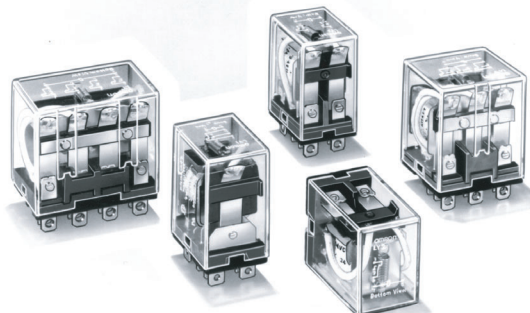


# General-purpose Relay LY





## A Miniature Power Relay

- Equipped with arc barrier.
- Dielectric strength: 2,000 V.
- Built-in diode models added to the LY Series.
- Single-pole and double-pole models are applicable to operating coils with ratings of 100/110 VAC, 110/120 VAC, 200/220 VAC, 220/240 VAC, or 100/110 VDC).
- Three-pole and four-pole models are applicable to operating coils with ratings of 100/110 VAC, 200/220 VAC, or 100/110 VDC).



## Ordering Information

### ■ Open Relays

| Type                          | Contact form      | Plug-in/solder terminals<br> | Plug-in/solder terminals with LED indicator<br> | PCB terminals<br> | Upper-mounting Plug-in/solder terminals<br> |
|-------------------------------|-------------------|---|--|--|---|
| Standard                      | SPDT              | LY1   | LY1N   | LY1-0  | LY1F  |
|                               | DPDT              | LY2   | LY2N   | LY2-0  | LY2F  |
|                               | DPDT (bifurcated) | LY2Z  | LY2ZN  | LY2Z-0   | LY2ZF   |
|                               | 3PDT              | LY3   | LY3N   | LY3-0  | LY3F  |
|                               | 4PDT              | LY4   | LY4N   | LY4-0  | LY4F  |
| With built-in diode (DC only) | SPDT              | LY1-D   | LY1N-D2  | ---  | ---   |
|                               | DPDT              | LY2-D   | LY2N-D2  | ---  | ---   |
|                               | DPDT (bifurcated) | LY2Z-D  | LY2ZN-D2   | ---  | ---   |
|                               | 3PDT              | LY3-D   | ---  | ---  | ---   |
|                               | 4PDT              | LY4-D   | LY4N-D2  | ---  | ---   |
| With built-in CR (AC only)    | SPDT              | ---   | ---  | ---  | ---   |
|                               | DPDT              | LY2-CR  | LY2N-CR  | ---  | ---   |
|                               | DPDT (bifurcated) | LY2Z-CR   | LY2ZN-CR   | ---  | ---   |

**Note: 1.** When ordering, add the rated coil voltage to the model number. Rated coil voltages are given in the coil ratings table.

Example: LY2, 6 VAC  
└─── Rated coil voltage

2. Relays with #187 quick connect terminals are also available with SPDT and DPDT contact. Ask your OMRON representative for details.
3. SEV models are standard Relays excluding DPDT (bifurcated) models.
4. VDE- or LR- qualifying Relays must be specified when ordering.

## ■ Accessories (Order Separately)

### Sockets

| Poles  | Front-connecting Socket   |  | Back-connecting Socket   |                    |               |
|--------|---------------------------|--|--------------------------|--------------------|---------------|
|        | DIN track/screw terminals |  | Plug-in/solder terminals | Wrapping terminals | PCB terminals |
| 1 or 2 | PTF08A-E, PTF08A          |  | PT08                     | PT08QN             | PT08-0        |
| 3      | PTF11A                    |  | PT11                     | PT11QN             | PT11-0        |
| 4      | PTF14A-E, PTF14A          |  | PT14                     | PT14QN             | PT14-0        |

- Note:** 1. For PTF08-E and PTF14A-E, see "Track Mounted Socket."  
 2. PTF□A (-E) Sockets have met UL and CSA standards: UL 508/CSA C22.2.

### Mounting Plates for Sockets

| Socket model   | For 1 Socket | For 10 Sockets | For 12 Sockets | For 18 Sockets |
|----------------|--------------|----------------|----------------|----------------|
| PT08<br>PT08QN | PYP-1        | ---            | ---            | PYP-18         |
| PT11<br>PT11QN | PTP-1-3      | ---            | PTP-12         | ---            |
| PT14<br>PT14QN | PTP-1        | PTP-10         | ---            | ---            |

### Socket-Hold-down Clip Pairings

| Relay type  | Poles | Front-connecting Sockets |            | Back-connecting Sockets |            |
|---|-------|--------------------------|------------|-------------------------|------------|
|   |       | Socket model             | Clip model | Socket model            | Clip model |
| Standard, bifurcated contacts operation indicator, built-in diode | 1, 2  | PTF08A-E, PTF08A         | PYC-A1     | PT08(QN), PT08-0        | PYC-P      |
|   | 3     | PTF11A                   |            | PT11(QN), PT11-0        |            |
|   | 4     | PTF14A-E, PTF14A         |            | PT14(QN), PT14-0        |            |
| CR circuit  | 2     | PTF08A-E, PTF08A         | Y92H-3     | PT08(QN), PT08-0        | PYC-1      |

