-CR 24 VAC and MY4N-CR 24 VAC/115 VAC, this dimension is 53 mm maximum.

MY4N-D2

Terminal Arrangement/ Internal Connection Diagram







MY4N

(Coil has no polarity)

DC Models

8 -/-

(Coil has no polarity)

AC Models

MY4-D

(DC Models Only)

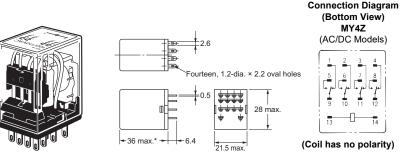
(Coil has polarity)

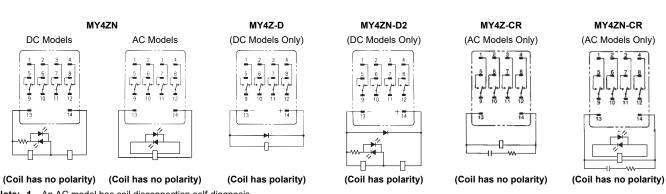
(Coil has no polarity)

Note: 1. An AC model has coil disconnection self-diagnosis.

- The indicator is red for AC and green for DC.
- 3. The operation indicator indicates the energization of the coil and does not represent contact operation.

### MY4Z, MY4ZN, MY4Z-D, MY4ZN-D2 MY4Z-CR, MY4ZN-CR



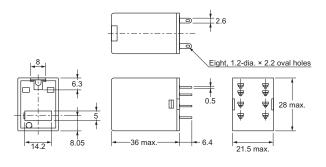


Terminal Arrangement/Internal

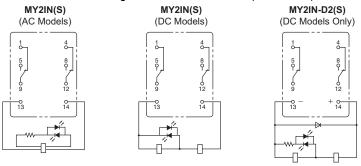
- Note: 1. An AC model has coil disconnection self-diagnosis.
  - The indicator is red for AC and green for DC
  - 3. The operation indicator indicates the energization of the coil and does not represent contact operation.

### MY2IN(S) MY2IN-D2(S)





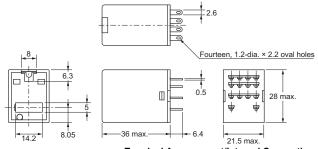
### Terminal Arrangement/Internal Connections (Bottom View)



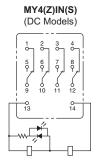
Note: For the DC models, check the coil polarity when wiring and wire all connections correctly.

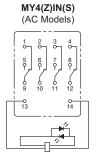


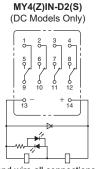


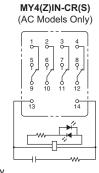


### Terminal Arrangement/Internal Connections (Bottom View)





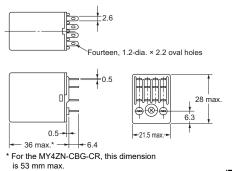


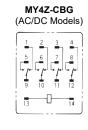


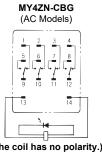
Note: For the DC models, check the coil polarity when wiring and wire all connections correctly.

### MY4Z-CBG **MY4ZN-CBG**

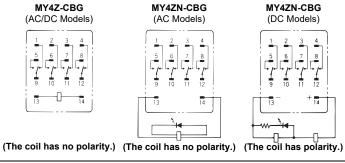








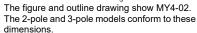
Terminal Arrangement/Internal Connection Diagram (Bottom View)

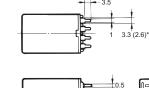


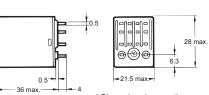
### PCB terminals

MY2-02 MY3-02 MY4-02 MY4Z-02



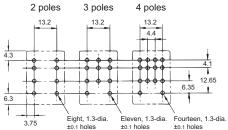






Dimensions in parentheses are for the MY4-02.

### PCB Processing Dimensions (Bottom View)



The dimensional tolerance is ±0.1. Note: 1. Refer to the terminal arrangement and internal connections diagrams for the MY2,

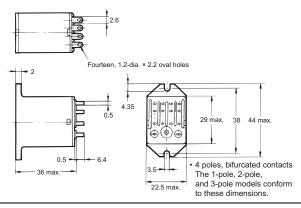
MY3, MY4, and MY4Z.

### Case-surface mounting

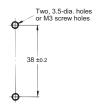
MY2F MY3F MY4F MY4ZF



The above figure is for the MY4F. The 2-pole and 3-pole models conform to these dimensions.



### **Mounting Hole Dimensions**



**Note:** Refer to the terminal arrangement and internal connections diagrams for the MY2, MY3, MY4, and MY4Z.

# **MYK**

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### ≤ ≺ >

# MYM-WAV

# Latching miniature power relays that retain contact operation status

- A low power consumption type that retains contacts using a magnetic lock system.
- Equipped with mechanical operation indicators to make operation status easy-to-see.

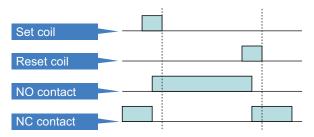
Refer to Safety Precautions on pages 54 to 55 and Safety Precautions for All Relays.



### **Features**

## **Latching Relays MYK**

Retains contact operation status.



NO contact turns on when voltage is applied to the set coil and stays on even if voltage stops being applied to the set coil. NO contact turns off when voltage is applied to the reset coil, after which NC contact will turn on.\*

\*MYK features a magnetic lock system.

Contact operation status can be seen at a glance thanks to the mechanical operation indicator.







## **Model Number Structure**

## **Model Number Legend**



(1) Basic model name

MY: Miniature Power Relays

(3) Type

K: Latching relay

(2) Number of poles/contacts

2: 2-pole, single

(4) Options, terminal type

None: Plug-in terminals 02: PCB terminals

# **Ordering Information**

When your order, specify the rated voltage.

### Main unit

### Plug-in terminals

| Classification                             | Number of poles Contacts |        | Model | Rated voltage            |  |
|--|--------------------------|--------|-------|--------------------------|--|
| Standard models (compliant with Electrical | 2                        | Single |       | 12, 24, 100, 100/110 VAC |  |
| Appliances and Material Safety Act)        | 2                        | Single | MY2K  | 12, 24, 48 VDC           |  |

### ●PCB terminals

| (:lassification                            | Number of poles Contacts |        | Model   | Rated voltage |  |
|--|--------------------------|--------|---------|---------------|--|
| Standard models (compliant with Electrical | •                        | Single | MV2K 02 | 24, 100 VAC   |  |
| Appliances and Material Safety Act)        | 2                        | Single | MY2K-02 | 12, 24 VDC    |  |

# **Ratings and Specifications**

### **Ratings**

### Operating coil

| Rated voltage (V) |     |                    | Set   | coil            |                    | Reset coil |                 |                                | Must<br>release<br>voltage (V) | Maximum<br>voltage (V)           | Power consumption (VA, W) |             |
|-------------------|-----|--------------------|-------|-----------------|--------------------|------------|-----------------|--------------------------------|--------------------------------|----------------------------------|---------------------------|-------------|
|                   |     | Rated current (mA) |       | Coil resistance | Rated current (mA) |            | Coil resistance | Must<br>operate<br>voltage (V) |                                |                                  | Set coil                  | Reset coil  |
|                   |     | 50 Hz              | 60 Hz | (Ω)             | 50 Hz              | 60 Hz      | (Ω)             | voilago (v)                    |                                |                                  |                           |             |
|                   | 12  | 57                 | 56    | 72              | 39                 | 38.2       | 130             |                                |                                |                                  | Approx. 0.6 Approx. 0.    | Approx. 0.2 |
| AC                | 24  | 27.4               | 26.4  | 320             | 18.6               | 18.1       | 550             |                                |                                |                                  | to 0.9                    | to 0.5      |
|                   | 100 | 7.1                | 6.9   | 5,400           | 3.5                | 3.4        | 3,000           | 80% max.*                      | 80% max.                       | 110% max.<br>of rated<br>voltage | (at 60 Hz)                | (at 60 Hz)  |
|                   | 12  | 11                 | 10    | 110             | 5                  | 0          | 235             | 00 /0 IIIax.                   | 00 % IIIax.                    |                                  |                           |             |
| DC                | 24  | 5                  | 2     | 470             | 2                  | 5          | 940             |                                |                                |                                  | Approx. 1.3               | Approx. 0.6 |
|                   | 48  | 2                  | .7    | 1,800           | 1                  | 6          | 3,000           |                                |                                |                                  |                           |             |

Note: 1. The rated current for AC is the value measured with a DC ammeter in half-wave rectification.

- The rated current and coil resistance are measured at a coil temperature of 23°C with tolerances of +15%/-20% for AC rated current and ±15% for DC coil resistance.
  The AC coil resistance is a reference value only.
  Operating characteristics were measured at a coil temperature of 23°C.

- The maximum voltage capacity was measured at an ambient temperature of 23°C.
   \*There is variation between products, but actual values are 80% maximum.

### Contact Ratings

| Number of poles (contact configuration) | 2-pole (DPDT)                   |  |  |  |  |
|---|---------------------------------|--|--|--|--|
| Contact structure                       | Single                          |  |  |  |  |
| Load                                    | Resistive load                  | Inductive load (cos φ = 0.4, L/R = 7 ms) |  |  |  |
| Rated load                              | 3 A at 220 VAC<br>3 A at 24 VDC | 0.8 A at 220 VAC<br>1.5 A at 24 VDC      |  |  |  |
| Rated carry current                     | 3 A                             |  |  |  |  |
| Maximum switching voltage               | 250 VAC, 125 VDC                |  |  |  |  |
| Maximum switching current               | 3 A                             |  |  |  |  |
| Maximum switching power                 | 660 VA<br>72 W                  | 176 VA<br>36 W                           |  |  |  |
| Contact material                        | Au plating + Ag                 |  |  |  |  |

### **Characteristics**

| 50 mΩ max. AC: 30 ms max., DC: 15 ms max.  |  |  |  |  |
|--|--|--|--|--|
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| 1,000 VAC at 50/60 Hz for 1 min  |  |  |  |  |
|  |  |  |  |  |
| ide)   |  |  |  |  |
| ide)   |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| ns/h)  |  |  |  |  |
| 200,000 operations min. (at rated load, switching frequency: 1,800 operations/h) |  |  |  |  |
| 1 mA at 1 VDC  |  |  |  |  |
| -55 to 60°C  |  |  |  |  |
| 5% to 85%  |  |  |  |  |
| Approx. 30 g   |  |  |  |  |
| r  |  |  |  |  |

**Note:** The data shown above are initial values. \*1. Measurement conditions: 1 A at 5 V

1 A at 5 VDC using the voltage drop method.

Measurement conditions:

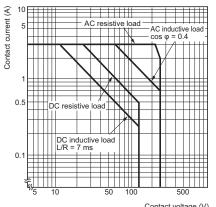
With rated operating power applied, not including contact bounce.
For 500 VDC applied to the same location as for dielectric strength measurement. Measurement conditions:

Ambient temperature condition: 23°C

- This value was measured at a switching frequency of 120 operations per minute.
- With no icing or condensation.

