



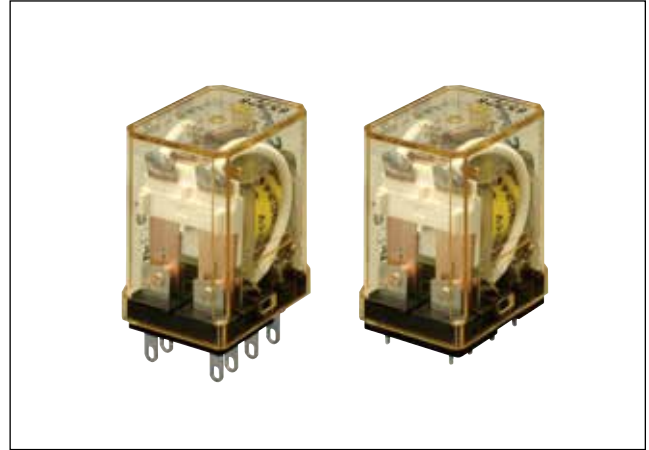


RM Series Miniature Relays

DPDT contacts (5A) Plug-in and PC board terminal styles

- Compact miniature size saves space
- Options include indicators and check buttons.

| Standard | Mark | Certification Organization/ File No. |
|------------------|---|---|
| UL508 |  | UL recognized, File No. E55996 |
| CSA C22.2 No. 14 |  | CSA File No. LR35144 |
| EN61810-1 |  | TÜV SÜD |
| |  | EU Low Voltage Directive |



| Style | Plug-in Terminal | | PC Board Terminal | |
|--|--------------------|--|-------------------|--|
| | Part No. | Coil Voltage Code * | Part No. | Coil Voltage Code * |
| Basic | RM2S-U* ★ | AC6, AC12, AC24, AC50, AC100-110, AC110-120, AC200-220, AC220-240 DC6, DC12, DC24, DC48, DC100-110 | RM2V-U* ★ | AC6, AC12, AC24, AC50, AC100-110, AC110-120, AC200-220, AC220-240 DC6, DC12, DC24, DC48, DC100-110 |
| With Indicator | RM2S-UL* ★ | | RM2V-UL* ★ | |
| With Check Button | RM2S-UC* ★ | | — | |
| Top Bracket Mounting | RM2S-UT* ★ | | — | |
| With Diode (DC coil only) | RM2S-UD* ★ | DC6, DC12, DC24, DC48, DC100-110 | — | — |
| With Indicator and Diode (DC coil only) | RM2S-ULD* ★ | | — | — |

Part numbers marked with ★ in the table above are UL-recognized, CSA-certified, and TÜV-approved.

Part No. Development

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

(Example) **RM2S-U** **AC100-110**
 Part 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 | | Max. Continuous Applied Voltage | Min. Pickup Voltage | Dropout Voltage |
| AC (50/60Hz) | 6 | 240 | 200 | 110% | 80% maximum | 30% minimum |
| | 12 | 121 | 100 | | | |
| | 24 | 60.5 | 50 | | | |
| | 50 | 28.9 | 24 | | | |
| | 100-110 | 10.3-11.8 | 9.1-10.0 | | | |
| | 110-120 | 9.4-10.8 | 8.2-9.2 | | | |
| | 200-220 | 5.1-5.9 | 4.3-5.0 | | | |
| | 220-240 | 4.7-5.4 | 4.0-4.6 | | | |
| DC | 6 | 150 | 40 | 110% | 80% maximum | 10% minimum |
| | 12 | 75 | 160 | | | |
| | 24 | 37.5 | 640 | | | |
| | 48 | 18.8 | 2,560 | | | |
| | 100-110 | 8.2-9.0 | 12,250 | | | |

RM Series Miniature Relays

Contact Ratings

| Maximum Contact Capacity | | | | | |
|--------------------------|-------------------------|--------------------|------------|-----------|-----------|
| Continuous Current | Allowable Contact Power | | Rated Load | | |
| | Resistive Load | Inductive Load | Voltage | Res. Load | Ind. Load |
| 5A | 1100VA AC 150W DC | 440VA AC 75W DC | 110V AC | 5A | 2.5A |
| | | | 220V AC | 5A | 2A |
| | | | 30V DC | 5A | 2.5A |

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

UL Ratings

| Voltage | Resistive | General use |
|---------|-----------|-------------|
| 240V AC | 5A | 2A |
| 120V AC | — | 2.5A |
| 100V DC | 0.4A | — |
| 30V DC | 5A | — |