## Specifications

### ■ Coil Ratings

#### Single- and Double-pole Relays

| Rated voltage |            | Rated current |            | Coil resistance | Coil inductance (reference value) |                     | Must operate voltage | Must release voltage | Max. voltage | Power consum. (approx.) |
|---------------|------------|---------------|------------|-----------------|-----------------------------------|---------------------|----------------------|----------------------|--------------|-------------------------|
|               |            | 50 Hz         | 60 Hz      |                 | Arm. OFF                          | Arm. ON             |                      |                      |              |                         |
| AC            | 6 V        | 214.1 mA      | 183 mA     | 12.2 Ω          | 0.04 H                            | 0.08 H              | 80% max.             | 30% min.             | 110%         | 1.0 to 1.2 VA (60 Hz)   |
|               | 12 V       | 106.5 mA      | 91 mA      | 46 Ω            | 0.17 H                            | 0.33 H              |                      |                      |              |                         |
|               | 24 V       | 53.8 mA       | 46 mA      | 180 Ω           | 0.69 H                            | 1.30 H              |                      |                      |              |                         |
|               | 50 V       | 25.7 mA       | 22 mA      | 788 Ω           | 3.22 H                            | 5.66 H              |                      |                      |              |                         |
|               | 100/110 V  | 11.7/12.9 mA  | 10/11 mA   | 3,750 Ω         | 14.54 H                           | 24.6 H              |                      |                      |              |                         |
|               | 110/120 V  | 9.9/10.8 mA   | 8.4/9.2 mA | 4,430 Ω         | 19.20 H                           | 32.1 H              |                      |                      |              |                         |
|               | 200/220 V  | 6.2/6.8 mA    | 5.3/5.8 mA | 12,950 Ω        | 54.75 H                           | 94.07 H             |                      |                      |              |                         |
| 220/240 V     | 4.8/5.3 mA | 4.2/4.6 mA    | 18,790 Ω   | 83.50 H         | 136.40 H                          | 0.9 to 1 VA (60 Hz) |                      |                      |              |                         |
| DC            | 6 V        | 150 mA        |            | 40 Ω            | 0.16 H                            |                     | 0.33 H               | 10% min.             |              | 0.9 W                   |
|               | 12 V       | 75 mA         |            | 160 Ω           | 0.73 H                            | 1.37 H              |                      |                      |              |                         |
|               | 24 V       | 36.9 mA       |            | 650 Ω           | 3.20 H                            | 5.72 H              |                      |                      |              |                         |
|               | 48 V       | 18.5 mA       |            | 2,600 Ω         | 10.6 H                            | 21.0 H              |                      |                      |              |                         |
|               | 100/110 V  | 9.1/10 mA     |            | 11,000 Ω        | 45.6 H                            | 86.2 H              |                      |                      |              |                         |

**Note:** See notes on the bottom of next page.

## Three-pole Relays

| Rated voltage |           | Rated current |              | Coil resistance | Coil inductance (reference value) |         | Must operate voltage | Must release voltage | Max. voltage | Power consum. (approx) |
|---------------|-----------|---------------|--------------|-----------------|-----------------------------------|---------|----------------------|----------------------|--------------|------------------------|
|               |           | 50 Hz         | 60 Hz        |                 | Arm. OFF                          | Arm. ON |                      |                      |              |                        |
| AC            | 6 V       | 310 mA        | 270 mA       | 6.7 Ω           | 0.03 H                            | 0.05 H  | 80% max.             | 30% min.             | 110%         | 1.6 to 2.0 VA (60 Hz)  |
|               | 12 V      | 159 mA        | 134 mA       | 24 Ω            | 0.12 H                            | 0.21 H  |                      |                      |              |                        |
|               | 24 V      | 80 mA         | 67 mA        | 100 Ω           | 0.44 H                            | 0.79 H  |                      |                      |              |                        |
|               | 50 V      | 38 mA         | 33 mA        | 410 Ω           | 2.24 H                            | 3.87 H  |                      |                      |              |                        |
|               | 100/110 V | 14.1/16 mA    | 12.4/13.7 mA | 2,300 Ω         | 10.5 H                            | 18.5 H  |                      |                      |              |                        |
|               | 200/220 V | 9.0/10.0 mA   | 7.7/8.5 mA   | 8,650 Ω         | 34.8 H                            | 59.5 H  |                      |                      |              |                        |
| DC            | 6 V       | 234 mA        |              | 25.7 Ω          | 0.11 H                            | 0.21 H  | 80% max.             | 10% min.             | 110%         | 1.4 W                  |
|               | 12 V      | 112 mA        |              | 107 Ω           | 0.45 H                            | 0.98 H  |                      |                      |              |                        |
|               | 24 V      | 58.6 mA       |              | 410 Ω           | 1.89 H                            | 3.87 H  |                      |                      |              |                        |
|               | 48 V      | 28.2 mA       |              | 1,700 Ω         | 8.53 H                            | 13.9 H  |                      |                      |              |                        |
|               | 100/110 V | 12.7/13 mA    |              | 8,500 Ω         | 29.6 H                            | 54.3 H  |                      |                      |              |                        |

Note: See notes under next table.

## Four-pole Relays

| Rated voltage |           | Rated current |             | Coil resistance | Coil inductance (reference value) |         | Must operate voltage | Must release voltage | Max. voltage | Power consum. (approx) |
|---------------|-----------|---------------|-------------|-----------------|-----------------------------------|---------|----------------------|----------------------|--------------|------------------------|
|               |           | 50 Hz         | 60 Hz       |                 | Arm. OFF                          | Arm. ON |                      |                      |              |                        |
| AC            | 6 V       | 386 mA        | 330 mA      | 5 Ω             | 0.02 H                            | 0.04 H  | 80% max.             | 30% min.             | 110%         | 1.95 to 2.5 VA (60 Hz) |
|               | 12 V      | 199 mA        | 170 mA      | 20 Ω            | 0.10 H                            | 0.17 H  |                      |                      |              |                        |
|               | 24 V      | 93.6 mA       | 80 mA       | 78 Ω            | 0.38 H                            | 0.67 H  |                      |                      |              |                        |
|               | 50 V      | 46.8 mA       | 40 mA       | 350 Ω           | 1.74 H                            | 2.88 H  |                      |                      |              |                        |
|               | 100/110 V | 22.5/25.5 mA  | 19/21.8 mA  | 1,600 Ω         | 10.5 H                            | 17.3 H  |                      |                      |              |                        |
|               | 200/220 V | 11.5/13.1 mA  | 9.8/11.2 mA | 6,700 Ω         | 33.1 H                            | 57.9 H  |                      |                      |              |                        |
| DC            | 6 V       | 240 mA        |             | 25 Ω            | 0.09 H                            | 0.21 H  | 80% max.             | 10% min.             | 110%         | 1.5 W                  |
|               | 12 V      | 120 mA        |             | 100 Ω           | 0.39 H                            | 0.84 H  |                      |                      |              |                        |
|               | 24 V      | 69 mA         |             | 350 Ω           | 1.41 H                            | 2.91 H  |                      |                      |              |                        |
|               | 48 V      | 30 mA         |             | 1,600 Ω         | 6.39 H                            | 13.6 H  |                      |                      |              |                        |
|               | 100/110 V | 15/15.9 mA    |             | 6,900 Ω         | 32 H                              | 63.7 H  |                      |                      |              |                        |

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

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

3. AC coil resistance and impedance are provided as reference values (at 60 Hz).

4. Power consumption drop was measured for the above data. When driving transistors, check leakage current and connect a bleeder resistor if required.