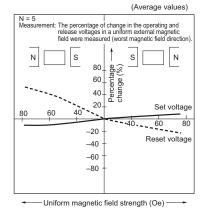
# **Engineering Data (Reference Value)**

### **Maximum Switching Capacity** MY2K(-02)

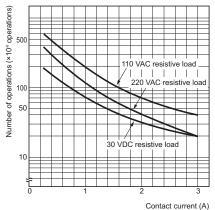


# **Magnetic Interference**

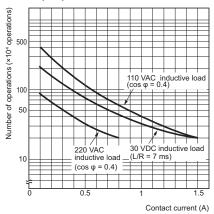
### (External Magnetic Field) **MY2K** 24 VDC



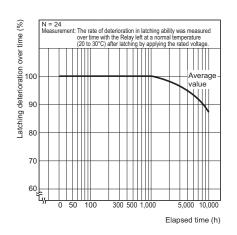
### **Endurance Curve** MY2K(-02)



### MY2K(-02)

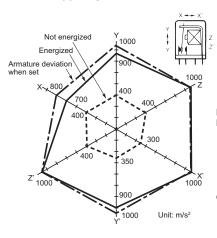


### **Latching Deterioration Over Time** MY2K 24 VDC



### **Shock Malfunction**

MY2K 100 VAC



N = 20

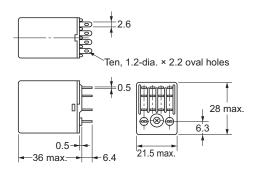
Measurement: Shock was applied in 6 directions along 3 axes 2 times with the Relay energized and 3 times with the Relay not energized to check the shock values that cause the Relay to

malfunction. Criteria: Non-energized: 200 m/s² Energized: 200 m/s<sup>2</sup>

**Dimensions** (Unit: mm)

### ●Plug-in terminals MY2K





### Terminal Arrangement/ Internal Connection Diagram (Bottom View)

For AC



Note: R is a resistor for ampereturn correction. Built into models with specifications of 50 VAC or more. (The coil has no polarity.)

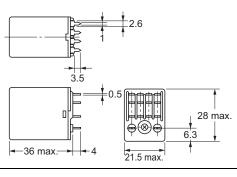
For DC



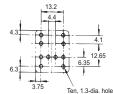
Note: Pay close attention to the set coil and reset coil polarities. If the connections are not correct, unintended operation may occur.

### ●PCB terminals MY2K-02





# PCB Processing Dimensions (Bottom View)



**Note:** The dimensional tolerance is ±0.1.

# MYQ/MYH

# Sealed relays that are tough in environments where dust or corrosive gases, etc., are present

- Plastic sealed relays (MYQ) and hermetically sealed relays (MYH) that are resistant to effects from the surrounding environment
- Highly airtight structures that are tough in environments where corrosive gases such as chloride gas, sulfuric gas, and silicone gas are generated. They are also resistant to environments where salt damage is occurred and where dust is generated.
- Prevent relay contact failures via a highly airtight structure.

Refer to Safety Precautions on pages 54 to 55 and Safety Precautions for All Relays.



Refer to the standards certifications and compliance section of your OMRON website for the latest information on certified models.

### **Features**

### **Highly Airtight Relays (Plug-in Terminals)**

| Seal performance | Degree of protection | Typical relay | Features   |  |  |
|------------------|----------------------|---------------|--|--|--|
| High 🔨           | Hermetically sealed  | мүн           | Sealing with metals, the glass case and base, etc. with inert gases (N2) inside makes it airtight structure which provides the external casing with durability against harmful corrosion, and prevents corrosive gases from intruding inside relays. |  |  |
|                  | Plastic sealed       | MYQ           | Structure that seals relays with the resin case and cover, etc., to prevent effects from corrosive environments.   |  |  |
| Low              | Closed type (cased)  | MY, MY4Z-CBG  | Relays in the case realize the structure that protects them from contact with foreign materials.   |  |  |

# Plastic Sealed Relays: MYQ

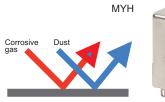
These realize excellent reliability even in environments where salt damage occurs or where dust is generated.





## Hermetically Sealed Relays: MYH

These realize excellent reliability even in environments where dust is generated or where corrosive gases (chloride gas, sulfuric gas, silicone gas, etc.) are present.





## **Model Number Structure**

### **Model Number Legend**



### (1) Basic model name

MY: Miniature Power Sealed Relays

### (2) Contacts/seals

Q4: 4-pole, single contacts, plastic sealed relays
Q4Z: 4-pole, bifurcated contacts, plastic sealed relays
4H: 4-pole, single contacts, hermetically sealed relays
4ZH: 4-pole, bifurcated contacts, hermetically sealed relays

### (3) Type

None: None

N: With operation indicator\*
\*Only MYQ (plastic sealed relay)

### (4) Options, terminal type

None: Plug-in terminals

02: Plastic sealed relays, PCB terminals0: Hermetically sealed relays, PCB terminals

# **Ordering Information**

When your order, specify the rated voltage.

### **Plastic Sealed Relays**

### Plug-in terminals

| Classification                                 | Number   | Contacts   |       |   | With operation indicator |   |  |
|--|----------|------------|-------|---|--------------------------|---|--|
| Ciassification                                 | of poles | Contacts   | Model | Model Rated voltage                       |                          | Rated voltage                                 |  |
| Standard models                                |          | Single     | MYQ4  | 100/110, 110/120,<br>200/220, 220/240 VAC | MYQ4N                    | 24, 100/110, 110/120,<br>200/220, 220/240 VAC |  |
| (compliant with                                |          |            |       | 24 VDC                                    | 12, 24, 48, 100/110 VDC  |   |  |
| Electrical Appliances and Material Safety Act) | 4        | Bifurcated | MYQ4Z | 100/110, 110/120,<br>200/220 VAC          |                          |   |  |
|  |          |            |       | 12, 24 VDC                                |                          |   |  |

### ●PCB terminals

| Classification  | Number of poles | Contacts   | Model      | Rated voltage            |
|---|-----------------|------------|------------|--------------------------|
| Standard models<br>(compliant with<br>Electrical Appliances | 4               | Single     | MYQ4-02    | 50, 200/220, 220/240 VAC |
|   |                 |            | W 1 Q4-02  | 24 VDC                   |
|   |                 | Bifurcated | MYQ4Z-02   | 100/110 VAC              |
| and Material Safety Act)                                    |                 |            | W 1 Q4Z-02 | 24, 48 VDC               |

### **Hermetically Sealed Relays**

### Plug-in terminals

| Classification   | Number of poles | Contacts   | Model     | Rated voltage            |
|--|-----------------|------------|-----------|--------------------------|
| Standard models  |                 | Single     | MY4H      | 24, 100/110, 110/120 VAC |
| (compliant with<br>Electrical Appliances<br>and Material Safety Act) | 4               |            | IVI T 4FI | 12, 24, 48, 100/110 VDC  |
|  |                 | Bifurcated | MY4ZH     | 24, 100/110, 110/120 VAC |
|  |                 |            |           | 12, 24, 48, 100/110 VDC  |

### PCB terminals

| Classification  | Number of poles Contacts |            | Model   | Rated voltage   |
|---|--------------------------|------------|---------|-----------------|
| Standard models<br>(compliant with<br>Electrical Appliances<br>and Material Safety Act) | 4                        | Single     | MY4H-0  | 110/120 VAC     |
|   |                          |            | W 14H-U | 24 VDC          |
|   |                          | Bifurcated | MY4ZH-0 | 24, 100/110 VDC |

# **Ratings and Specifications**

### Operating coil

|       |             | Rated cur | rrent (mA) | Coil              | Coil indu       | ctance (H)  | Must sperate               | Must release  | Maximum<br>voltage (V) | Power                            |
|-------|-------------|-----------|------------|-------------------|-----------------|-------------|----------------------------|---------------|------------------------|----------------------------------|
| Rated | voltage (V) | 50 Hz     | 60 Hz      | resistance<br>(Ω) | Armature<br>OFF | Armature ON | Must operate voltage (V)*1 | voltage (V)*2 |                        | consumption<br>(VA, W)           |
|       | 24          | 53.8      | 46         | 180               | 0.69            | 1.3         |                            | 30% min.      | 110% max. of           | _                                |
|       | 100/110     | 11.7/12.9 | 10/11      | 3,750             | 14.54           | 24.6        |                            |               |                        | Approx. 0.9 to<br>1.3 (at 60 Hz) |
| AC    | 110/120     | 9.9/10.8  | 8.4/9.2    | 4,430             | 19.2            | 32.1        |                            |               |                        |                                  |
|       | 200/220     | 6.2/6.8   | 5.3/5.8    | 12,950            | 54.75           | 91.07       |                            |               |                        |                                  |
|       | 220/240     | 4.8/5.3   | 4.2/4.6    | 18,790            | 83.5            | 136.4       | 80% max.                   |               |                        |                                  |
|       | 12          | 7         | 5          | 165               | 0.734           | 1.37        |                            |               | rated venage           |                                  |
| DC    | 24          | 36        | 3.9        | 650               | 3.2             | 5.72        |                            | 10% min.      |                        | Approx. 0.9                      |
| ЪС    | 48          | 18        | 3.5        | 2,600             | 10.6            | 21.0        |                            |               |                        |                                  |
|       | 100/110     | 9.1       | /10        | 11,000            | 45.6            | 86.0        |                            |               |                        |                                  |

Note: 1. The rated current and coil resistance are measured at a coil temperature of 23°C with tolerances of +15%/-20% for AC rated current and ±15% for DC coil

- The AC coil resistance and coil inductance values are for reference only. Operating characteristics were measured at a coil temperature of 23°C.
- 4. The maximum voltage capacity was measured at an ambient temperature of 23°C.
- \*1. There is variation between products, but actual values are 80% maximum. To ensure operation, apply at least 80% of the rated value.
  \*2. There is variation between products, but actual values are 30% minimum for AC and 10% minimum for DC. To ensure release, use a value that is lower than the specified value.