CSA Ratings

| Voltage | Resistive | General use |
|---------|-----------|-------------|
| 240V AC | 5A | 2A |
| 120V AC | 5A | 2.5A |
| 100V DC | — | 0.4A |
| 30V DC | 5A | 2.5A |

TÜV Ratings

| | |
|---------|----|
| 240V AC | 5A |
| 30V DC | 5A |

Note: AC: $\cos \phi = 1.0$, DC: $L/R = 0$ ms

Specifications

| | |
|-----------------------------|---|
| Contact Material | Silver |
| Contact Resistance | 30 mΩ maximum *1 |
| Minimum Applicable Load | 5V DC, 1 mA (reference value) |
| Operate Time | 20 ms maximum *2 |
| Release Time | 20 ms maximum *2 |
| Power Consumption (approx.) | AC: 1.4 VA (50 Hz), 1.2 VA (60 Hz) DC: 0.9W |
| Insulation Resistance | 100 MΩ minimum (500V DC megger) |
| Dielectric Strength | Between live and dead parts: 2000V AC, 1 minute *3 Between contact and coil: 2000V AC, 1 minute Between contacts of different poles: 2000V AC, 1 minute Between contacts of the same pole: 1000V AC, 1 minute |
| Operating Frequency | Electrical: 1,800 operations/h maximum Mechanical: 18,000 operations/h maximum |
| Temperature Rise | Coil: 85°C maximum, Contact: 65°C maximum |
| Vibration Resistance | Damage limits: 10 to 55 Hz, amplitude 0.5 mm Operating extremes: 10 to 55 Hz, amplitude 0.5 mm |
| Shock Resistance | Damage limits: 1000 m/s ² Operating extremes: 200 m/s ² |
| Mechanical Life | 50,000,000 operations |
| Electrical Life | 500,000 operations (220V AC, 5A) |
| Operating Temperature | -25 to +45°C (no freezing) *4 |
| Operating Humidity | 45 to 85% RH (no condensation) |
| Storage Temperature | -55 to +70°C (no freezing) *4 |
| Storage Humidity | 45 to 85% RH (no condensation) |
| Weight (approx.) | 35g |

Note: Above values are initial values.

*1: Measured using 5V DC, 1A voltage drop method

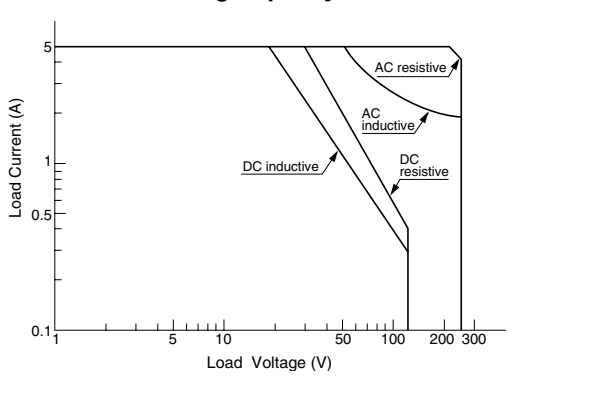
*2: Measured at the rated voltage (at 20°C), excluding contact bouncing
Release time of relays with diode: 40 ms maximum

*3: Relays with indicator or diode: 1000V AC, 1 minute

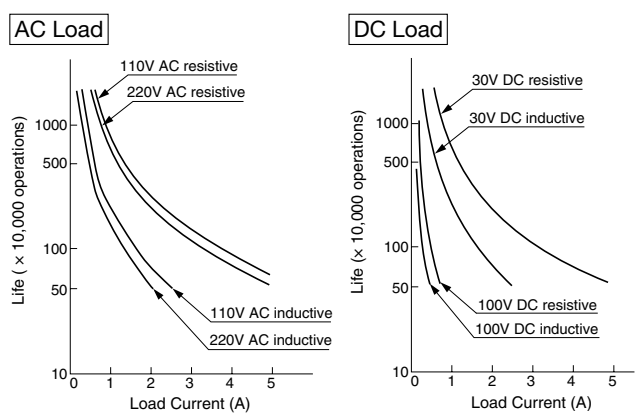
*4: For use under different temperature conditions, refer to Continuous Load Current vs. Operating Temperature Curve. The operating temperature range of relays with indicator or diode is -25 to +40°C.

