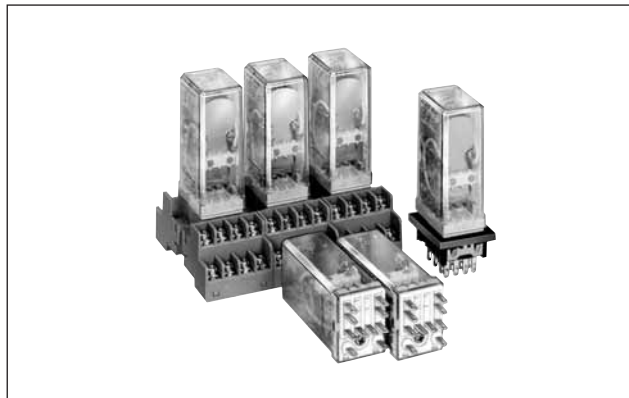


# RY2KS series Latch Relays

## Self-maintained Latch Relays DPDT — 3A contact capacity

The RY2KS series latch relays have a self-holding function using permanent magnets in the magnetic circuit. Applying a voltage on the set (or reset) coil operates the armature and retains the contacts in that position until the opposite coil is energized, hence the latch relays are ideal for memory and flip-flop circuit applications.

- Mountable in the same space as other miniature relays using the same sockets.
- Recognized by UL and certified by CSA.



## Types

| Terminal Style   | Type              | Type No.  | Coil Voltage Code *                 |
|------------------|-------------------|-----------|-------------------------------------|
| Plug-in Terminal | Basic             | RY2KS-U*  | AC6, AC12, AC24, AC50, AC100, AC120 |
|                  | With Check Button | RY2KS-UC* | DC6, DC12, DC24, DC48, DC100, DC110 |

## Ordering Information

When ordering, specify the Type No. and coil voltage code.

(Example) **RY2KS-U** **AC120**  
Type No.                      Coil Voltage Code

## Coil Ratings

| Rated Voltage (V) | Rated Current (mA) ±15% at 20°C |      | Coil Resistance (Ω) ±10% at 20°C | Operation Characteristics (against rated values at 20°C) |                       |
|-------------------|---------------------------------|------|----------------------------------|--|-----------------------|
|                   | 50Hz                            | 60Hz |                                  | Maximum Continuous Applied Voltage                       | Set and Reset Voltage |
| AC (60/60Hz)      | 6                               | 260  | 250                              | 110%   | 80% maximum           |
|                   | 12                              | 120  | 115                              |  |                       |
|                   | 24                              | 58   | 56                               |  |                       |
|                   | 50                              | 27   | 26                               |  |                       |
|                   | 100                             | 13.5 | 13                               |  |                       |
|                   | 120                             | 11.2 | 10.8                             |  |                       |
| DC                | 6                               | 200  |                                  | 110%   | 80% maximum           |
|                   | 12                              | 100  |                                  |  |                       |
|                   | 24                              | 50   |                                  |  |                       |
|                   | 48                              | 25   |                                  |  |                       |
|                   | 100                             | 12   |                                  |  |                       |
|                   | 110                             | 11   |                                  |  |                       |

## Contact Ratings

| Maximum Contact Capacity |                    |                         |                    |            |           |           |
|--------------------------|--------------------|-------------------------|--------------------|------------|-----------|-----------|
| Switching Voltage        | Continuous Current | Allowable Contact Power |                    | Rated Load |           |           |
|                          |                    | Resistive Load          | Inductive Load     | Voltage    | Res. Load | Ind. Load |
| 250V AC<br>125V DC       | 3A                 | 660VA AC<br>90W DC      | 176VA AC<br>45W DC | 110V AC    | 3A        | 1.5A      |
|                          |                    |                         |                    | 220V AC    | 3A        | 0.8A      |
|                          |                    |                         |                    | 30V DC     | 3A        | 1.5       |
|                          |                    |                         |                    | 100V DC    | 0.2A      | 0.12A     |

Note: Inductive load for rated load —  $\cos \phi = 0.3$ ,  $L/R = 7$  ms

### • UL Ratings

| Voltage | Resistive | General Use |
|---------|-----------|-------------|
| 240V AC | 3A        | 0.8A        |
| 120V AC | 3A        | 1.5A        |
| 30V DC  | 3A        | —           |