### Contact Ratings

### Plastic Sealed Relays: MYQ

| Number of poles<br>(contact<br>configuration) | 4-pole (4PDT)                                       |                                     |  |  |  |  |
|---|---|-------------------------------------|--|--|--|--|
| Contact structure                             | Single/b  | ifurcated                           |  |  |  |  |
| Load  | Resistive load Inductive load (cos φ = 0.4, L/R = 7 |                                     |  |  |  |  |
| Rated load                                    | 1 A at 220 VAC<br>1 A at 24 VDC                     | 0.5 A at 220 VAC<br>0.5 A at 24 VDC |  |  |  |  |
| Rated carry current                           | 1 A   |                                     |  |  |  |  |
| Maximum switching voltage                     | 250 VAC<br>125 VDC                                  |                                     |  |  |  |  |
| Maximum switching current                     | 1 A   |                                     |  |  |  |  |
| Maximum switching power                       | 220 VA<br>24 W 110 VA<br>12 W                       |                                     |  |  |  |  |
| Contact material                              | Au plating + Ag                                     |                                     |  |  |  |  |

### **Hermetically Sealed Relays: MYH**

| Number of poles<br>(contact<br>configuration) |   |   |                                       |  |  |  |
|---|---|---|---------------------------------------|--|--|--|
| Contact structure                             | Sii   | ngle                                      | Bifu                                  | rcated   |  |  |
| Load  |   |   | Resistive<br>load                     | Inductive load<br>(cos φ = 0.4,<br>L/R = 7 ms) |  |  |
| Rated load                                    | 3 A at<br>110 VAC<br>3 A at<br>24 VDC         | 0.8 A at<br>110 VAC<br>1.5 A at<br>24 VDC | 3 A at<br>110 VAC<br>3 A at<br>24 VDC | 0.8 A at<br>110 VAC<br>1.5 A at<br>24 VDC      |  |  |
| Rated carry current                           | 3 A   |   |                                       |  |  |  |
| Maximum switching voltage                     | 125 VAC<br>125 VDC                            |   |                                       |  |  |  |
| Maximum switching current                     | 3 A   |   |                                       |  |  |  |
| Maximum switching power                       | 330 VA 88 VA 330 VA 88 VA 72 W 36 W 72 W 36 W |   |                                       |  |  |  |
| Contact material                              | Au plating + Ag                               |   |                                       |  |  |  |

### **Characteristics**

| Model                  |  |  | MYQ   |  | МҮН  |  |  |  |
|------------------------|--|--|---|--|--|--|--|--|
| Contact resistance     | e*1                                      | 50 m $Ω$ max.  |   |  |  |  |  |  |
| Operate time*2         |  | 20 ms max.   |   |  |  |  |  |  |
| Release time*2         |  | 20 ms max.   |   |  |  |  |  |  |
| Maximum                | Mechanical                               | 18,000 operations/h  |   |  |  |  |  |  |
| switching<br>frequency | Rated load                               | 1,800 operations/h   |   |  |  |  |  |  |
| Insulation resistar    | nce*3                                    | 100 M $\Omega$ min.  |   |  |  |  |  |  |
|                        | Between coil and contacts                | 1,500 VAC at 50/60   | Hz for 1 min  | 1,000 VAC at 50/60                       | Hz for 1 min   |  |  |  |
| Dielectric strength    | Between contacts of different polarity   | 1,500 VAC at 50/60   | Hz for 1 min  | 1,000 VAC at 50/60                       | Hz for 1 min   |  |  |  |
|                        | Between contacts of the same polarity    | 1,000 VAC at 50/60   | Hz for 1 min  | 700 VAC at 50/60 Hz for 1 min            |  |  |  |  |
| Vibration              | Destruction                              | 10 to 55 to 10 Hz, 0.5-mm single amplitude (1.0-mm double amplitude) |   |  |  |  |  |  |
| resistance             | Malfunction                              | 10 to 55 to 10 Hz, 0.5-mm single amplitude (1.0-mm double amplitude) |   |  |  |  |  |  |
| Shock resistance       | Destruction                              | 1,000 m/s <sup>2</sup>   |   |  |  |  |  |  |
| Shock resistance       | Malfunction                              | 200 m/s <sup>2</sup>   |   |  |  |  |  |  |
| Endurance              | Mechanical                               | Single contacts: Bifurcated contacts:                                | AC: 50,000,000 operations min., DC: 100,000,000 operations min. 5,000,000 operations min., DC: 5,000,000 operations min. (switching frequency: 18,000 operations/h) | Single contacts:<br>Bifurcated contacts: | 50,000,000 operations min.<br>5,000,000 operations min.<br>(switching frequency:<br>18,000 operations/h)         |  |  |  |
|                        | Electrical*4                             | Single contacts:<br>Bifurcated contacts:                             | 200,000 operations min.<br>100,000 operations min.<br>(at rated load, switching frequency:<br>1,800 operations/h)   | Single contacts:<br>Bifurcated contacts: | 100,000 operations min.<br>50,000 operations min.<br>(at rated load, switching frequency:<br>1,800 operations/h) |  |  |  |
| Failure rate P Leve    | Failure rate P Level (reference value)*5 |  | Single contacts: 1 mA at 1 VDC<br>Bifurcated contacts: 100 µA at 1 VDC  |  | Single contacts: 100 µA at 1 VDC<br>Bifurcated contacts: 100 µA at 100 mVDC                                      |  |  |  |
| Ambient operating      | temperature*6                            | -55 to 60°C  |   | -25 to 60°C                              |  |  |  |  |
| Ambient operating      | humidity                                 | 5% to 85%  |   |  |  |  |  |  |
| Weight                 |  | Approx. 35 g   |   | Approx. 50 g                             |  |  |  |  |

Note: The data shown above are initial values.

\*1. Measurement conditions:

\*2. Measurement conditions: With rated

1 A at 5 VDC using the voltage drop method.
With rated operating power applied, not including contact bounce.

with rated operating power applied, not including contact bounce.

Ambient temperature condition:

Measurement conditions:

Ambient temperature conditions:

For 500 VDC applied to the same location as for dielectric strength measurement.

Ambient temperature condition:

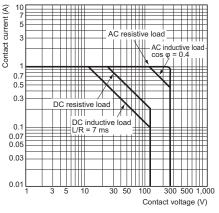
23°C

This value was measured at a switching frequency of 120 operations per minute.

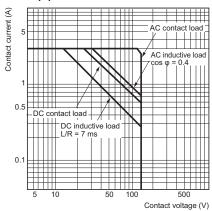
With no icing or condensation.

# **Engineering Data (Reference Value)**

### **Maximum Switching Capacity** MYQ4(Z)

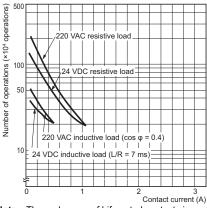


### MY4(Z)H



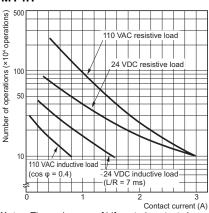
# **Endurance Curve**

### MYQ4



**Note:** The endurance of bifurcated contacts is one-half that of single contacts.

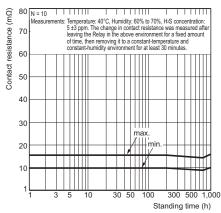
### MY4H



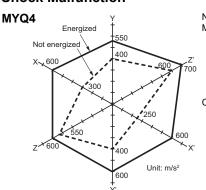
**Note:** The endurance of bifurcated contacts is one-half that of single contacts.

### H<sub>2</sub>S Gas Data

### MYQ4



### **Shock Malfunction**



N = 20

Measurement: Shock was applied 3 times each in 6 directions along 3 axes with the Relay energized and not energized to check the shock values that cause the Relay to malfunction.

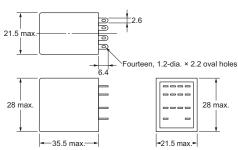
Criteria: Non-energized: 200 m/s2 Energized: 200 m/s<sup>2</sup>

# Shock direction

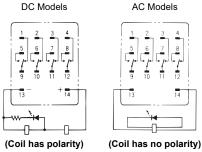
### Plug-in terminals

### **Plastic Sealed Relays** MYQ4(Z)(N)





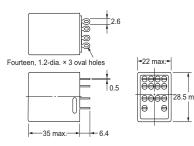
### MYQ4(Z)N



- Note: 1. An AC model has coil disconnection self-diagnosis.
  2. For the DC models, check the coil polarity when wiring and wire all connections correctly.

### **Hermetically Sealed Relays** MY4(Z)H





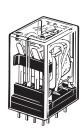
Terminal Arrangement/ Internal Connection Diagram (Bottom View) MY4(Z)H

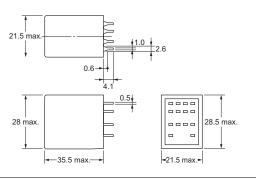


(Coil has no polarity)

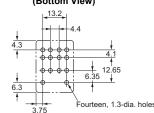
### ●PCB terminals

### **Plastic Sealed Relays** MYQ4(Z)-02





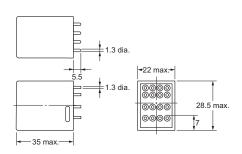
# PCB Processing Dimensions (Bottom View)



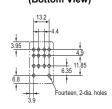
The dimensional Note: tolerance is ±0.1.

