## General Purpose Relay LY

- Arc barrier equipped.
- High dielectric strength (2,000 VAC).
- Long dependable service life assured by Ag-Alloy contacts.
- Choose models with single or bifurcated contacts, LED indicator, diode surge suppression, push-to-test button, or RC circuit.
- UL, CSA, and TUV approvals on all standard LY Relays.
- CE marks included on non-PCB mount versions.


메앙 $\triangle C$

## Ordering Information

To Order: Select the part number and add the desired coil voltage rating (e.g., LY1-DC6).

| Type | Terminal | Contact form | Model |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Single contact |  | Bifurcated contact |  |
|  |  |  | Standard bracket mounting | $\begin{gathered} \text { Upper } \\ \text { mounting } \\ \text { bracket } \end{gathered}$ | Standard bracket mounting | Upper mounting bracket |
| Standard | Plug-in/solder | SPDT | LY1 | LY1F | - | - |
|  |  | DPDT | LY2 | LY2F | LY2Z | LY2ZF |
|  |  | 3PDT | LY3 | LY3F | - | - |
|  |  | 4PDT | LY4 | LY4F | - | - |
|  | PCB | SPDT | LY1-0 | - | - | - |
|  |  | DPDT | LY2-0 | - | LY2Z-0 | - |
|  |  | 3PDT | LY3-0 | - | - | - |
|  |  | 4PDT | LY4-0 | - | - | - |
| LED indicator | Plug-in/solder | SPDT | LY1N | - | - | - |
|  |  | DPDT | LY2N | - | LY2ZN | - |
|  |  | 3PDT | LY3N | - | - | - |
|  |  | 4PDT | LY4N | - | - | - |
| Diode surge suppression |  | SPDT | LY1-D | - | - | - |
|  |  | DPDT | LY2-D | - | LY2Z-D | - |
|  |  | 3PDT | LY3-D | - | - | - |
|  |  | 4PDT | LY4-D | - | - | - |
| LED indicator and diode surge suppression |  | SPDT | LY1N-D2 | - | - | - |
|  |  | DPDT | LY2N-D2 | - | LY2ZN-D2 | - |
|  |  | 4PDT | LY4N-D2 | - | - | - |
| RC circuit |  | SPDT | LY1-CR | - | - | - |
|  |  | DPDT | LY2-CR | - | LY2Z-CR | - |
| LED indicator and RC circuit |  | SPDT | LY1N-CR | - | - | - |
|  |  | DPDT | LY2N-CR | - | LY2ZN-CR | - |

Note: 1. Types with specifications other than those listed are available. Contact your Omron Sales representative.
2. To order connecting sockets and mounting tracks, see "Accessories" section.
3. Relays with RC circuit are only available in AC coil voltages of 100 VAC or greater.

| Type | Terminal | Contact form | Model |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Single contact |  | Bifurcated contact |  |
|  |  |  | Standard bracket mounting | Upper mounting bracket | Standard bracket mounting | Upper mounting bracket |
| Push-to-test button | Plug-in/solder | SPDT | LY114 | - | - | - |
|  |  | DPDT | LY214 | - | LY2ZI2 | - |
|  |  | 3PDT | LY314 | - | - | - |
|  |  | 4PDT | LY414 | - | - | - |
| LED indicator and push-to-test button | Plug-in/solder | DPDT | LY214N | - | LY2ZI2N | - |
|  |  | 4PDT | LY414N | - | - | - |

Note: 1. Types with specifications other than those listed are available. Contact your Omron Sales representative.
2. To order connecting sockets and mounting tracks, see "Accessories" section.

## - Accessories

## Connecting Sockets

To Order: Select the appropriate part numbers for sockets, clips, and mounting tracks (if required) from the following charts.

## Track Mounted Sockets

| Relay | Socket $^{*}$ | Relay hold-down clip |  | Mounting track |
| :--- | :--- | :--- | :--- | :--- |
|  |  | Standard |  | RC circuit |

* Track mounted socket can be used as a front connecting socket.