## ■ Contact Ratings

| Relay                                  | Single contact                       |   |                                      |   | Bifurcated contacts                  |   |
|--|--------------------------------------|---|--------------------------------------|---|--------------------------------------|---|
|  | 1-pole                               |   | 2-, 3- or 4-pole                     |   | 2-pole                               |   |
| <b>Load</b>                            | Resistive load<br>( $\cos\phi = 1$ ) | Inductive load<br>( $\cos\phi=0.4$ ,<br>L/R=7 ms) | Resistive load<br>( $\cos\phi = 1$ ) | Inductive load<br>( $\cos\phi=0.4$ ,<br>L/R=7 ms) | Resistive load<br>( $\cos\phi = 1$ ) | Inductive load<br>( $\cos\phi=0.4$ ,<br>L/R=7 ms) |
| <b>Rated load</b>                      | 110 VAC 15 A<br>24 VDC 15 A          | 110 VAC 10 A<br>24 VDC 7 A                        | 110 VAC 10 A<br>24 VDC 10 A          | 110 VAC 7.5 A<br>24 VDC 5 A                       | 110 VAC 5A<br>24 VDC 5 A             | 110 VAC 4 A<br>24 VDC 4A                          |
| <b>Rated carry current</b>             | 15 A                                 |   | 10 A                                 |   | 7 A                                  |   |
| <b>Max. switching voltage</b>          | 250 VAC<br>125 VDC                   |   | 250 VAC<br>125 VDC                   |   | 250 VAC<br>125 VDC                   |   |
| <b>Max. switching current</b>          | 15 A                                 |   | 10 A                                 |   | 7 A                                  |   |
| <b>Max. switching power</b>            | 1,700 VA<br>360 W                    | 1,100 VA<br>170 W                                 | 1,100 VA<br>240 W                    | 825 VA<br>120 W                                   | 550 VA<br>120 W                      | 440 VA<br>100 W                                   |
| <b>Failure rate (reference value)*</b> | 100 mA, 5 VDC                        |   | 100 mA, 5 VDC                        |   | 10 mA, 5 VDC                         |   |

\*Note: P level:  $\lambda_{60} = 0.1 \times 10^{-6}$ /operation, reference value

## ■ Characteristics

| Item                            | All except Relays with bifurcated contacts  | Relays with bifurcated contacts |
|---------------------------------|---|---------------------------------|
| <b>Contact resistance</b>       | 50 mΩ max.  |                                 |
| <b>Operate time</b>             | 25 ms max.  |                                 |
| <b>Release time</b>             | 25 ms max.  |                                 |
| <b>Max. operating frequency</b> | Mechanical: 18,000 operations/hr<br>Electrical: 1,800 operations/hr (under rated load)  |                                 |
| <b>Insulation resistance</b>    | 100 MΩ min. (at 500 VDC)  |                                 |
| <b>Dielectric strength</b>      | 1,000 VAC, 50/60 Hz for 1 min between contacts of same polarity<br>2,000 VAC, 50/60 Hz for 1 min between contacts of different polarity   |                                 |
| <b>Vibration resistance</b>     | Destruction: 10 to 55 to 10 Hz, 0.5 mm single amplitude (1.0 mm double amplitude)<br>Malfunction: 10 to 55 to 10 Hz, 0.5 mm single amplitude (1.0 mm double amplitude)  |                                 |
| <b>Shock resistance</b>         | Destruction: 1,000 m/s <sup>2</sup><br>Malfunction: 200 m/s <sup>2</sup>  |                                 |
| <b>Endurance</b>                | Mechanical: AC: 50,000,000 operations min. (at 18,000 operations/hr)<br>DC: 1,00,000,000 operations min. (at 18,000 operations/hr)<br>Electrical: Single-, three-, and four-pole: 200,000 operations min. (at 1,800 operations/hr under rated load)<br>Double-pole: 500,000 operations min. (at 1,800 operations/hr under rated load) |                                 |
| <b>Ambient temperature*</b>     | Operating:<br>Single- and double-pole standard, bifurcated-contact Relays: -25°C to 55°C (with no icing)<br>(-25°C to 70°C if carry current is 4 A or less)<br>All other Relays: -25°C to 40°C (with no icing) (-25°C to 55°C if carry current is 4 A or less)  |                                 |
| <b>Ambient humidity</b>         | Operating: 5% to 85%  |                                 |
| <b>Weight</b>                   | Single- and double-pole: approx. 40 g, three-pole: approx. 50 g, four-pole: approx. 70 g  |                                 |

Note: 1. The values given above are initial values.

2. The upper limit of 40°C for some Relays is because of the relationship between diode junction temperature and the element used.