### **Hermetically Sealed Relays** MY4(Z)H-0





### **PCB Processing Dimensions** (Bottom View)



# **Common Options (Order Separately)**

For details on Sockets and Hold-down Clips, refer to the data sheet for Common Sockets.

## **Ordering Information**

### **Front-mounting Sockets**

| Applicable relay model*1    | Mounting<br>Method                          | Conductive part protection                          | Terminal Type                           | Applicable crimp terminal/ Electric wire                           | Appearance | Mode  | Hold-down Clips/<br>Release Levers<br>(Order Separately)                    |
|-----------------------------|---|---|---|--|------------|---|---|
|                             |   | IN track or   | Push-In Plus                            | Ferrules   | NEW        | PYF-08-PU*2 * MY2Z□-CR, MY2□-CR 24 VAC cannot be used | With release lever * Hold by release lever                                  |
| MY2□<br>MY2□(S)<br>MY2Z□-CR | Mounted on a                                |   | Terminal                                | Solid wire<br>Stranded wire  | NEW        | PYF-08-PU-L*2   | MY2□: PYC-A1<br>MY2IN(S): PYC-E1<br>MY2Z□-CR,<br>MY2□-CR 24 VAC: Y92H-3     |
|                             | DIN track or<br>with screws                 |   | Screw terminal<br>(M3 screw size)       | Forked terminals<br>Solid wire<br>Stranded wire                    | <u>NEW</u> | PYFZ-08-E*4   |   |
|                             |   | Option<br>(Terminal cover<br>sold separately)<br>*3 |   | Round terminals<br>Forked terminals<br>Solid wire<br>Stranded wire | <u>NEW</u> | PYFZ-08 * Terminal cover: PYCZ-C08                    |   |
|                             | Mounted on a DIN track                      | Available   | Screwless<br>terminal<br>(Clamp method) | Solid wire<br>Stranded wire  |            | PYF08S  | PYCM-08S  * MY2Z□-CR, MY2□-CR 24 VAC cannot be used * Hold by release lever |
|                             | Screw<br>mounting only                      | None  | Screw terminal<br>(M3.5 screw<br>size)  | Round terminals<br>Forked terminals<br>Solid wire<br>Stranded wire |            | PYF08M  | PYC-P (MY2□ Only) * MY2□-CR 24 VAC cannot be used                           |
| MY3                         | Mounted on a<br>DIN track or<br>with screws | None  | Screw terminal<br>(M3 screw size)       | Round terminals<br>Forked terminals<br>Solid wire<br>Stranded wire |            | PYF11A  | PYC-A1  |

<sup>\*1.</sup> The applicable relay model is a plug-in terminal type.

<sup>\*2.</sup> There are screw mounting holes in the DIN hooks on the PYF-□-PU and P2RF-□-PU. Pull out the DIN hook tabs to mount the Sockets with screws.

\*3. Terminal cover type is PYCZ-C08. (Order Separately) For details, refer to the For Screw Terminal Sockets (PYFZ-08/PYFZ-14) Terminal covers on page 43.

\*4. The finger-protection type (PYFZ-□-E) is a type in which the terminal cover is integrated into the socket. Round terminals cannot be used. Use forked terminals or ferrules instead.

| Applicable relay model*1                                  | Mounting<br>Method                          | Conductive part protection | Terminal Type                           | Applicable crimp terminal/ Electric wire                           | Appearance | Mode  | Hold-down Clips/<br>Release Levers<br>(Order Separately)   |
|---|---|----------------------------|---|--|------------|---|--|
| MY4□<br>MY4□(S)<br>MY4□H<br>MYQ4□<br>MY4Z□-CBG-CR<br>MY2K | Mounted on a<br>DIN track or<br>with screws | track or                   | Push-In Plus<br>Terminal                | Ferrules<br>Solid wire<br>Stranded wire                            | <u>NEW</u> | PYF-14-PU*2  * MY4ZN-CBG-CR, MY4-CR 24 VAC, MY4N-CR 24 VAC/115 VAC cannot be used | With release lever * Hold by release lever   |
|   |   |                            | Terminal                                |  | NEW        | PYF-14-PU-L*2   | MY4Z□-CBG-CR,<br>MY4-CR 24 VAC,<br>MY4N-CR 24 VAC/115 VA:<br>Y92H-3<br>Other than those above:<br>PYC-A1 |
|   |   |                            | Screw terminal<br>(M3 screw size)       | Forked terminals<br>Solid wire<br>Stranded wire                    | <u>NEW</u> | PYFZ-14-E*4   |  |
|   |   |                            |   | Round terminals<br>Forked terminals<br>Solid wire<br>Stranded wire | <u>NEW</u> | PYFZ-14 * Terminal cover: PYCZ-C14  |  |
|   | Mounted on a<br>DIN track                   | Available                  | Screwless<br>terminal<br>(Clamp method) | Solid wire<br>Stranded wire  |            | PYF14S  | PYCM-14S  * MY4Z - CBG-CR, MY4-CR 24 VAC, MY4N-CR 24 VAC/115 VAC cannot be used  * Hold by release lever |
|   | Mounted on a<br>DIN track or<br>with screws | None                       | Screw terminal<br>(M3.5 screw<br>size)  | Round terminals<br>Forked terminals<br>Solid wire<br>Stranded wire |            | PYF14T  | MY4Z□-CBG-CR: Y92H-3<br>Other than those above:<br>PYC-A1  |

<sup>\*1.</sup> The applicable relay model is a plug-in terminal type.
\*2. There are screw mounting holes in the DIN hooks on the PYF-□□-PU and P2RF-□□-PU. Pull out the DIN hook tabs to mount the Sockets with screws.
\*3. Terminal cover type is PYCZ-C14. (Order Separately) For details, refer to the *For Screw Terminal Sockets (PYFZ-08/PYFZ-14) Terminal covers* on page 43.
\*4. The finger-protection type (PYFZ-□-E) is a type in which the terminal cover is integrated into the socket. Round terminals cannot be used. Use forked terminals or ferrules instead.

# **Back-mounting Sockets**

| Applicable relay model*1 | Terminal Type                                | Hold-down Clips                                     | Appearance | Mode       |
|--------------------------|--|---|------------|------------|
|                          | Solder terminals                             |   |            | PY08       |
| MY2□<br>MY2□(S)          | Wrapping terminals<br>Terminal length: 25 mm | Accessories (Order Separately)<br>* MY2Z□-CR: PYC-1 |            | PY08QN     |
| MY2ZŪ-CR                 | Wrapping terminals<br>Terminal length: 20 mm | Other than those above: PYC-P                       |            | PY08QN2    |
|                          | PCB terminals                                |   |            | PY08-02    |
|                          | Solder terminals                             |   |            | PY08-Y1    |
| MY2□<br>MY2□(S)          | Wrapping terminals<br>Terminal length: 25 mm |   |            | PY08QN-Y1  |
|                          | Wrapping terminals<br>Terminal length: 20 mm | With Hold-down Clips*2                              |            | PY08QN2-Y1 |
|                          | Solder terminals                             |   |            | PY08-Y3    |
| MY2Z□-CR                 | Wrapping terminals<br>Terminal length: 25 mm |   |            | PY08QN-Y3  |

<sup>\*1.</sup> The applicable relay model is a plug-in terminal type.
\*2. The hold-down clips for connecting the relay and socket come as a set with the socket.

|  |  | 1  |            | 1          |
|--|--|--|------------|------------|
| Applicable relay model*1               | Terminal Type                                | Hold-down Clips  | Appearance | Mode       |
| MY2Z□-CR                               | Wrapping terminals<br>Terminal length: 20 mm | With Hold-down Clips*2   |            | PY08QN2-Y3 |
|  |  | Accessories (Order Separately) * PYC-P   |            | PY11       |
|  | Solder terminals                             | With Hold-down Clips*2   |            | PY11-Y1    |
|  |  | Accessories (Order Separately) * PYC-P   |            | PY11QN     |
| MY3□                                   | Wrapping terminals<br>Terminal length: 25 mm | With Hold-down Clips*2   |            | PY11QN-Y1  |
|  |  | Accessories (Order Separately) * PYC-P   |            | PY11QN2    |
|  | Wrapping terminals<br>Terminal length: 20 mm | With Hold-down Clips*2   |            | PY11QN2-Y1 |
|  | PCB terminals                                | Accessories (Order Separately) * PYC-P   |            | PY11-02    |
| MY4□<br>MY4□(S)                        | Solder terminals                             | - Accessories (Order Separately)   |            | PY14       |
| MY4□Ĥ<br>MYQ4□<br>MY4Z□-CBG-CR<br>MY2K | Wrapping terminals<br>Terminal length: 25 mm | - Accessories (Order Separately)  * MY4Z□-CBG-CR: PYC-1  Other than those above: PYC-P |            | PY14QN     |

<sup>\*1.</sup> The applicable relay model is a plug-in terminal type.
\*2. The hold-down clips for connecting the relay and socket come as a set with the socket.

| Applicable relay model*1                       | Terminal Type                                | Hold-down Clips  | Appearance | Mode       |  |
|--|--|--|------------|------------|--|
| MY4□<br>MY4□(S)<br>MY4□H<br>MYQ4□              | Wrapping terminals<br>Terminal length: 20 mm | Accessories (Order Separately)  * MY4Z□-CBG-CR: PYC-1  Other than those above: PYC-P |            | PY14QN2    |  |
| IY4Z□-CBG-CR<br>IY2K                           | PCB terminals                                |  |            | PY14-02    |  |
|  | Solder terminals                             |  |            | PY14-Y1    |  |
| //Y4□<br>//Y4□(S)<br>//Y4□H<br>//YQ4□<br>//Y2K | Wrapping terminals<br>Terminal length: 25 mm |  |            | PY14QN-Y1  |  |
|  | Wrapping terminals<br>Terminal length: 20 mm |  |            | PY14QN2-Y1 |  |
|  | Solder terminals                             | With Hold-down Clips*2   |            | PY14-Y3    |  |
| //Y4Z□-CBG-CR                                  | Wrapping terminals<br>Terminal length: 25 mm |  |            | PY14QN-Y3  |  |
|  | Wrapping terminals<br>Terminal length: 20 mm |  |            | PY14QN2-Y3 |  |

# Hold-down Clip

| Appearance*1 | Model*2  | Weight*3       | Application  |
|--------------|----------|----------------|--|
|              | PYC-A1   | Approx. 0.54 g |  |
|              | PYC-E1   | Approx. 0.6 g  | For connecting relays and sockets  |
|              | PYC-P    | Approx. 1.4 g  | Tor connecting relays and sockets  |
|              | PYC-S    | Approx. 1.8 g  | For connecting sockets, socket mounting plates, and relays               |
|              | Y92H-3*4 | Approx. 0.7 g  | For connecting models with built-in CR circuit for coil surge absorption |
|              | PYC-1*5  | Approx. 6 g    | - (MY2Z□-CR) and sockets   |

<sup>\*1.</sup> The appearance shown is one in which the relay, socket, and hold-down clip are assembled.
\*2. Hold-down clips are used in sets of two. However, PYC-P and PYC-1.
\*3. The weight shown above is the weight for one hold-down clip.
\*4. MY2-CR 24 VAC, MY2N-CR 24 VAC, MY4-CR 24 VAC and MY4N-CR 24 VAC/115 VAC use in combination with hold-down clip Y92H-3.
\*5. MY2-CR 24 VAC, MY2N-CR 24 VAC, MY4-CR 24 VAC and MY4N-CR 24 VAC/115 VAC use in combination with hold-down clip PYC-1.