## Back Connecting Sockets

| Relay | Solder terminal socket | Wire wrap terminal socket | Relay hold-down clip |  |  |  | Socket Mounting Plate |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Standard | Push-to-test | RC circuit | Mtg. plate | 1 | 10 | 12 | 18 |
| $\begin{aligned} & \hline \text { SPDT } \\ & \text { DPDT } \end{aligned}$ | PT08 | PT08QN | PYC-P | PYC-P2 | PYC-1 | PYC-S | PYP-1 | - | - | PYP-18 |
| 3PDT | PT11 | PT11QN |  |  |  |  | PTP-1-3 | - | PTP-12 | - |
| 4PDT | PT14 | PT14QN |  |  |  |  | PTP-1 | PTP-10 | - | - |

Note: Types PYP-18, PTP-12 and PTP-10 may be cut to any desired length.

| Relay | PC terminal socket | Relay hold-down clip |  |  |
| :--- | :--- | :--- | :--- | :--- |
|  |  | Standard | Push-to-test | RC circuit |
| SPDT | PT08-0 | PYC-P | PYC-P2 |  |
| DPDT |  |  |  |  |
| 3PDT | PT11-0 |  |  |  |
| 4PDT | PT14-0 |  |  |  |

## Specifications

## ■ Contact Data

| Load | Single contact |  |  |  | Bifurcated contactDPDT |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | SPDT |  | DPDT, 3PDT, 4PDT |  |  |  |
|  | Resistive load (p.f. = 1) | Inductive load (p.f. =0.4) $\text { (L/R = } 7 \mathrm{~ms} \text { ) }$ | Resistive load $(\text { p.f. }=1)$ | $\begin{gathered} \hline \text { Inductive load } \\ \text { (p.f. }=0.4) \\ (\mathrm{L} / \mathrm{R}=7 \mathrm{~ms}) \end{gathered}$ | Resistive load (p.f. = 1) | $\begin{gathered} \text { Inductive load } \\ \text { (p.f. }=0.4) \\ (L / R=7 \mathrm{~ms}) \\ \hline \end{gathered}$ |
| Rated load | 15 A at 110 VAC 15 A at 24 VDC | 10 A at 110 VAC <br> 7 A at 24 VDC | 10 A at 110 VAC 10 A at 24 VDC | 7.5 A at 110 VAC <br> 5 A at 24 VDC | 5 A at 110 VAC 5 A at 24 VDC | 4 A at 110 VAC 4 A at 24 VDC |
| Contact material | Ag-Alloy |  |  |  |  |  |
| Carry current | 15 A |  | 10 A |  | 7 A |  |
| Max. operating voltage | $\begin{aligned} & 250 \text { VAC } \\ & 125 \text { VDC } \end{aligned}$ |  |  |  |  |  |
| Max. operating current | 15 A |  | 10 A |  | 7 A |  |
| Max. switching capacity | $\begin{aligned} & 1,700 \mathrm{VA} \\ & 360 \mathrm{~W} \end{aligned}$ | $\begin{array}{\|l\|} \hline 1,100 \mathrm{VA} \\ 170 \mathrm{~W} \end{array}$ | $\begin{aligned} & 1,100 \text { VA } \\ & 240 \mathrm{~W} \end{aligned}$ | $\begin{array}{\|l\|} \hline 825 \mathrm{VA} \\ 120 \mathrm{~W} \end{array}$ | $\begin{array}{\|l\|} \hline 550 \mathrm{VA} \\ 120 \mathrm{~W} \end{array}$ | $\begin{aligned} & \hline 440 \mathrm{VA} \\ & 100 \mathrm{~W} \end{aligned}$ |
| Min. permissible load | $100 \mathrm{~mA}, 5 \mathrm{VDC}$ |  |  |  | $10 \mathrm{~mA}, 5 \mathrm{VDC}$ |  |