## ■ Endurance Under Real Loads (reference only)

### LY1

| Rated voltage | Load type            | Conditions   | Operating frequency       | Electrical life      |
|---------------|----------------------|--|---------------------------|----------------------|
| 100 VAC       | AC motor             | 400 W, 100 VAC single-phase with 35-A inrush current, 7-A current flow | ON for 10 s, OFF for 50 s | 50,000 operations    |
|               | AC lamp              | 300 W, 100 VAC with 51-A inrush current, 3-A current flow              | ON for 5 s, OFF for 55 s  | 100,000 operations   |
|               |                      | 500 W, 100 VAC with 78-A inrush current, 5-A current flow              |                           | 25,000 operations    |
|               | Capacitor (2,000 μF) | 24 VDC with 50-A inrush current, 1-A current flow                      | ON for 1 s, OFF for 6 s   | 100,000 operations   |
|               | AC solenoid          | 50 VA with 2.5-A inrush current, 0.25-A current flow                   | ON for 1 s, OFF for 2 s   | 1,500,000 operations |
|               |                      | 100 VA with 5-A inrush current, 0.5-A current flow                     |                           | 800,000 operations   |

### LY2

| Rated voltage | Load type            | Conditions   | Operating frequency       | Electrical life      |
|---------------|----------------------|--|---------------------------|----------------------|
| 100 VAC       | AC motor             | 200 W, 100 VAC single-phase with 25-A inrush current, 5-A current flow | ON for 10 s, OFF for 50 s | 200,000 operations   |
|               | AC lamp              | 300 W, 100 VAC with 51-A inrush current, 3-A current flow              | ON for 5 s, OFF for 55 s  | 80,000 operations    |
|               | Capacitor (2,000 μF) | 24 VDC with 50-A inrush current, 1-A current flow                      | ON for 1 s, OFF for 15 s  | 10,000 operations    |
|               |                      | 24 VDC with 20-A inrush current, 1-A current flow                      |                           | 150,000 operations   |
|               | AC solenoid          | 50 VA with 2.5-A inrush current, 0.25-A current flow                   | ON for 1 s, OFF for 2 s   | 1,000,000 operations |
|               |                      | 100 VA with 5-A inrush current, 0.5-A current flow                     |                           | 500,000 operations   |

### LY4

| Rated voltage | Load type            | Conditions   | Operating frequency       | Electrical life      |
|---------------|----------------------|--|---------------------------|----------------------|
| 100 VAC       | AC motor             | 200 W, 200 VAC triple-phase with 5-A inrush current, 1-A current flow    | ON for 10 s, OFF for 50 s | 500,000 operations   |
|               |                      | 750 W, 200 VAC triple-phase with 18-A inrush current, 3.5 A current flow |                           | 70,000 operations    |
|               | AC lamp              | 300 W, 100 VAC with 51-A inrush current, 3-A current flow                | ON for 5 s, OFF for 55 s  | 50,000 operations    |
|               | Capacitor (2,000 μF) | 24 VDC with 50-A inrush current, 1-A current flow                        | ON for 1 s, OFF for 15 s  | 5,000 operations     |
|               |                      | 24 VDC with 20-A inrush current, 1-A current flow                        | ON for 1 s, OFF for 2 s   | 200,000 operations   |
|               | AC solenoid          | 50 VA with 2.5-A inrush current, 0.25-A current flow                     | ON for 1 s, OFF for 2 s   | 1,000,000 operations |
|               |                      | 100 VA with 5-A inrush current, 0.5-A current flow                       |                           | 500,000 operations   |

■ Approved Standards

**UL 508 Recognitions (File No. 41643)**

| No. of poles | Coil ratings                 | Contact ratings   | Operations                                  |
|--------------|------------------------------|---|---|
| 1            | 6 to 240 VAC<br>6 to 125 VDC | 15 A, 30 VDC (Resistive)<br>15 A, 240 VAC (General use)<br>TV-5, 120 VAC<br>1/2 HP, 120 VAC             | 6 x 10 <sup>3</sup><br>25 x 10 <sup>3</sup> |
| 2            |                              | 15 A, 28 VDC (Resistive)<br>15 A, 120 VAC (Resistive)<br>12 A, 240 VAC (General use)<br>1/2 HP, 120 VAC | 6 x 10 <sup>3</sup><br>25 x 10 <sup>3</sup> |
| 3 and 4      |                              | 10 A, 30 VDC (Resistive)<br>10 A, 240 VAC (General use)<br>1/3 HP, 240 VAC                              | 6 x 10 <sup>3</sup>                         |

**CSA 22.2 No. 14 Listings (File No. LR31928)**

| No. of poles | Coil ratings                 | Contact ratings   | Operations                                  |
|--------------|------------------------------|---|---|
| 1            | 6 to 240 VAC<br>6 to 125 VDC | 15 A, 30 VDC (Resistive)<br>15 A, 120 VAC (General use)<br>1/2 HP, 120 VAC<br>TV-5, 120 VAC | 6 x 10 <sup>3</sup><br>25 x 10 <sup>3</sup> |
| 2            |                              | 15 A, 30 VDC (Resistive)<br>15 A, 120 VAC (Resistive)<br>1/2 HP, 120 VAC<br>TV-3, 120 VAC   | 6 x 10 <sup>3</sup>                         |
| 3 and 4      |                              | 10 A, 30 VDC (Resistive)<br>10 A, 240 VAC (General use)                                     |   |

**SEV Listings (File No. D3,31/137)**

| No. of poles | Coil ratings                 | Contact ratings               | Operations          |
|--------------|------------------------------|-------------------------------|---------------------|
| 1            | 6 to 240 VAC<br>6 to 125 VDC | 15 A, 24 VDC<br>15 A, 220 VAC | 6 x 10 <sup>3</sup> |
| 2 to 4       |                              | 10 A, 24 VDC<br>10 A, 220 VAC |                     |

**TÜV (File No. R9251226) (IEC255)**

| No. of poles | Coil ratings                 | Contact ratings  | Operations            |
|--------------|------------------------------|--|-----------------------|
| 1 to 4       | 6 to 125 VDC<br>6 to 240 VAC | LY1, LY1-FD<br>15 A, 110 VAC (cosφ=1)<br>10 A, 110 VAC (cosφ=0.4)<br>LY2, LY2-FD, LY3, LY3-FD, LY4,<br>LY4-FD<br>10 A, 110 VAC (cosφ=1)<br>7.5 A, 110 VAC (cosφ=0.4) | 100 x 10 <sup>3</sup> |