# ● Front-connecting Socket Accessories

# For Push-In Plus Terminal Sockets (PYF-08-PU(-L)/PYF-14-PU(-L))

# **Short Bars**

| Applicable sockets            | Pitch   | Application           |                                      | Number of poles | L<br>(Length) | Insulati on color     | Model*1        |
|-------------------------------|---------|-----------------------|--------------------------------------|-----------------|---------------|-----------------------|----------------|
|                               |         |                       | 3.90                                 | 2               | 15.1          |                       | PYDN-7.75-020□ |
|                               | 7.75    | Bridging contact      |                                      | 3               | 22.85         |                       | PYDN-7.75-030□ |
| PYF-08-PU(-L)<br>PYF-14PU(-L) | 7.75 mm | terminals<br>(common) | 12 18.5                              | 4               | 30.6          | Red (R)               | PYDN-7.75-040□ |
|                               |         |                       | 2.25 1.57                            | 20              | 154.6         |                       | PYDN-7.75-200□ |
|                               | 31.0 mm | For Coil<br>terminals | 3.90<br>12<br>18.5<br>2.25<br>224.35 | 8               | 224.35        | Blue (S)<br>Yellow(Y) | PYDN-31.0-080□ |

<sup>\*1.</sup> Replace the box (□) in the model number with the code for the covering color. □Color selection: R = Red, S = Blue, Y = Yellow

## Labels

| Applicable sockets | Model               |
|--------------------|---------------------|
| PYF-08-PU(-L)      | XW5Z-P4.0LB1        |
| PYF-14PU(-L)       | (1 sheet/60 pieces) |

# For Screwless Terminal Sockets (PYF08S/PYF14S) Short Bars

| Applicable sockets | Pitch   | Application              | Shape/external dimensions | Number of poles | Insulati on color | Model*1                         |
|--------------------|---------|--------------------------|---------------------------|-----------------|-------------------|---------------------------------|
| PYF08S             | 19.7 mm | For bridging             | Insulation                | 2               | Red (R)           | <b>PYDM-08S</b> □ (50 pcs./bag) |
| PYF14S             | 27.5 mm | coils between<br>sockets | 1.2-dia. Pitch —          | 2               | Blue (B)          | <b>PYDM-14S</b> □ (50 pcs./bag) |

<sup>\*1.</sup> Replace the box ( $\square$ ) in the model number with the code for the covering color.  $\square$ Color selection: R = Red, B = Blue

# Labels

| Applicable sockets | Model          |
|--------------------|----------------|
| PYF08S             | R99-11         |
| PYF14S             | (100 pcs./bag) |

# Release Levers

| Applicable sockets | Shape/external dimensions | Model    |
|--------------------|---------------------------|----------|
| PYF08S             | 54.4                      | PYCM-08S |
| PYF14S             | 52.5                      | PYCM-14S |

# For Screw Terminal Sockets (PYFZ-08/PYFZ-14) Short Bars

| Applicable sockets | Pitch | Application                | Shape/external dimensions   | Number of poles |                     | Model*1   |
|--------------------|-------|----------------------------|-----------------------------|-----------------|---------------------|---|
|                    |       |                            | 3.3 3.5.6                   | 2               |                     | <b>PYD-025B</b> □ <b>(2P)</b><br>(10 pcs./bag)  |
| PYFZ-08            | 22 mm | For bridging               | 35°<br>-22-<br>-3.3<br>-5.6 | 8               | B (Black)           | <b>PYD-085B</b> □ ( <b>8P)</b><br>(10 pcs./bag) |
|                    |       | adjacent<br>sockets        | 3.3                         | 2               | S (Blue)<br>R (Red) | <b>PYD-026B</b> □ <b>(2P)</b><br>(10 pcs./bag)  |
| PYFZ-14            | 29 mm |                            | 3.3                         | 8               |                     | <b>PYD-086B</b> □ <b>(8P)</b><br>(10 pcs./bag)  |
|                    |       | For bridging with the same | 3.2                         | 2               | B (Black)           | <b>PYD-020B</b> □ <b>(2P)</b> (50 pcs./bag)     |
|                    | 7 mm  | with the same<br>socket    | 3.2                         | 3               | Y (Yellow)          | <b>PYD-030B</b> □ ( <b>3P</b> ) (10 pcs./bag)   |

<sup>\*1.</sup> Replace the box ( $\square$ ) in the model number with the code for the covering color.

# For Screw Terminal Sockets (PYFZ-08/PYFZ-14)

#### **Terminal covers**

| Applicable sockets | Appearance | Model                   |
|--------------------|------------|-------------------------|
| PYFZ-08            |            | PYCZ-C08<br>(2 pcs/set) |
| PYFZ-14            |            | PYCZ-C14<br>(1 pcs/set) |

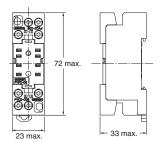
- Note: 1. These covers cannot be used for PYF08A and PYF14A.
  - 2. A short bar (optional) cannot be used attached to the upper section because it will interfere with the terminal cover.

### Dimensions with terminal cover

(Unit: mm)

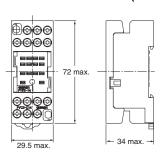
PYCZ-C08











# Socket Mounting Plates (For Back-connecting Socket PY\(\subset \)/Solder Terminals, PY\(\subset \)QN(2)/Wrapping Terminals)

|                                      | Applicable Sockets   | 8          | Socket Mounting   | ) Plates |
|--------------------------------------|--|------------|-------------------|----------|
| Model                                | Models with hold-down clips                                  | Appearance | Number of sockets | Model    |
| PY08<br>PY08QN                       | PY08-Y1, PY08-Y3<br>PY08QN-Y1, PY08QN-Y3                     |            | 1                 | PYP-1    |
| PY08QN2<br>PY11<br>PY11QN<br>PY11QN2 | PY08QN2-Y1, PY08QN2-Y3<br>PY11-Y1<br>PY11QN-Y1<br>PY11QN2-Y1 |            | 18                | PYP-18*  |
| PY14<br>PY14QN<br>PY14QN2            | PY14-Y1, PY14-Y3<br>PY14QN-Y1, PY14QN-Y3                     |            | 36                | PYP-36*  |

<sup>\*</sup>You can cut the PYP-18 and PYP-36 to any required length.

# **Parts for Track Mounting**

| Туре       |       | Appearance  | Model    |
|------------|-------|-------------|----------|
| DIN Tracks | 1 m   |             | PFP-100N |
| DIN Hacks  | 0.5 m |             | PFP-50N  |
| End Plate* |       | State Comp. | PFP-M    |
| Spacer     |       |             | PFP-S    |

Note: The track conforms to DIN standards.

<sup>\*</sup>When mounting DIN track, please use End Plate (Model PFP-M).