## Coil Data

## 1- and 2-pole Types - AC

| $\begin{array}{\|c} \text { Rated } \\ \text { voltage (V) } \end{array}$ | Rated current (mA) |  | $\begin{gathered} \text { Coil } \\ \text { resistance } \end{gathered}$$(\Omega)$ | Coil inductance (ref. value) (H) |  | Pick-up voltage | Dropout voltage | Maximum voltage | Powerconsumption(VA, W) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 50 Hz | 60 Hz |  | Armature OFF | Armature ON | (\% of rated voltage) |  |  |  |
| 6 | 214.10 | 183 | 12.20 | 0.04 | 0.08 | 80\% max. | 30\% min. | 110\% | $\begin{aligned} & \text { Approx. } \\ & 1.00 \text { to } 1.20 \\ & (60 \mathrm{~Hz}) \end{aligned}$ |
| 12 | 106.50 | 91 | 46 | 0.17 | 0.33 |  |  |  |  |
| 24 | 53.80 | 46 | 180 | 0.69 | 1.30 |  |  |  |  |
| 50 | 25.70 | 22 | 788 | 3.22 | 5.66 |  |  |  |  |
| 100/110 | 11.70/12.90 | 10/11 | 3,750 | 14.54 | 24.60 |  |  |  | Approx. <br> 0.90 to 1.10 <br> (60 Hz) |
| 110/120 | 9.90/10.80 | 8.40/9.20 | 4,430 | 19.20 | 32.10 |  |  |  |  |
| 200/220 | 6.20/6.80 | 5.30/5.80 | 12,950 | 54.75 | 94.07 |  |  |  |  |
| 220/240 | 4.80/5.30 | 4.20/4.60 | 18,790 | 83.50 | 136.40 |  |  |  |  |

## 1- and 2-pole Types - DC

| Rated voltage (V) | Rated current (mA) | $\begin{gathered} \text { Coil } \\ \text { resistance } \\ (\Omega) \end{gathered}$ | Coil inductance (ref. value) ( H ) |  | Pick-up voltage | Dropout voltage | Maximum voltage | Powerconsumption(VA, W) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Armature OFF | $\begin{aligned} & \hline \text { Armature } \\ & \text { ON } \end{aligned}$ | (\% of rated voltage) |  |  |  |
| 6 | 150 | 40 | 0.16 | 0.33 | 80\% max. | 10\% min. | 110\% | Approx. 0.90 |
| 12 | 75 | 160 | 0.73 | 1.37 |  |  |  |  |
| 24 | 36.90 | 650 | 3.20 | 5.72 |  |  |  |  |
| 48 | 18.50 | 2,600 | 10.60 | 21 |  |  |  |  |
| 100/110 | 9.10/10 | 11,000 | 45.60 | 86.20 |  |  |  |  |

Note: 1. The rated current and coil resistance are measured at a coil temperature of $23^{\circ} \mathrm{C}\left(73^{\circ} \mathrm{F}\right)$ with tolerances of $+15 \%,-20 \%$ for AC rated current, and $\pm 15 \%$ for DC rated coil resistance.
2. The AC coil resistance and inductance are reference values at 60 Hz .
3. The performance characteristics are measured at a coil temperature of $23^{\circ} \mathrm{C}\left(73^{\circ} \mathrm{F}\right)$.
4. Class B coil insulation is available.