**VDE Recognitions (No. 9903UG and 9947UG)**

| No. of poles | Coil ratings  | Contact ratings  | Operations            |
|--------------|---|--|-----------------------|
| 1            | 6, 12, 24, 50, 110, 220 VAC<br>6, 12, 24, 48, 110 VDC | 10 A, 220 VAC (cosφ=1)<br>7 A, 220 VAC (cosφ=0.4)<br>10 A, 28 VDC (L/R=0 ms)<br>7 A, 28 VDC (L/R=7 ms) | 200 x 10 <sup>3</sup> |
| 2            |   | 7 A, 220 VAC (cosφ=1)<br>4 A, 220 VAC (cosφ=0.4)<br>7 A, 28 VDC (L/R=0 ms)<br>4 A, 28 VDC (L/R=7 ms)   |                       |

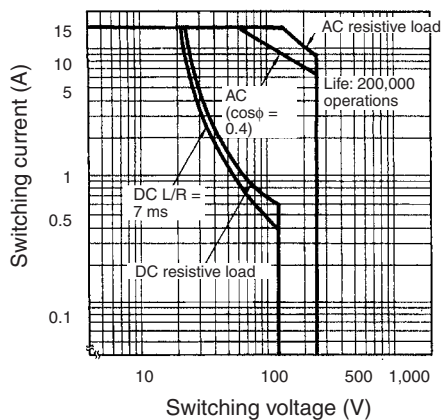
**LR Recognitions (No. 563KOB-204523)**

| No. of poles | Coil ratings                 | Contact ratings                                  |
|--------------|------------------------------|--|
| 2, 4         | 6 to 240 VAC<br>6 to 110 VDC | 7.5 A, 230 VAC (PF0.4)<br>5 A, 24 VDC (L/R=7 ms) |

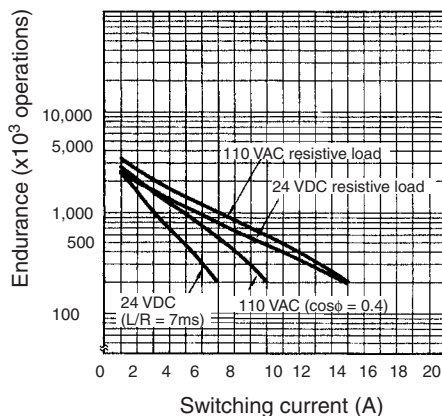
# Engineering Data

## LY1

Maximum Switching Power

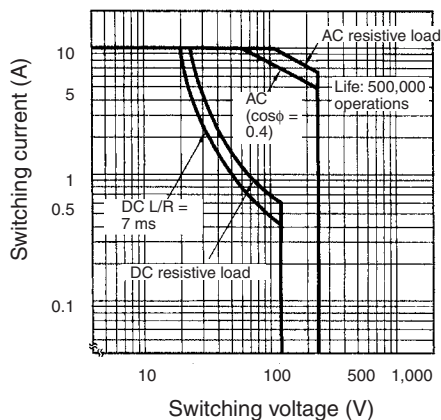


Endurance

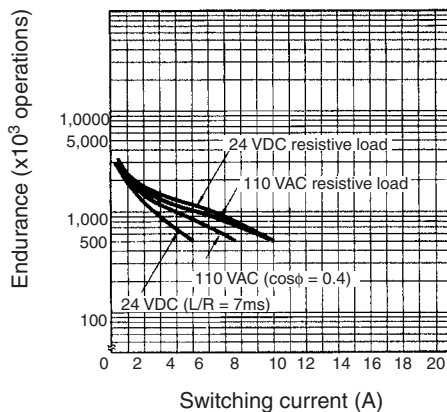


## LY2

Maximum Switching Power

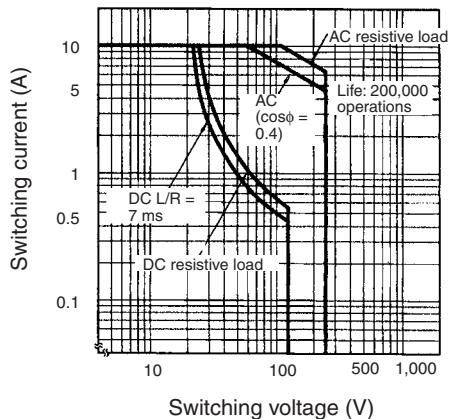


Endurance

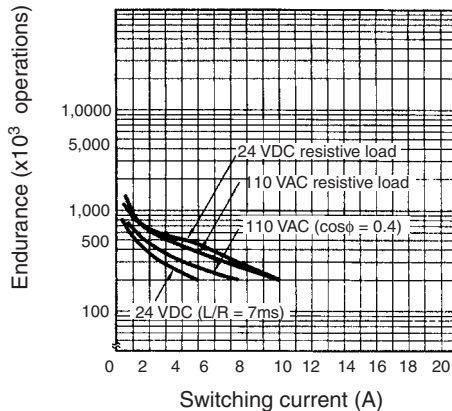


## LY3 and LY4

Maximum Switching Power

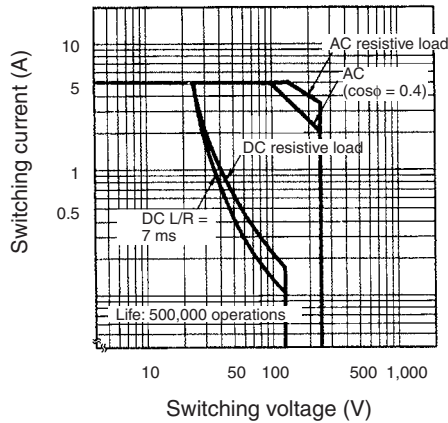


Endurance

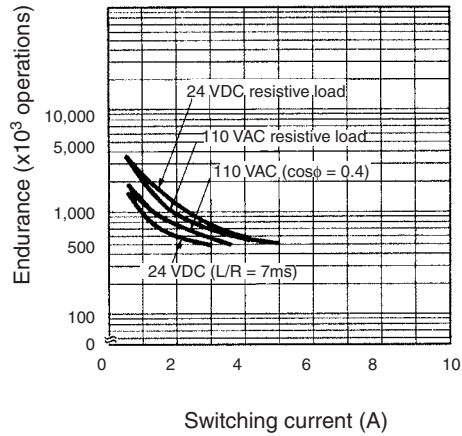


# LY2Z

## Maximum Switching Power



## Endurance

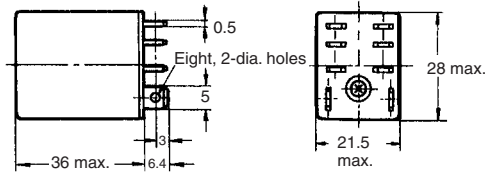
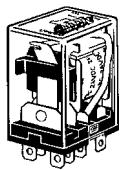