Characteristics (Reference Data)

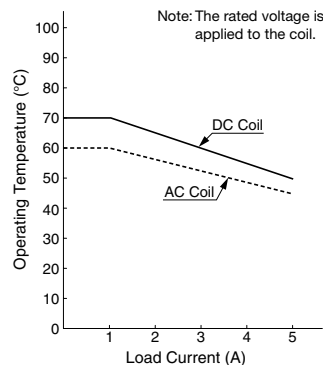
Maximum Switching Capacity



Electrical Life Curve

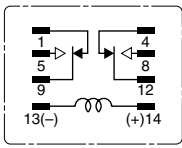


Continuous Load Current vs. Operating Temperature Curve (Basic, With Check Button, and Top Bracket Mounting)

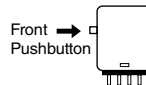


Internal Connection (Bottom View)

Basic (-U, UT)



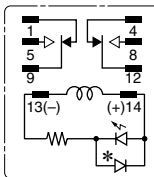
With Check Button



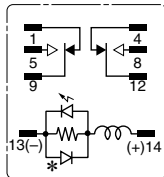
Contacts can be operated by pressing the check button. Press the button quickly to prevent arcing.

With Indicator (-UL)

Below 24V AC/DC



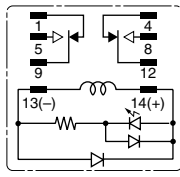
24V AC/DC and over



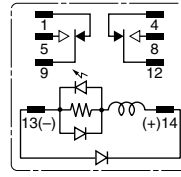
When the coil is energized, the indicator goes on.
* The LED protection diode is not contained in DPDT relays for below 100V DC.

With Indicator and Diode (-UD, -ULD)

Below 24V DC



24V DC and over



This type contains an operation indicator and a surge absorber, and has the same height as the basic type.

Dimensions

Plug-in (Solder Terminal)

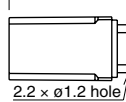
RM2S-U/RM2S-UL
RM2S-UD/RM2S-ULD



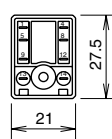
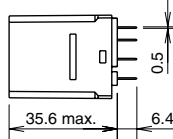
(Photo: RM2S-U)



Total length from the panel surface including relay socket.
SM2S-05A: 61.5 (63.5) max., SM2S-51: 39.6 (41.6) max.



Dimensions in the () include a hold-down spring.



Applicable Socket and Hold-down Spring

| Mounting Style | Socket | | Hold-down Spring |
|-----------------------|-----------------|--|-------------------------------|
| | Part No. | | |
| DIN Rail Mount Socket | SM2S-05* | | SFA-101 SFA-202 SFA-502 |
| Panel Mount Socket | SM2S-51 | | SY4S-51F1 (SY4S-02F1) |
| PC Board Mount Socket | SM2S-61 | | SFA-301 SFA-302 |

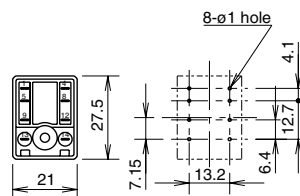
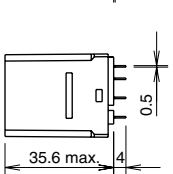
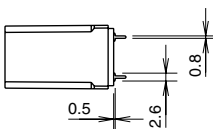
Note: (SY4S-02F1) is for the relay with check button.

PC Board Terminal

RM2V-U/RM2V-UL

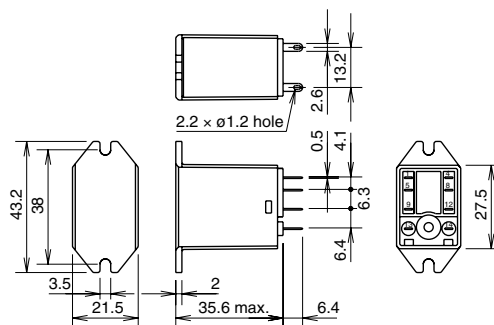
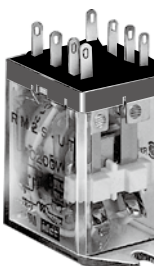


(Photo: RM2V-U)



Top Bracket Mounting (Solder Terminal)

RM2S-UT



All dimensions in mm.

| |
|--------|
| Relays |
| RJ |
| RU |
| RY |
| RM |
| RH |
| RR |
| RV8H |
| RF1V |
| RF2 |

| |
|---------------|
| Sockets |
| SJ |
| DF |
| SU |
| SF1V |
| Relay Sockets |