## 3-pole Type - AC

| Rated voltage (V) | Rated current (mA) |  | $\begin{array}{\|c} \hline \text { Coil } \\ \text { resistance } \\ (\Omega) \end{array}$ | Coil inductance (ref. value) (H) |  | Pick-up voltage | Dropout voltage | Maximum voltage | Power consumption |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 50 Hz | 60 Hz |  | Armature OFF | $\begin{aligned} & \text { Armature } \\ & \text { ON } \end{aligned}$ | (\% of rated voitage) |  |  |  |
| 6 | 310 | 270 | 6.70 | 0.03 | 0.05 | 80\% max. | 30\% min. | 110\% | Approx. <br> 1.60 to 2.00 <br> ( 60 Hz ) |
| 12 | 159 | 134 | 24 | 0.12 | 0.21 |  |  |  |  |
| 24 | 80 | 67 | 100 | 0.44 | 0.79 |  |  |  |  |
| 50 | 38 | 33 | 410 | 2.24 | 3.87 |  |  |  |  |
| 100/110 | 15.90/18.30 | 13.60/15.60 | 2,300 | 10.50 | 18.50 |  |  |  |  |
| 120 | 17.30 | 14.8 | 2,450 | 11.50 | 20.60 |  |  |  |  |
| 200/220 | 10.50/11.60 | 9.00/9.90 | 8,650 | 34.80 | 59.50 |  |  |  |  |
| 240 | 9.40 | 8 | 10,400 | 38.60 | 74.60 |  |  |  |  |

## 3-pole Type - DC

| Rated voltage (V) | Rated current (mA) | Coil <br> resistance <br> $(\Omega)$ | Coil inductance (ref. value) (H) |  | Pick-up voltage | Dropout voltage | Maximum voltage | Power consumption (VA, W) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Armature OFF | Armature ON | (\% of rated voltage) |  |  |  |
| 6 | 234 | 25.70 | 0.11 | 0.21 | 80\% max. | 10\% min. | 110\% | Approx. |
| 12 | 112 | 107 | 0.45 | 0.98 |  |  |  | 1.40 |
| 24 | 58.60 | 410 | 1.89 | 3.87 |  |  |  |  |
| 48 | 28.20 | 1,700 | 8.53 | 13.90 |  |  |  |  |
| 100/110 | 12.70/13 | 8,500 | 29.60 | 54.30 |  |  |  |  |

## 4-pole Type - AC

| Ratedvoltage (V) | Rated current (mA) |  | Coilresistance$(\Omega)$ | Coil inductance (ref. value) (H) |  | Pick-up voltage | Dropout voltage | Maximum voltage | Power consumption (VA, W) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 50 Hz | 60 Hz |  | Armature OFF | Armature ON | (\% of rated voltage) |  |  |  |
| 6 | 386 | 330 | 5 | 0.02 | 0.04 | 80\% max. | 30\% min. | 110\% | $\begin{aligned} & \hline \text { Approx. } \\ & 1.95 \text { to } 2.50 \\ & (60 \mathrm{~Hz}) \end{aligned}$ |
| 12 | 199 | 170 | 20 | 0.10 | 0.17 |  |  |  |  |
| 24 | 93.60 | 80 | 78 | 0.38 | 0.67 |  |  |  |  |
| 50 | 46.80 | 40 | 350 | 1.74 | 2.88 |  |  |  |  |
| 100/110 | 22.50/25.50 | 19/21.80 | 1,800 | 10.50 | 17.30 |  |  |  |  |
| 120 | 19.00 | 16.40 | 2,200 | 9.30 | 19 |  |  |  |  |
| 200/220 | 11.50/13.10 | 9.80/11.20 | 6,700 | 33.10 | 57.90 |  |  |  |  |
| 240 | 11.00 | 9.50 | 9,000 | 33.20 | 63.40 |  |  |  |  |

## 4-pole Type - DC

| $\begin{array}{\|c\|} \hline \text { Rated } \\ \text { voltage (V) } \end{array}$ | Rated current (mA) | $\begin{array}{\|c} \text { Coil } \\ \text { resistance } \\ (\Omega) \end{array}$ | Coil inductance (ref. value) (H) |  | Pick-up voltage | Dropout voltage | Maximum voltage | Power consumption (VA, W) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Armature OFF | Armature ON | (\% of rated voltage) |  |  |  |
| 6 | 240 | 25 | 0.09 | 0.21 | 80\% max. | 10\% min. | 110\% | $\begin{aligned} & \text { Approx. } \\ & 1.50 \end{aligned}$ |
| 12 | 120 | 100 | 0.39 | 0.84 |  |  |  |  |
| 24 | 69 | 350 | 1.41 | 2.91 |  |  |  |  |
| 48 | 30 | 1,600 | 6.39 | 13.60 |  |  |  |  |
| 100/110 | 15/15.90 | 6,900 | 32 | 63.70 |  |  |  |  |