# Dimensions

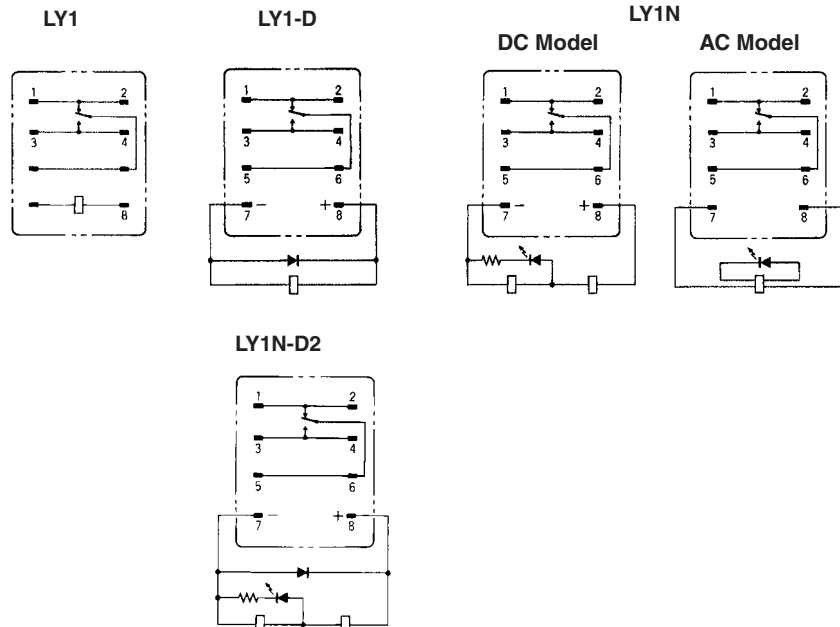
Note: All units are in millimeters unless otherwise indicated.

## Relays with Solder/Plug-in Terminals

LY1  
LY1N (-D2)  
LY1-D



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



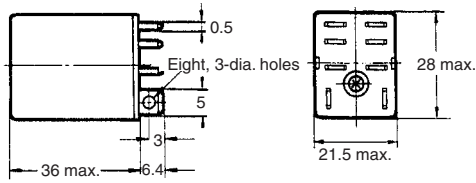
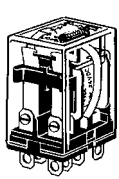
Note: The DC models have polarity.



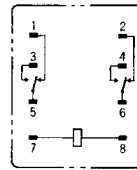
LY2  
LY2-D  
LY2N  
LY2N-D2

LY2Z  
LY2Z-D  
LY2ZN  
LY2ZN-D2

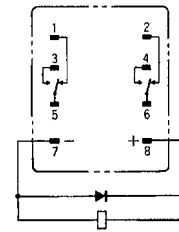
Terminal Arrangement/Internal Connections (Bottom View)



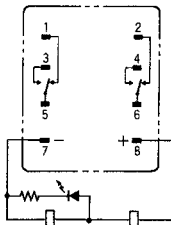
LY2(Z)



LY2(Z)-D

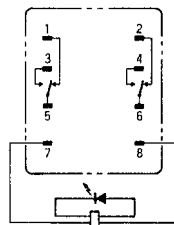


DC Model

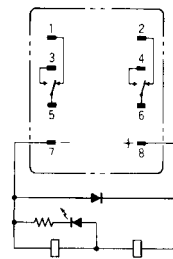


LY2(Z)N

AC Model

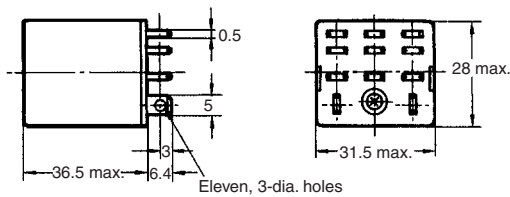
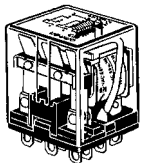


LY2(Z)N-D2



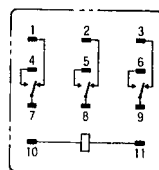
Note: The DC models have polarity.

LY3Z  
LY3N  
LY3-D

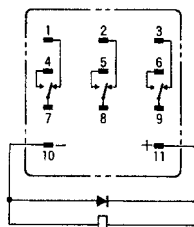


Terminal Arrangement/Internal Connections (Bottom View)