# **Characteristics**

# Sockets

| -   |                   | Dielectric strength*4 |                   |                          |                               |                            |                           |   |   |   |                                  |              |              |              |             |              |
|-----|-------------------|-----------------------|-------------------|--------------------------|-------------------------------|----------------------------|---------------------------|---|---|---|----------------------------------|--------------|--------------|--------------|-------------|--------------|
|     | Model             | Connection            | Number of pins    | Terminal Type            | Ambient operating temperature | Ambient operating humidity | Rated<br>carry<br>current | Between<br>contact<br>terminals of<br>same polarity | Between contact<br>terminals of<br>different polarity | Between<br>coil and<br>contact<br>terminals | Insulation<br>resistance<br>*1*4 | Weight       |              |              |             |              |
|     | PYF-08-PU         |                       |                   | Push-In Plus Terminal    | -40 to 70°C                   |                            | 10 A*2                    | 2,000 VAC   | 2,000 VAC   | 2,000 VAC                                   |                                  | Approx. 80 g |              |              |             |              |
|     | PYF08S            |                       |                   | Screwless terminal       |                               | 10712                      | for 1 min                 | for 1 min   | for 1 min   |   | Approx. 46 g                     |              |              |              |             |              |
|     | PYFZ-08           | 7-08-F                |                   |                          |                               | 10 A                       | 2,250 VAC                 |   | 2,250 VAC   |   | Approx. 32 g                     |              |              |              |             |              |
|     | PYFZ-08-E         |                       |                   | Screw terminal           | FF 1 700O                     | 55.4 7000                  | 10 A                      | for 1 min   | for 1 min   | for 1 min                                   | A                                | Approx. 32 g |              |              |             |              |
|     | PYF08M            |                       |                   |                          | -55 to 70°C                   |                            | 5 A                       | 1,500 VAC<br>for 1 min                              | 1,500 VAC<br>for 1 min                                | 1,500 VAC<br>for 1 min                      | 4 000 MO                         | Approx. 26 g |              |              |             |              |
|     | PYF11A            | Front                 | 11                | Screw terminal           |                               |                            | 5 A                       | 2,000 VAC<br>for 1 min                              | 2,000 VAC<br>for 1 min                                | 2,000 VAC for 1 min                         | 1,000 MΩ<br>min.<br>(500 VAC)    | Approx. 43 g |              |              |             |              |
|     | PYF-14-PU         |                       |                   | Push-In Plus Terminal    | -40 to 70°C                   |                            | 6 A                       | 2,000 VAC   | 2,000 VAC   | 2,000 VAC                                   | (000 1710)                       | Approx. 87 g |              |              |             |              |
|     | PYF14S            |                       |                   | Screwless terminal       |                               |                            | 5 A                       | for 1 min   | for 1 min   | for 1 min                                   |                                  | Approx. 62 g |              |              |             |              |
|     | PYFZ-14           |                       | 14                |                          |                               |                            | 6 A                       | 2,250 VAC   | 2,250 VAC   | 2,250 VAC                                   |                                  | Approx. 50 g |              |              |             |              |
|     | PYFZ-14-E         |                       |                   | Screw terminal           | -55 to 70°C                   |                            | UA                        | for 1 min   | for 1 min   | for 1 min                                   |                                  | Approx. 50 g |              |              |             |              |
|     | PYF14T            |                       |                   |                          |                               |                            | 3 A                       | 2,000 VAC<br>for 1 min                              | 2,000 VAC<br>for 1 min                                | 2,000 VAC<br>for 1 min                      |                                  | Approx. 53 g |              |              |             |              |
|     | PY08              |                       |                   |                          |                               |                            |                           |   |   |   | Approx. 8 g                      |              |              |              |             |              |
|     | PY08-Y1           | 8                     | Solder terminals  |                          |                               |                            |                           |   |   |   | Approx. 9 g                      |              |              |              |             |              |
|     | PY08-Y3           |                       |                   |                          |                               |                            |                           |   |   |   | Approx. 9 g                      |              |              |              |             |              |
|     | PY08QN            |                       |                   | Wrapping terminals       |                               |                            |                           |   |   |   |                                  | Approx. 12 g |              |              |             |              |
| ] [ | PY08QN-Y1         |                       | (Terminal length: |                          |                               | 7 A                        | 1,500 VAC                 | 1,500 VAC   | 1,500 VAC   | 100 MΩ                                      | Approx. 13 g                     |              |              |              |             |              |
|     | PY08QN-Y3         |                       |                   | 0                        | 25 mm)                        |                            | 5% to                     | 7.8   | for 1 min   | for 1 min                                   | for 1 min                        | min.         | Approx. 13 g |              |             |              |
|     | PY08QN2           |                       |                   | Wr                       | Wrapping terminals            |                            |                           |   |   |   |                                  |              | Approx. 11 g |              |             |              |
|     | PY08QN2-Y1        |                       | (Terminal length: |                          | 85%                           |                            |                           |   |   |   | Approx. 12 g                     |              |              |              |             |              |
|     | PY08QN2-Y3        |                       |                   | 20 mm)                   |                               |                            |                           |   |   |   |                                  | Approx. 12 g |              |              |             |              |
|     | PY08-02           |                       |                   | PCB terminals            |                               |                            |                           |   |   |   |                                  | Approx. 7 g  |              |              |             |              |
|     | PY11              |                       |                   | Solder terminals         |                               |                            | 1                         |   |   |   |                                  |              |              |              | Approx. 9 g |              |
|     | PY11-Y1           |                       |                   | Solder terminals         |                               |                            |                           |   |   |   |                                  | Approx. 10 g |              |              |             |              |
|     | PY11QN            |                       |                   | Wrapping terminals       |                               |                            |                           | 4 500 1/4 0   | 4.500.44.0  | 4 =00 \ 44 0                                | 400.140                          | Approx. 13 g |              |              |             |              |
|     | PY11QN-Y1         | Back                  | 11                | (Terminal length: 25 mm) | -55 to 70°C                   |                            | 5 A                       | 1,500 VAC<br>for 1 min                              | 1,500 VAC<br>for 1 min                                | 1,500 VAC<br>for 1 min                      | 100 MΩ<br>min.                   | Approx. 14 g |              |              |             |              |
| _   | PY11QN2           |                       |                   |                          | Wrapping terminals            |                            |                           |   |   |   |                                  |              |              | 101 1 111111 |             | Approx. 12 g |
|     | PY11QN2-Y1        |                       |                   | (Terminal length: 20 mm) |                               |                            |                           |   |   |   |                                  | Approx. 13 g |              |              |             |              |
| _   | PY11-02           |                       |                   | PCB terminals            |                               |                            |                           |   |   |   |                                  | Approx. 8 g  |              |              |             |              |
|     | PY14              |                       |                   |                          |                               |                            |                           |   |   |   |                                  | Approx. 10 g |              |              |             |              |
|     | PY14-Y1           |                       |                   | Solder terminals         |                               |                            |                           |   |   |   |                                  | Approx. 11 g |              |              |             |              |
|     | PY14-Y3           |                       |                   |                          |                               |                            |                           |   |   |   |                                  | Approx. 11 g |              |              |             |              |
|     | PY14QN            |                       |                   | Wrapping terminals       |                               |                            |                           |   |   |   |                                  | Approx. 14 g |              |              |             |              |
|     | PY14QN-Y1         |                       | 14                | (Terminal length:        |                               |                            | 3 A                       | 1,500 VAC   | 1,500 VAC   | 1,500 VAC                                   | 100 MΩ                           | Approx. 15 g |              |              |             |              |
|     | PY14QN-Y3         |                       | 14                | 25 mm)                   |                               |                            | 3 A                       | for 1 min   | for 1 min   | for 1 min                                   | min.                             | Approx. 15 g |              |              |             |              |
|     | PY14QN2           | Wrapping terminals    |                   |                          |                               |                            |                           |   |   |   | Approx. 13 g                     |              |              |              |             |              |
|     | PY14QN2-Y1        |                       |                   | (Terminal length:        |                               |                            |                           |   |   |   |                                  | Approx. 14 g |              |              |             |              |
|     | PY14QN2-Y3        |                       |                   | 20 mm)                   |                               |                            |                           |   |   |   |                                  | Approx. 14 g |              |              |             |              |
|     | PY14-02           |                       |                   | PCB terminals            |                               |                            |                           |   |   |   |                                  | Approx. 9 g  |              |              |             |              |
| ı.  | 1 Far F00 \/DC an |                       |                   |                          | atropath mass                 |                            |                           |   |   |   |                                  |              |              |              |             |              |

<sup>\*1.</sup> For 500 VDC applied to the same location as for dielectric strength measurement.
\*2. The carrying current of 10 A is for an ambient temperature of 55°C or below. At an ambient temperature of 70°C, the value is 7 A.
\*3. This model is a set including a socket and relay hold-down clips. This weight shown is the total including the socket and relay hold-down clips.
\*4. The dielectric strength and insulation resistance values in the above table are for a single socket.

## **Socket Accessories**

# ●For Front-connecting Sockets

#### **Short Bars**

| Application                | Applicable sockets             | Model          | Maximum carry current                | Ambient operating temperature | Ambient operating humidity                       |
|----------------------------|--------------------------------|----------------|--------------------------------------|-------------------------------|--|
|                            | PYF-08-PU(-L)<br>PYF-14-PU(-L) | PYDN-7.75-020□ | 00.4                                 | -40 to 70°C 5% to 85%         | 5% to 85%  |
|                            |                                | PYDN-7.75-030□ |                                      |                               |  |
|                            |                                | PYDN-7.75-040□ | - 20 A                               |                               |  |
|                            |                                | PYDN-7.75-200□ |                                      |                               |  |
| Bridging contact terminals | PYFZ-08                        | PYD-025B□      |                                      |                               | 45% to 85%<br>(with no icing or<br>condensation) |
| (common)                   |                                | PYD-085B□      | 20 A<br>(However, 18 A when<br>70°C) |                               |  |
|                            | DVE7.44                        | PYD-026B□      |                                      |                               |  |
|                            |                                | PYD-086B□      |                                      |                               |  |
|                            | PYFZ-14                        | PYD-020B□      | ,                                    |                               | ,  |
|                            |                                | PYD-030B□      |                                      |                               |  |
|                            | PYF-08-PU(-L)<br>PYF-14-PU(-L) | PYDN-31.0-080□ | 20 A                                 | -40 to 70°C                   | 5% to 85%  |
| For Coil terminals         | PYF08S                         | PYDM-08S□      | 10 A                                 | -40 to 70°C                   | 5% to 85%  |
|                            | PYF14S                         | PYDM-14S□      | 10 A                                 | -40 to 70°C                   | 5% to 85%  |

# **Certified Standards**

# ●CSA certification (File No. LR031928)

| Model        | Ratings     | Class number | Standard number   |  |
|--------------|-------------|--------------|-------------------|--|
| PYF-08-PU    | 10 A, 250 V |              |                   |  |
| PYF-14-PU    | 6 A, 250 V* |              |                   |  |
| PYF08S       | 10 A, 250 V |              |                   |  |
| PYF14S       | 5 A, 250 V  | 3211 07      | CSA C22.2 No14    |  |
| PYFZ-08(-E)  | 10 A, 250 V | 021101       | 00/1 022.2 110 14 |  |
| PYFZ-14(-E)  | 6 A, 250 V  |              |                   |  |
| PY□<br>PYF□A | 7 A, 250 V  |              |                   |  |

<sup>\*</sup>When power is supplied to all four poles, use with a total power current that does not exceed 20 A.

# ●UL certification (File No. E87929)

| Model            | Ratings     | Standard number | Category | Listed/Recognized |
|------------------|-------------|-----------------|----------|-------------------|
| PYF-08-PU        | 10 A, 250 V |                 |          |                   |
| PYF-14-PU        | 6 A, 250 V* |                 | SWIV2    | Recognition       |
| PYF08S<br>PYF14S | 10 A, 250 V | UL508           |          |                   |
| PYFZ-08(-E)      | 10 A, 250 V |                 |          |                   |
| PYFZ-14(-E)      | 6 A, 250 V  |                 |          |                   |
| PY□<br>PYF□A     | 7 A, 250 V  |                 |          |                   |

<sup>\*</sup>When power is supplied to all four poles, use with a total power current that does not exceed 20 A.