Note: 1. The rated current and coil resistance are measured at a coil temperature of $23^{\circ} \mathrm{C}\left(73^{\circ} \mathrm{F}\right)$ with tolerances of $+15 \%$, $-20 \%$ for AC rated current, and $\pm 15 \%$ for DC rated coil resistance.
2. The $A C$ coil resistance and inductance are reference values at 60 Hz .
3. The performance characteristics are measured at a coil temperature of $23^{\circ} \mathrm{C}\left(73^{\circ} \mathrm{F}\right)$.
4. Class $B$ coil insulation is available.

## Characteristics

| Contact resistance |  | $50 \mathrm{~m} \Omega$ max. |
| :---: | :---: | :---: |
| Operate time |  | 25 ms max. |
| Release time |  | 25 ms max. |
| Operating frequency | Mechanically | 18,000 operations/hour |
|  | Under rated load | 1,800 operations/hour |
| Insulation resistance |  | $100 \mathrm{M} \Omega \mathrm{min}$. (at 500 VDC ) |
| Dielectric strength |  | 2,000 VAC, $50 / 60 \mathrm{~Hz}$ for 1 minute <br> $1,000 \mathrm{VAC}, 50 / 60 \mathrm{~Hz}$ for 1 minute between contacts of same polarity |
| Vibration | Mechanical durability | 10 to $55 \mathrm{~Hz}, 1.00 \mathrm{~mm}$ ( 0.04 in ) double amplitude |
|  | Malfunction durability | 10 to $55 \mathrm{~Hz}, 1.00 \mathrm{~mm}$ ( 0.04 in ) double amplitude |
| Shock | Mechanical durability | $1,000 \mathrm{~m} / \mathrm{s}^{2}$ (approx. 100 G ) |
|  | Malfunction durability | $200 \mathrm{~m} / \mathrm{s}^{2}$ (approx. 20 G ) |
| Ambient temperature | Operating | LY1, LY2, LY3: $-25^{\circ}$ to $55^{\circ} \mathrm{C}$; LY4 $=-25^{\circ}$ to $40^{\circ} \mathrm{C}$ |
| Humidity |  | 35 to 85\% RH |
| Service Life | Mechanically | AC: 50 million operations min. (at operating frequency of 18,000 operations/hour) DC: 100 million operations min. (at operating frequency of 18,000 operations/hour) |
|  | Electrically | See "Characteristic Data" |
| Weight |  | SPDT, DPDT: Approx. 40 g (1.41 oz), 3PDT: Approx. 50 g (1.76 oz) 4PDT: Approx. 70 g ( 2.47 oz ) |

Note: Data shown are of initial value.

## Characteristic Data

## Maximum switching capacity

LY1


## Electrical service life

## LY1



LY2


LY3, LY4


LY2Z


LY3, LY4


LY2Z


## Dimensions

Unit: mm (inch)

## Relays



LY3


Terminal arrangement (Bottom view)


LY2


LY4 arrangement (Bottom view)



Note: The above drawing shows LY2-0. With LY1-0, dimension "*" should read as eight 6.35 (.25).


Note: The above drawing shows LY1F. With LY2F, dimension "*" should read as eight 3.05 mm ( 0.12 in ) dia. holes.


Mounting holes


LY1S, LY2S



Note: The above drawing shows LY2S-US. With LY1S-US, dimension "*" should read as eight 2.03 mm ( 0.08 in ) dia. holes.