### • CSA Ratings

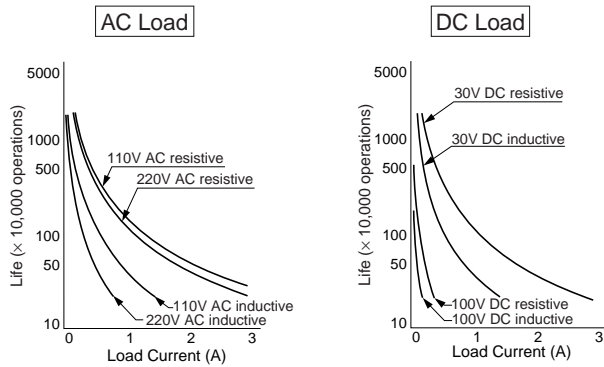
| Voltage | Resistive | General Use |
|---------|-----------|-------------|
| 240V AC | 3A        | 0.8A        |
| 120V AC | 3A        | 1.5A        |
| 100V DC | —         | 0.2A        |
| 30V DC  | 3A        | 1.5A        |

## Specifications

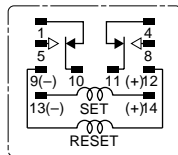
|                             |  |
|-----------------------------|--|
| Contact Material            | Gold-plated silver   |
| Contact Resistance          | 50 mΩ maximum (initial value)  |
| Set Time                    | 25 ms maximum (at the rated voltage)   |
| Reset Time                  | 25 ms maximum (at the rated voltage)   |
| Power Consumption (approx.) | AC: 1.6 VA (50 Hz), 1.5 VA (60 Hz)<br>DC: 1.2W   |
| Insulation Resistance       | 100 MΩ minimum (500V DC megger)  |
| Dielectric Strength         | Between live and dead parts:<br>1,500V AC, 1 minute  |
|                             | Between contact and coil:<br>1,000V AC, 1 minute   |
|                             | Between contacts of different poles:<br>1,000V AC, 1 minute                                      |
|                             | Between contacts of the same pole:<br>700V AC, 1 minute  |
| Operating Frequency         | Electrical: 1800 operations/h maximum<br>Mechanical: 18,000 operations/h maximum                 |
| Temperature Rise            | Coil: 85°C maximum, Contact: 65°C maximum  |
| Vibration Resistance        | 0 to 60 m/s <sup>2</sup> (maximum frequency: 55 Hz),<br>Frequency: 5 to 55 Hz, Amplitude: 0.5 mm |
| Shock Resistance            | 200 m/s <sup>2</sup> minimum   |
| Mechanical Life             | 5,000,000 operations minimum   |
| Electrical Life             | 200,000 operations minimum   |
| Operating Temperature       | -5 to +40°C (no freezing)  |
| Weight (approx.)            | 67g  |

## Characteristics (Reference Data)

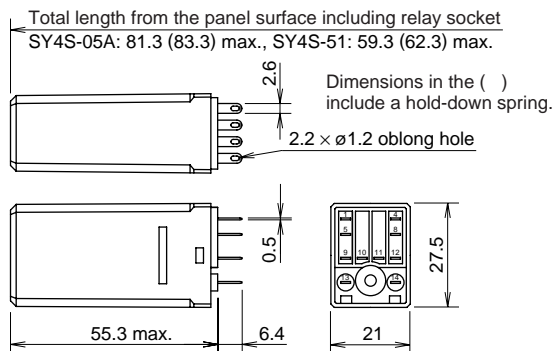
### • Electrical Life Curve



## Internal Connection (Bottom View)



## Dimensions



All dimensions in mm.

### • Applicable Socket and Hold-down Spring

| Socket                |          | Hold-down Spring                    |
|-----------------------|----------|-------------------------------------|
| Mounting Style        | Type No. |                                     |
| DIN Rail Mount Socket | SY4S-05A | SFA-202                             |
|                       | SY4S-05C |                                     |
| Panel Mount Socket    | SY4S-51  | SY4S-51F3<br>(SY4S-02F3)<br>SFA-302 |
| PC Board Mount Socket | SY4S-61  |                                     |
|                       | SY4S-62  | SY4S-51F3<br>(SY4S-02F3)            |

#### Notes:

- For the relays with check button, use the parenthesized hold-down springs shown in the above table. When the spring is used, sockets cannot be mounted closely side by side.
- Leaf springs come in pairs.
- Use the hold-down springs in environments where the relays are subject to vibrations or shocks.

For details about sockets and hold-down springs, see page 386.