# ●TÜV Rheinland certification

| Model       | Ratings      | Standard number | Certification No. |  |
|-------------|--------------|-----------------|-------------------|--|
| PYF-08-PU   | 10 A, 250 V* |                 | R50327595         |  |
| PYF-14-PU   | 6 A, 250 V   | EN 64094        | K50327595         |  |
| PYFZ-08(-E) | 10 A, 250 V  | EN 61984        | DE040E220         |  |
| PYFZ-14(-E) | 6 A, 250 V   |                 | R50405329         |  |

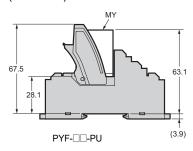
<sup>\*</sup>Ratings are for an ambient temperature of 55°C or below. At an ambient temperature of 70°C, the value is 7 A.

# ●VDE certification

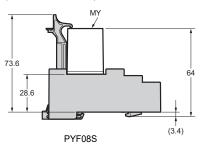
| Model  | Standard number   | Certification No. |  |
|--------|-------------------|-------------------|--|
| PYF08S | VDE0627 (EN61984) | 40015509          |  |
| PYF14  | VDE0027 (EN01904) | 40015509          |  |

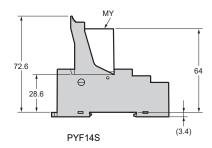
# Front-connecting Sockets

• Push-In Plus Terminal (PYF-□-PU)

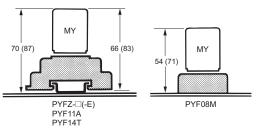


· Screwless terminal (PYF08S, PYF14S)





· Screw terminal (PYFZ-□(-E), PYF11A, PYF14T, PYF08M)



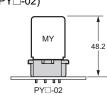
- Note: 1. The PYF11A can be mounted on a track or with screws.
  - The heights given in parentheses are the measurements for 53-mm-high Relays.
     Use the PYC-P Hold-down Clip for the PYF08M.

# Back-connecting Sockets

• Solder terminals/wrapping terminals (PY□)

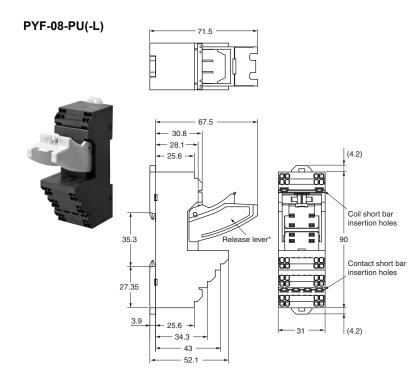


 PCB terminals (PY□-02)



# **Front-connecting Sockets**

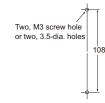
## ●Push-In Plus Terminal



Terminal Arrangement/Internal Connection Diagram

# (Top View) Ą1 (13) 44 (8)

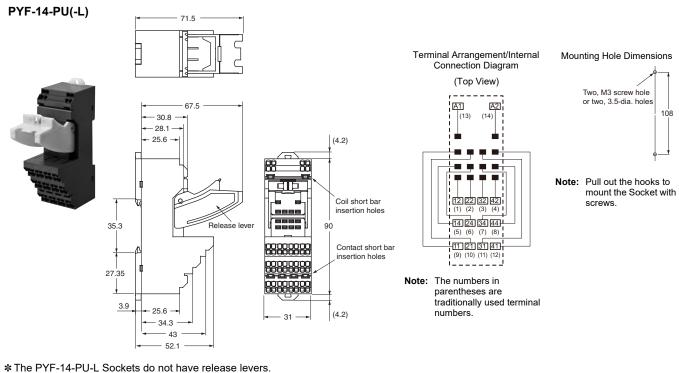
Mounting Hole Dimensions



Note: Pull out the hooks to mount the Socket with screws.

- Note: 1. The numbers in parentheses are traditionally used terminal numbers.
  - 2. Insert the short bar into only the A1 or A2 side.
  - 3. Only the No. 11 and No. 41 terminals function as bridging contact terminals. The two insertion holes between the terminals are false terminals to allow for installation without having to fold out the short bar pins.

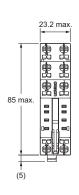
\* The PYF-08-PU-L Sockets do not have release levers.



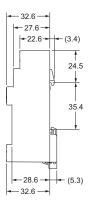
# Screwless terminal

## PYF08S

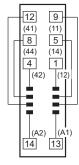








Terminal Arrangement/Internal Connection Diagram

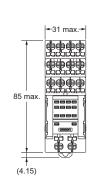


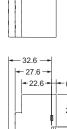
(Top View)

Note: The number shown in parentheses is the DIN standard.

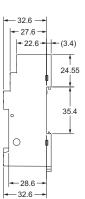
# PYF14S



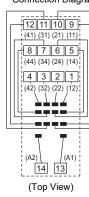




**-**36.5 max.**→** 



Terminal Arrangement/Internal Connection Diagram



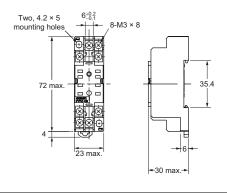
**Note:** The number shown in parentheses is the DIN standard.

# **Front-connecting Sockets**

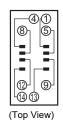
## Screw terminal

## PYFZ-08

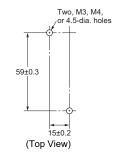




Terminal Arrangement/ Internal Connection Diagram



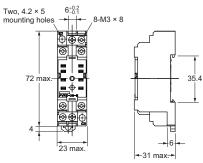
Mounting Hole Dimensions



Note: Track mounting is also possible.

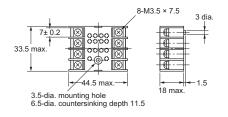
# PYFZ-08-E (Finger-protection structure)





PYF08M



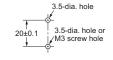


Terminal Arrangement/Internal Connection Diagram



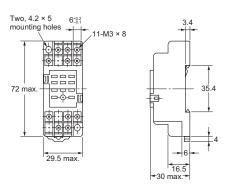
(Top View)

Mounting Hole Dimensions

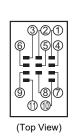


PYF11A

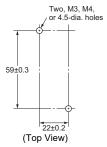




Terminal Arrangement/Internal Connection Diagram



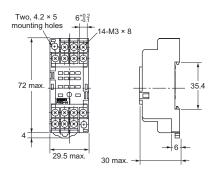
Mounting Hole Dimensions



**Note:** Track mounting is also possible.

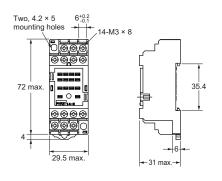
## PYFZ-14



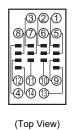


PYFZ-14-E (Finger-protection structure)

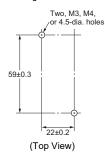




Terminal Arrangement/Internal Connection Diagram



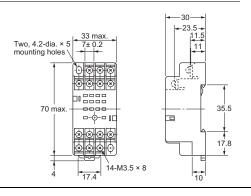
Mounting Hole Dimensions



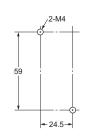
**Note:** Track mounting is also possible.

## PYF14T





Mounting Hole Dimensions



# **Back-connecting Socket**

## Solder terminals



\*PY08-Y□ includes the potion indicated by broken line

#### Terminal Arrangement/Internal Connection Diagram



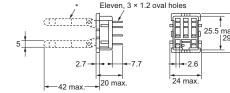
(Bottom View)

# Mounting Hole Dimensions









20 max

Eight, 3 × 1,2 oval holes

26

24 max

\*PY11-Y1 includes the potion indicated by broken line.

# Terminal Arrangement/Internal Connection Diagram



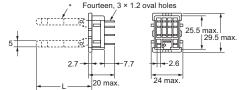
(Bottom View)

Mounting Hole Dimensions



**PY14** PY14-Y1 PY14-Y3





\*PY14-Y includes the potion indicated by broken line.

# Terminal Arrangement/Internal Connection Diagram



(Bottom View)

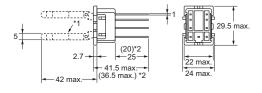
## Mounting Hole Dimensions



# Wrapping terminals

PY08QN PY08QN2 **PY08QN2-Y1** PY08QN2-Y3





- \*1. PY08QN(2)-Y1 includes the potion indicated by broken line. \*2. Dimensions in parentheses are for PY08QN2(-Y1).

#### Terminal Arrangement/Internal Connection Diagram



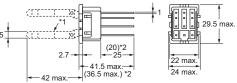
(Bottom View)

# Mounting Hole Dimensions



## **PY11QN PY11QN2** PY11QN-Y1 **PY11QN2-Y1**





\*1. PY11QN(2)-Y1 includes the potion indicated by broken line \*2. Dimensions in parentheses are for PY11QN2(-Y1).

#### Terminal Arrangement/Internal Connection Diagram



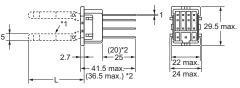
(Bottom View)

## Mounting Hole Dimensions



## PY14QN/PY14QN2 PY14QN-Y1/PY14QN2-Y1 **PY14QN-Y3** (L = 60 max.) PY14QN2-Y3 (L = 60 max.)





\*1. PY14QN-Y $\square$  and PY14QN2-Y $\square$  include the potion indicated by broken line. \*2. Dimensions in parentheses are for PY14QN2(-Y $\square$ ).

# Terminal Arrangement/Internal Connection Diagram



(Bottom View)

## Mounting Hole Dimensions



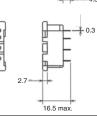
# PCB terminals

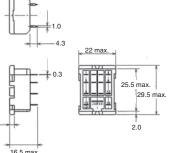
#### PY08-02

• This is not a flux-tight structure. We recommend manual soldering for









6.6±0.1

22 max

6.6±0.1

25.5 max

25.5 max

2.0

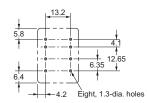
29.5 max

29.5 max

#### Terminal Arrangement/Internal Connection Diagram



#### Mounting Hole and PCB Dimensions

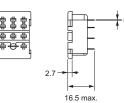


# PY11-02

• This is not a flux-tight structure. We



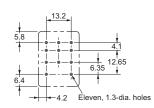




Terminal Arrangement/Internal Connection Diagram



Mounting Hole and PCB Dimensions

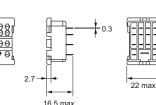


#### PY14-02

• This is not a flux-tight structure. We recommend manual soldering for this product.