LY3S


LY4S



Round hole


Round hole


Rectangular hole


Rectangular hole


## Accessories

Unit: mm (inch)
Track mounted sockets (UL File No. E87929) (CSA Report No. LR31928)

## PTF08A

(see note 3)

Terminal arrangement/ mounting holes (Top view)

PTF11A


Terminal arrangement/ mounting holes
(Top view)


Track mounting sockets (UL File No. E87929) (CSA Report No. LR31928)

PTF14A
(see note 3)

Terminal arrangement/ mounting holes
(Top view)

Mounting height of relay with socket
(Applies to all PTF $\square$ A sockets)


Note: 1. UL/CSA does not apply to wire wrap (Q) type sockets.
2. Values in brackets for $L Y \square C R$.
3. PTF08A-E and PTF14A-E = touch safe screws. Height $=33 \mathrm{~mm}$ max.

Back connecting socket (UL File No. E87929) (CSA Report No. LR31928)

Terminal arrangement/
(Bottom view) PT11

Terminal arrangement/ (Bottom view)


Back connecting socket (UL File No. E87929) (CSA Report No. LR31928)

PT14
Terminal arrangement (Bottom view)

Mounting height of relay with socket (Applies to all PT sockets)


Note: Values in brackets for LYロCR.
Back connecting socket (UL File No. E87929) (CSA Report No. LR31928)

PT08QN
Panel cut-out and terminal arrangement are the same as Type PT08.


## PT14QN

Panel cut-out and terminal arrangement are the same as Type PT14.


Back connecting socket (UL File No. E87929) (CSA Report No. LR31928)

PT08-0
Terminal arrangement is the same as Type PT08.

Mounting holes
(Bottom view)

PT11-0
Terminal arrangement is the same as Type PT11.



Back connecting socket (UL File No. E87929) (CSA Report No. LR31928)

PT14-0
Terminal arrangement is the same as Type PT14.


Mounting holes
(Bottom view)


Unit: mm (inch)
Relay hold-down clips

PYC-A1
For PTFDA socket


PYC-S
For relay mounting plates
(Applicable to Type PYP-1 and PYP-18 socket mounting plates only.)

(Applicable to Type PYP-1 and PYP-18 socket mounting plates only.)

PYC-P
For PT】 socket


## PYC-1

For RC circuit type


## Mounting track/end plate/spacer

PFP-100N, PFP-50N
(Conforming to EN 50022)


PFP-100N2
(Conforming to EN 50022)

## Relay hold-down clips

PYC-P2
For push-to-test button type with PT - socket

Y92H-3
For RC circuit type



* The figure in parenthesis is for PFP-50N.
*This dimension is 14.99 mm ( 0.59 in ) on both ends in the case of PFP-100N, but on one end in the case of PFP-50N.
${ }^{* *}$ L $=$ Length
PFP-50N
PFP-100N $L=497.84 \mathrm{~mm}$ (19.60 in)
PFP-100N2 $\mathrm{L}=990.60 \mathrm{~mm}$ ( 39.00 in )
${ }^{* * *}$ A total of twelve $24.89 \times 4.57 \mathrm{~mm}(0.98 \times 0.18 \mathrm{in})$ elliptic holes are provided, with six holes cut from each end of the track at a pitch of 9.91 (0.39) between holes.

PFP-M end plate


Socket mounting plates [ $\mathrm{t}=1.52$ (.06)]


PYP-1
PTP-1-3


PTP-10


## PFP-S spacer



|  | Number of socket specs. |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
| Socket needed | 1 | 10 | 12 | 18 |
| PT08, PT08QN | PYP-1 | - | - | PYP-18 |
| PT11, PT11QN | PTP-1-3 | - | PTP-1-2 | - |
| PT14, PT14QN | PTP-1 | PTP-10 | - | - |
| PTP-10 | PTP-12 |  |  |  |

PTP-1


PYP-18


PTP-12


## ■ Relay Options

## LED Indicator

Specifications and dimensions same as the Standard Type with the following exception. With the LED indicator type, the rated current is approximately 0 to 5.0 mA higher than the Standard Type.