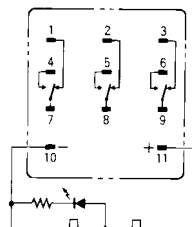
LY3



LY3-D

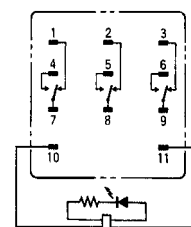


DC Model



LY3N

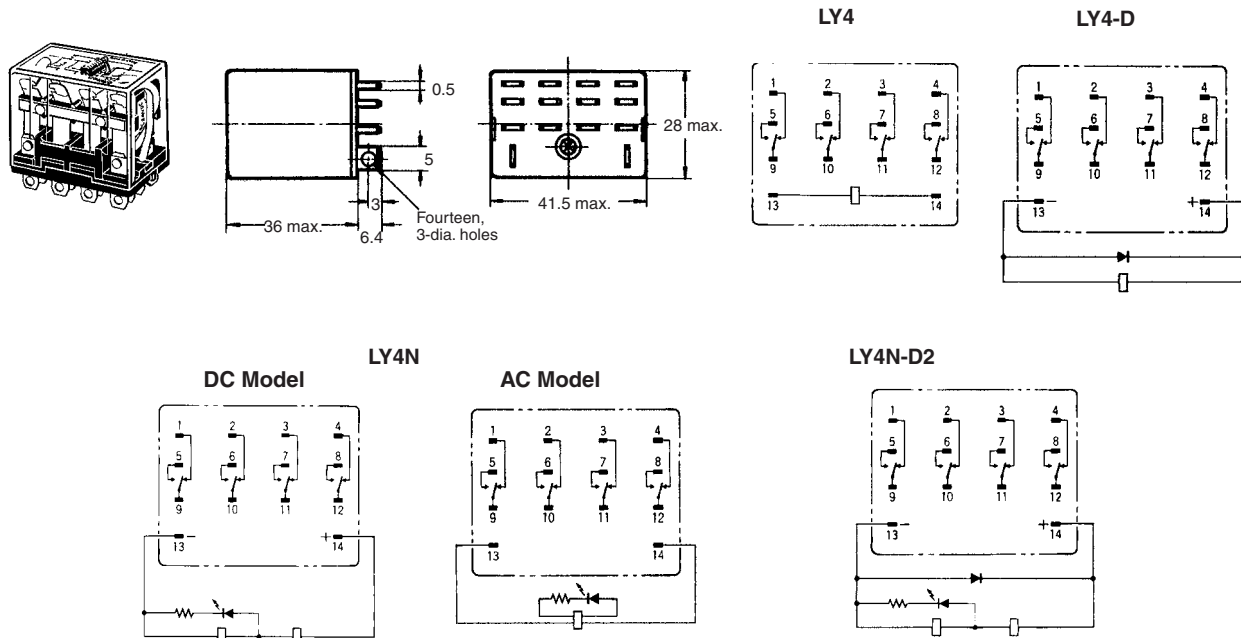
AC Model



Note: The DC models have polarity.

LY4 LY4N  
LY4-D LY4N-D2

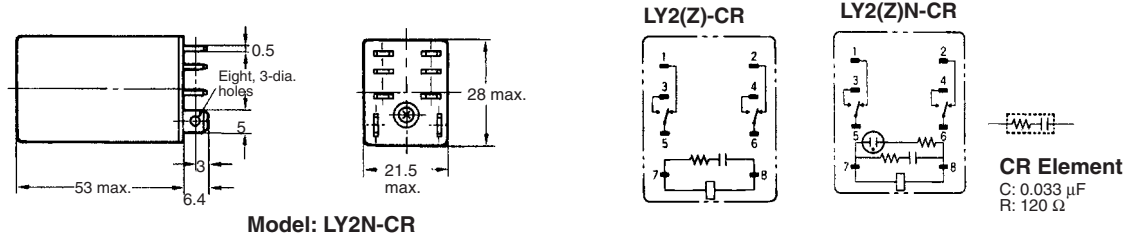
Terminal Arrangement/Internal Connections  
(Bottom View)



Note: The DC models have polarity.

LY2-CR  
LY2Z-CR  
LY2N-CR  
LY2ZN-CR

Terminal Arrangement/Internal Connections  
(Bottom View)

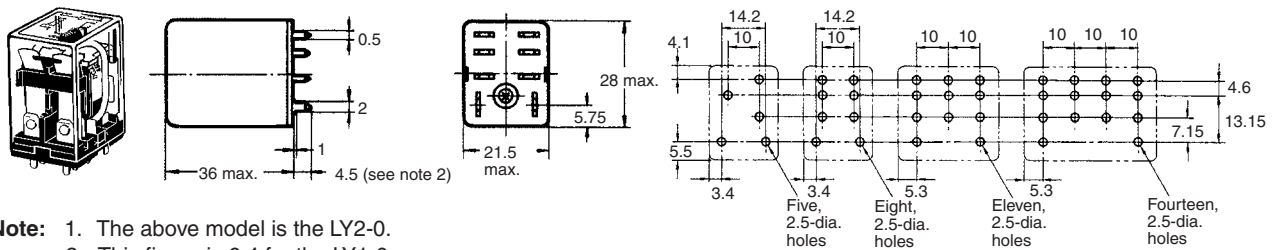


Model: LY2N-CR

Relays with PCB Terminals

LY1-0 LY3-0  
LY2-0 LY4-0

PC Board Holes (Bottom View)

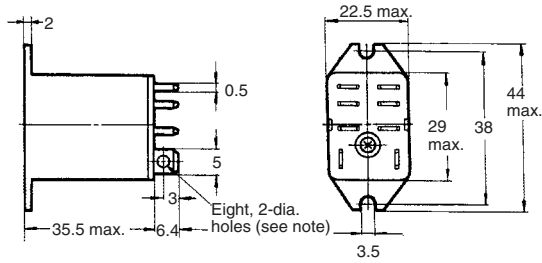
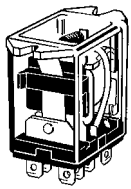


Note: 1. The above model is the LY2-0.  
2. This figure is 6.4 for the LY1-0

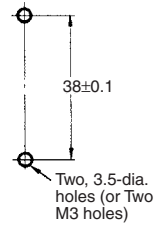
Note: 1. The tolerance for the above figures is 0.1 mm.  
2. Besides the terminals, some part of the LY1-0 carries current. Due attention should be paid when mounting the LY1-0 to a double-sided PC board.