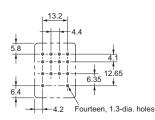




#### Terminal Arrangement/Internal Connection Diagram



Mounting Hole and PCB Dimensions

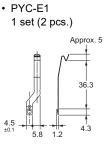


# **Socket Accessories**

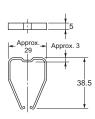
# ●Hold-down Clip

PYC-A1 1 set (2 pcs.)

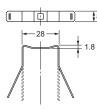




• PYC-P



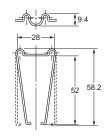
• PYC-S 1 set (2 pcs.)



• Y92H-3 1 set (2 pcs.)

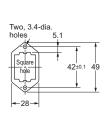


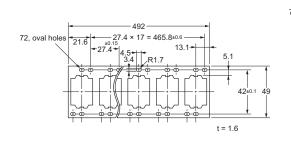
• PYC-1



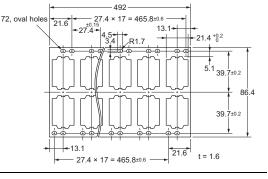
# Socket Mounting Plates

PYP-1 **PYP-18** 





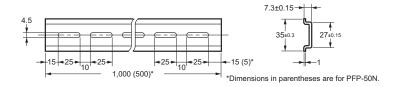
#### **PYP-36**



# Accessories for DIN Track Mounting

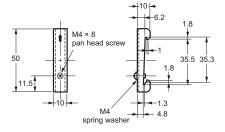
DIN Tracks PFP-100N PFP-50N





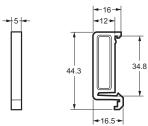
# End Plate PFP-M





Spacer PFP-S





# Salety Frecautio

# Relays

Be sure to read the *Safety Precautions for All Relays* in the website at the following URL: http://www.ia.omron.com/product/cautions/36/safety\_precautions.html

# **Warning Indications**



Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury, or may result in serious injury or death.

Additionally there may be significant property damage.



Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or in property damage.

Precautions for Correct Use Supplementary comments on what to do or avoid doing, to prevent failure to operate, malfunction, or undesirable effects on product performance.

#### **Meaning of Product Safety Symbols**



General caution

Indicates the possibility of non-specified general cautions, warnings, and danger.



Electric shock caution

Used to warn of the risk of electric shock under specific conditions.



• High temperature caution Indicates the possibility of injuries by high temperature under specific conditions.

# **↑** CAUTION

Do not touch terminal sections (i.e., current-carrying parts) while power is being supplied.

Also, always mount the terminal cover.

Touching current-carrying parts may result in electric shock.



Do not touch the main unit while power is being supplied or immediately after the power supply has been turned OFF. The main unit will be extremely hot and may result in burns.



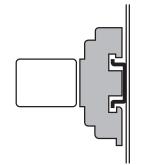
#### **Precautions for Correct Use**

# Handling

For models with a built-in operation indicator, models with a built-in diode, or high-sensitivity models, check the coil polarity when wiring and wire all connections correctly (DC operation).

#### Installation

 There is no specifically required installation orientation, but make sure that the Relays are installed so that the contacts are not subjected to vibration or shock in their movement direction.



• Use two M3 screws to mount the case-surface mounting (MY□F) and tighten them securely. (Appropriate tightening torque: 0.98 N·m)

# ● Relay Replacement

To replace the Relay, turn OFF the power supply to the load and Relay coil sides to prevent unintended operation and possible electrical shock.

## Applicable Sockets

Use only combinations of OMRON Relays and Sockets.

### Attaching and Removing Relay Hold-down Clips

When you attach a Hold-down Clip to or remove it from a Socket, wear gloves or take other measures to prevent injuring your fingers on the Hold-down Clip.

# Compliance with Electrical Appliances and Material Safety Act

- MY standard models comply with the Electrical Appliances and Material Safety Act.
- Always protect any exposed terminals (including Socket terminals) after wiring with insulation tubes or resin coating on PCBs.

| Model | Number of poles | Operating Coil ratings       | Contact ratings |
|-------|-----------------|------------------------------|-----------------|
| MY    | 1<br>2<br>3     | 6 to 220 VAC<br>6 to 120 VDC | 5 A, 200 VAC    |
| 1411  | 4*              | 6 to 110 VAC<br>6 to 120 VDC | 3 A, 115 VAC    |

\*Under the Electrical Appliances and Material Safety Act, do not use the Type 4 model with a voltage that exceeds 150 VAC. However, this restriction can be ignored if compliance with the Electrical Appliances and Material Safety Act is not required.

# •Miniature Power Relays: MY

#### **Latching Levers**

- Turn OFF the power supply when operating the latching lever.
   After you use the latching lever always return it to its original state.
- Do not use the latching lever as a switch.
- The latching lever can be used for 100 operations minimum.

# About the Built-in Diode and CR Elements

The diode or CR element that are built into the Relay are designed to absorb the reverse voltage from the Relay coil. If a large surge in voltage is applied to the diode or CR element from an external source, the element will be destroyed.

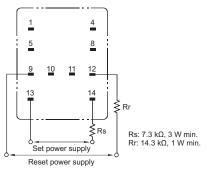
If there is the possibility of large voltage surges that could be applied to the elements from an external source, take any necessary surge absorption measures.

## **Using Microloads with Infrequent Operation**

If any standard MY-series Relays (e.g., MY4) are used infrequently to switch microloads, the contacts may become unstable and eventually result in failure contact. In this case, we recommend using the MY4Z-CBG Series, which has high contact reliability for microloads.

## Latching Relays (MYK)

 For applications that use a 200 VAC power supply, connect external resistors Rs and Rr to a 100 VAC Relay.



- Do not apply a voltage to the set and reset coils at the same time. If you
  apply the rated voltage to both coils simultaneously, the Relay will be set.
- The minimum pulse width in the performance column is the value for the following measurement conditions: an ambient temperature of 23°C with the rated operating voltage applied to the coil. Satisfactory performance may be unattainable due to decreased holding strength caused by changes in circuit conditions and ambient operating temperature, or due to changes caused by product aging. During actual use, apply a pulse width of the rated operating voltage suitable for the actual load to the coil and reset this at least once per year as a means of dealing with product aging.
- If the Relay is used in an environment with strong magnetic fields, the surrounding magnetic field can demagnetize the magnetic body and cause unintended operation.
   Therefore, do not use these Relays in environments with strong

Therefore, do not use these Relays in environments with strong magnetic fields.

# ●Hermetically Sealed Relays (MYH)

#### **Relays with PCB Terminals**

When a Relay with PCB Terminals is mounted, a short-circuit can occur depending on the design of the PCB pattern because the Relay itself is made out of metal.

#### Solution

Refer to the external dimensions of the Relay and design the PCB pattern with enough space to prevent this problem.

#### **Application Environments**

Humid environments can cause insulation problems, which may result in short-circuiting or unintended operation.

#### Solution

Do not use these Relays in any environment where the Relay will come into contact with water vapor, condensation, or water droplets. This can reduce the surface tension of the terminal insulating beads and cause short-circuiting or unintended operation due to insulation problem.

# **Optional Sockets (Order Separately)**

Be sure to read the *Safety Precautions for All Relays* in the website at the following URL: http://www.ia.omron.com/product/cautions/36/safety\_precautions.html

# **Front-connecting Sockets**

●Push-In Plus Terminal Sockets (PYF-08-PU(-L), PYF-14-PU(-L))

Refer to Safety Precautions on the Push-In Plus Terminal Block Socket PYF- -- PU/P2RF- -- PU Data Sheet (Catalog No. SGFR-218).

### Screwless Terminal Sockets (PYF08S, PYF14S)

Refer to Safety Precautions on the Screwless Terminal Socket PYF S Data Sheet (Catalog No. CDRR-011).

### Screw Terminal Sockets (PYFZ-08(-E), PYF08M, PYF11A, PYFZ-14(-E), PYF-14T)

Be sure to read the Safety Precautions for All Relays, 4-2-1 Panel-mounting Sockets and 4-2-2 Relay Removal Direction of the website at the following URL: http://www.ia.omron.com/product/cautions/36/safety precautions.html

- Use the following tightening torque for screws during wiring.
  - Model
     Tightening torque

     PYFZ-08
     PYFZ-14

     PYF11A
     0.78 to 1.18 N⋅m

     PYF14T
     PYFZ-08-E

     PYFZ-08-E
     0.59 to 0.88 N⋅m

     \* Use a No. 1 screwdriver.
- Use the following wire diameters as a guide for wiring. (Select the appropriate wire diameter for the current used.)

| Model              | Recommen      | ded wire diameter (mm²)                     |
|--------------------|---------------|---|
| PYFZ-08<br>PYFZ-14 | Stranded wire | 0.75 to 2.5 mm <sup>2</sup><br>AWG 18 to 14 |
| PYF11A<br>PYF14T   | Solid wire    | 0.75 to 1.5 mm <sup>2</sup><br>AWG 18 to 16 |
| PYFZ-08-E          | Stranded wire | 0.75 to 2.5 mm <sup>2</sup><br>AWG 18 to 14 |
| PYFZ-14-E          | Solid wire    | 0.75 to 1.5 mm <sup>2</sup><br>AWG 18 to 16 |

# **Back-connecting Socket**

- ◆Solder Terminal Sockets (PY08(-Y1/-Y3), PY11(-Y1/-Y3))
- •Wrapping Terminals Sockets (PY08QN(-Y1/-Y3), PY08QN2(-Y1/-Y3), PY11QN(-Y1), PY11QN2(-Y1))
- ●PCB Terminal Sockets (PY08-02, PY11-02)

Be sure to read the Safety Precautions for All Relays, 4-2-3 Back-connecting Sockets and 4-2-5 Terminal Soldering of the website at the following URL: http://www.ia.omron.com/product/cautions/36/safety\_precautions.html

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