## Terminal arrangement/Internal connections (Bottom view)

## LY2N

DC coil rating type


AC coil rating type


Note: 1. The coil terminals 10 and 11 of Type LY3N become (-) and (+) and terminals 13 and 14 of Type LY4N become (-) and (+), respectively. 2. Pay special attention to the polarities when using the DC type.

## Diode Surge Suppression

Specifications and dimensions same as the Standard Type with the following exception. Ambient operating temperature: $-25^{\circ}$ to $40^{\circ} \mathrm{C}$ ( $-13^{\circ}$ to $104^{\circ} \mathrm{F}$ )

## Without Diode



## With Diode



## Terminal arrangement/Internal connections (Bottom view)

LY2(N)-D(2)

## LY2-D

6, 12, 24, 48
100/110 VDC


LY2N-D2
100/110 VDC


Note: 1. Pay special attention to the polarities when using the $D C$ type.
2. The release time is somewhat longer, but satisfies the standard specifications of 25 ms .
3. The reverse-breakdown voltage of the diode is 1,000 VDC.
4. Available on DC versions only.

## Relay Options

## RC Circuit

Specifications and dimensions same as the Standard Type with the following exceptions.

## Characteristic Data

Without RC circuit


LY1-CR, LY2(Z)-CR


## With RC circuit



Terminal arrangement/Internal connections (Bottom view) LY1-CR


LY2(Z)-CR


Note: 1. The above drawing shows LY2(Z)-CR. With LY1-CR, "*" should read eight 2.03 mm ( 0.08 in ) dia. holes.
2. Available on $A C$ versions only.

Push-to-test Button
Specifications and dimensions same as the Standard Type with the following exceptions.
LY 12
LY1I2, LY2l2


Note: Type LY1I2 has the same dimensions and appearances as Type LY2I2 shown except that dimensions "*" is 2.03 mm ( 0.08 in ) dia. holes.

LY3I2


LY4I2


## Approvals

## UL Recognized Type (File No. E41643)

| Type | Contact form | Coil ratings | Contact ratings | Number of test operations |
| :---: | :---: | :---: | :---: | :---: |
| LY1] | SPDT | 6 to 240 VAC 6 to 120 VDC | 15A, 30VDC (Resistive), $40^{\circ} \mathrm{C}$ | $6 \times 10^{3}$ |
|  |  |  | 15A, 240VAC (General use), $40^{\circ} \mathrm{C}$ |  |
|  |  |  | TV-5, 120VAC, $40^{\circ} \mathrm{C}$ | $25 \times 10^{3}$ |
|  |  |  | 1/2HP, 120VAC, $50^{\circ} \mathrm{C}$ |  |
| LY2] | DPDT |  | 15A, 28VDC (Resistive), $40^{\circ} \mathrm{C}$ | $6 \times 10^{3}$ |
|  |  |  | 15A, 120VAC (Resistive), $40^{\circ} \mathrm{C}$ |  |
|  |  |  | 12A, 240VAC (General use), $40^{\circ} \mathrm{C}$ |  |
|  |  |  | 1/2HP, 120VAC, $50^{\circ} \mathrm{C}$ | $25 \times 10^{3}$ |
|  |  |  | TV-3, 120VAC, $40^{\circ} \mathrm{C}$ |  |
| $\begin{array}{\|l\|} \hline \text { LY3D } \\ \text { LY4D } \end{array}$ | $\begin{aligned} & \hline \text { 3PDT } \\ & \text { 4PDT } \end{aligned}$ |  | 10A, 30VDC (Resistive), $40^{\circ} \mathrm{C}$ (Same polarity ) | $6 \times 10^{3}$ |
|  |  |  | 10A, 240VAC (General use), $40^{\circ} \mathrm{C}$ (Same polarity ) |  |
|  |  |  | 1/2HP, 240VAC, $40^{\circ} \mathrm{C}$ |  |
| LY2Z $\square$(Bifurcated) | DPDT |  | 7A, 240VAC (General use), $40^{\circ} \mathrm{C}$ | $6 \times 10^{3}$ |
|  |  |  | 7A, 28VDC (Resistive), $40^{\circ} \mathrm{C}$ |  |