## Upper-mounting Relays

LY1F  
LY2F

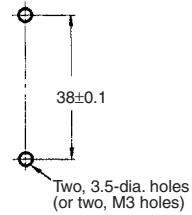
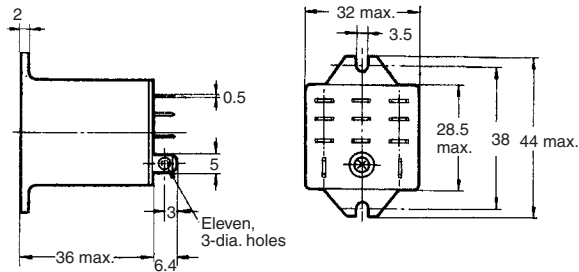
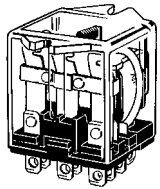


### Mounting Holes

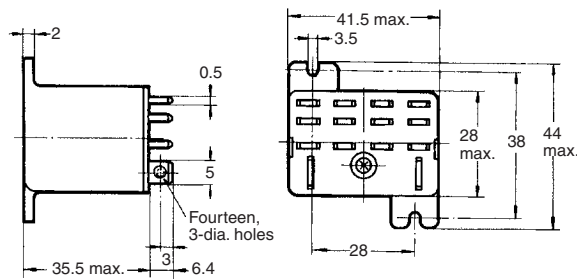
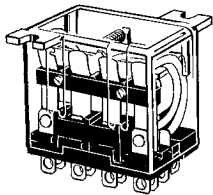


**Note:** 1. Eight 3-dia. holes should apply to the LY2F model.

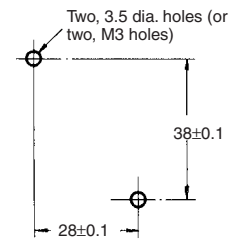
LY3F



LY4F



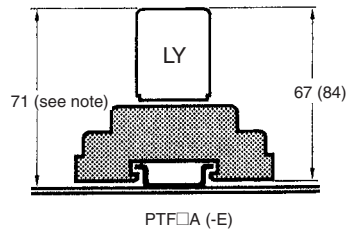
### Mounting holes



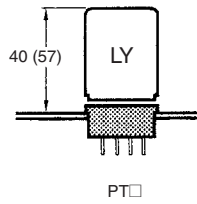
## Mounting Height with Socket

The following Socket heights should be maintained.

### Front-connecting



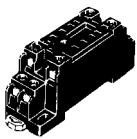
### Back-connecting



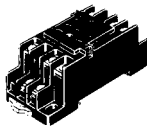
- Note:**
1. The PTF□A (-E) can be track-mounted or screw-mounted.
  2. For the LY□-CR (CR circuit built-in type) model, this figure should be 88.

## Sockets

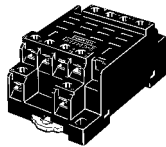
PTF08A-E



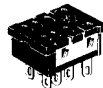
PTF11A



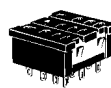
PTF14A-E



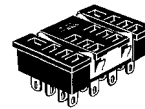
PT08



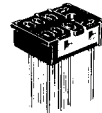
PT11



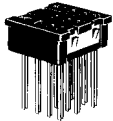
PT14



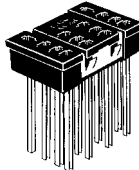
PT08QN



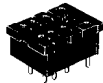
PT11QN



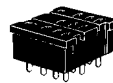
PT14QN



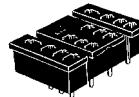
PT08-0



PT11-0

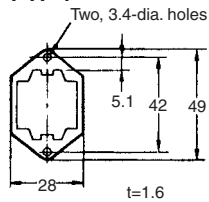


PT14-0

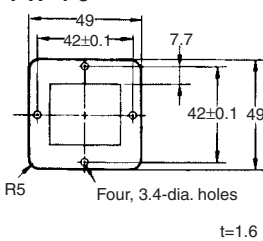


## Mounting Plates for Back-connecting

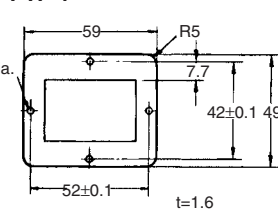
PYP-1



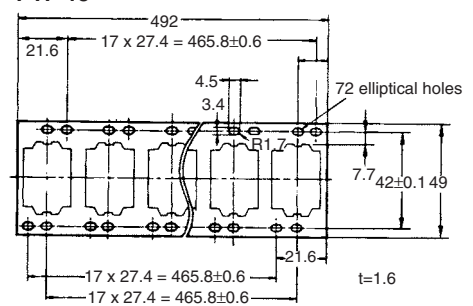
PTP-1-3



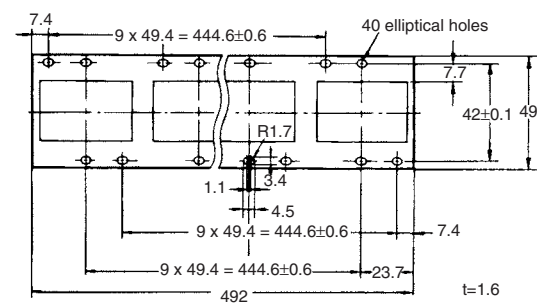
PTP-1



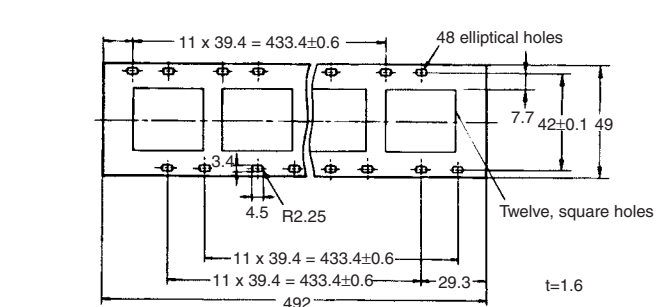
PYP-18



PTP-10

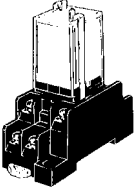

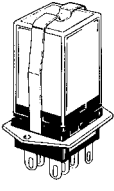
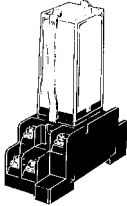



PTP-12



## ■ Hold-down Clips

Hold-down clips are used to hold Relays to Sockets and prevent them from coming loose due to vibration or shock.

| Used with Socket  |  | Used with Socket mounting plate  | For CR circuit built-in Relay  |  |
|---|--|--|--|--|
| <p>PYC-A1</p>  | <p>PYC-P</p>  | <p>PYC-S</p>  | <p>Y92H-3</p>  | <p>PYC-1</p>  |

## Precautions

Refer to page 11 for general precautions.

## ■ Connections

Do not reverse polarity when connecting DC-operated Relays with built-in diodes or indicators.

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

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