CSA Certified Type (File No. LR31928)

| Type | Contact form | Coil ratings | Contact ratings |
| :---: | :---: | :---: | :---: |
| LY1] | SPDT | 6 to 240 VAC 6 to 120 VDC | 15 A, 120 VAC (Inductive) |
|  |  |  | $10 \mathrm{~A}, 240$ VAC (Inductive) |
|  |  |  | 15 A, 28 VDC (Resistive) |
|  |  |  | TV-5 (ACTV) |
| LY2] | DPDT |  | $13 \mathrm{~A}, 28 \mathrm{VDC}$ (Resistive) |
|  |  |  | $12 \mathrm{~A}, 120$ VAC (Inductive) |
|  |  |  | $10 \mathrm{~A}, 240$ VAC (Inductive) |
|  |  |  | 1/3 HP, 120 VAC (Motor) |
|  |  |  | TV-3 (ACTV) |
| LY3] | 3PDT |  | $10 \mathrm{~A}, 240$ VAC (Inductive) |
| LY3口 | 4PDT |  | 10 A, 28 VDC (Resistive) |

VDE Approved Type (File No. 9903 [SPDT, DPDT \& 3PDT], File No. 9947 [4PDT])

| Type | Contact form | Coil ratings | Contact ratings |
| :---: | :---: | :---: | :---: |
| LY■-VD | SPDT | $6,12,24,50$,110,220 VACand $6,12,24$,48,110 VDC | $10 \mathrm{~A}, 220$ VAC (Resistive) |
|  |  |  | 10 A, 28 VDC (Resistive) |
|  |  |  | $7 \mathrm{~A}, 220$ VAC (Inductive) |
|  |  |  | $7 \mathrm{~A}, 28 \mathrm{VDC}$ (Inductive) |
| LY--VD | $\begin{array}{\|l} \hline \text { DPDT } \\ \text { 3PDT } \\ \text { 4PDT } \\ \hline \end{array}$ |  | 7 A, 220 VAC (Resistive) |
|  |  |  | $7 \mathrm{~A}, 28 \mathrm{VDC}$ (Resistive) |
|  |  |  | 4 A, 28 VDC and 4A, 220 VAC (Inductive) |

## LR (Lloyd's Register) Approved Type (File No. 562KOB-204523)

| Type | Contact form | Coil ratings | Contact ratings |
| :--- | :--- | :--- | :--- |
| LY $\square$ | DPDT | 6 to 240 VAC | $7.5 \mathrm{~A}, 230$ VAC (Inductive) |
|  | 4PDT | 6 to 110 VDC | $5 \mathrm{~A}, 24 \mathrm{VDC}$ (Inductive) |

SEV Listed Type (File No. D7 91/82 [2- \& 4-pole], D 91/204a [1- \& 3-pole])

| Type | Contact form | Coil ratings | Contact ratings |
| :---: | :---: | :---: | :---: |
| LYD-SV | SPDT | 6 to 240 VAC 6 to 110 VDC | 15 A, 220 VAC (Resistive) |
|  |  |  | $15 \mathrm{~A}, 24 \mathrm{VDC}$ (Resistive) |
| LYD-SV | DPDT |  | $10 \mathrm{~A}, 220 \mathrm{VAC}$ (Resistive) |
|  | 3PDT 4PDT |  | $10 \mathrm{~A}, 24$ VDC (Resistive) |

Note: 1. The rated values approved by each of the safety standards (e.g., UL, CSA, VDE, and SEV) may be different from the performance characteristics individually defined in this catalog.
2. In the interest of product improvement, specifications are subject to change.






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## ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

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

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