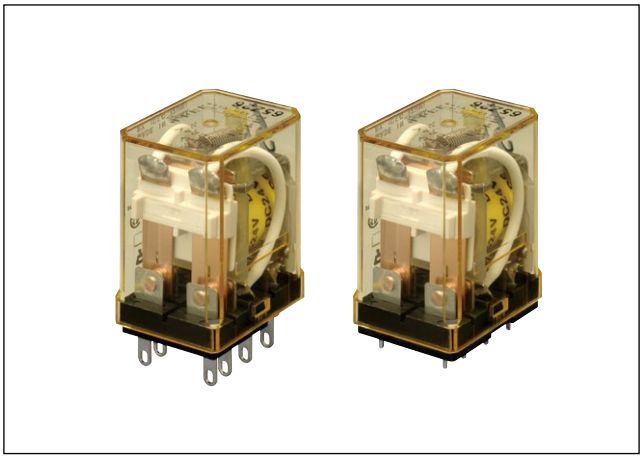
RM Series Miniature Relays

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
	CE	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	9.4	110%	80% maximum	30% minimum
	12	121	100	39.3			
	24	60.5	50	153			
	50	28.9	24	680			
	100-110	10.3-11.8	9.1-10.0	3,360			
	110-120	9.4-10.8	8.2-9.2	4,290			
	200-220	5.1-5.9	4.3-5.0	13,690			
	220-240	4.7-5.4	4.0-4.6	18,820			
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			

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 ø = 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 ø = 1.0, DC: L/R = 0 ms

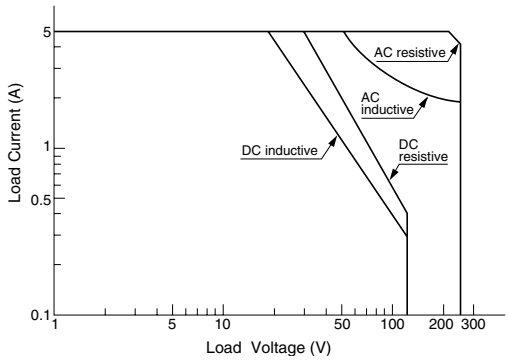
Specifications

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/s² Operating extremes: 200 m/s²
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

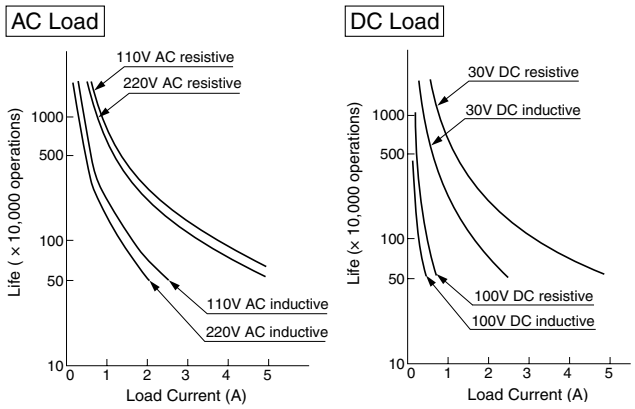
Note: Above values are initial values.
∗1: Measured using 5V DC, 1A voltage drop method
∗2: Measured at the rated voltage (at 20°C), excluding contact bouncing
Release time of relays with diode: 40 ms maximum
∗3: Relays with indicator or diode: 1000V AC, 1 minute
∗4: For use under different temperature conditions, refer to Continuous Load Current vs. Operating Temperature Curve. The operating temperature range of relays with indicator or doide is –25 to +40°C.

Characteristics (Reference Data)

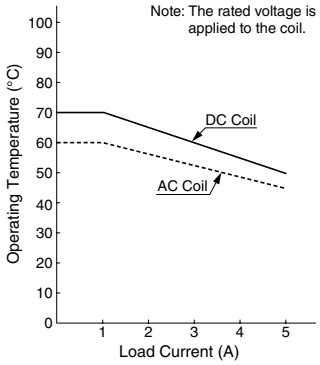
Maximum Switching Capacity



Electrical Life Curve

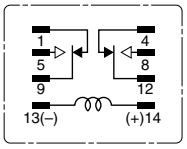


Continuous Load Current vs. Operating Temperature Curve (Basic, With Check Button, and Top Bracket Mounting)

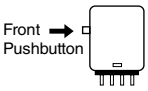


Internal Connection (Bottom View)

Basic (-U, UT)



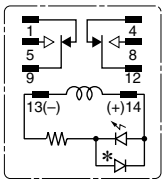
With Check Button



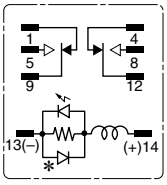
Contacts can be operated by pressing the check button. Press the button quickly to prevent arcing.

With Indicator (-UL)

Below 24V AC/DC



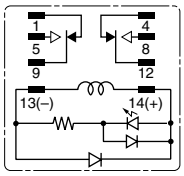
24V AC/DC and over



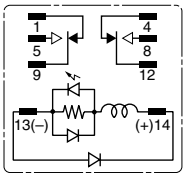
When the coil is energized, the indicator goes on.
* The LED protection diode is not contained in DPDT relays for below 100V DC.

With Indicator and Diode (-UD, -ULD)

Below 24V DC



24V DC and over



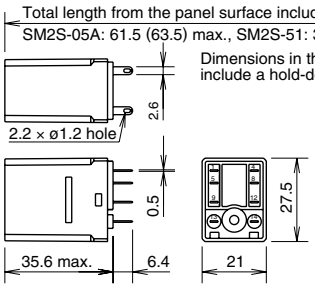
This type contains an operation indicator and a surge absorber, and has the same height as the basic type.

Dimensions

Plug-in (Solder Terminal)

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

(Photo: RM2S-U)



Applicable Socket and Hold-down Spring

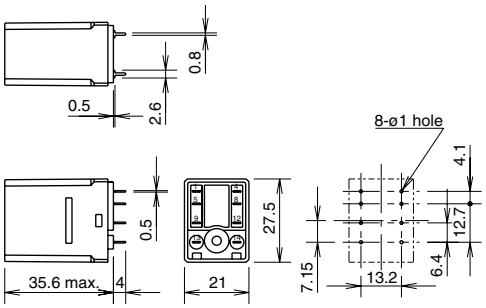
Socket		Hold-down Spring
Mounting Style	Part No.	
DIN Rail Mount Socket	**SM2S-05***	SFA-101 SFA-202 SFA-502
Panel Mount Socket	**SM2S-51**	SY4S-51F1 (SY4S-02F1) SFA-301 SFA-302
PC Board Mount Socket	**SM2S-61**	

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

PC Board Terminal

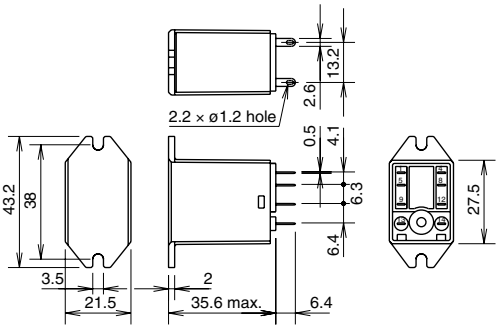
RM2V-U/RM2V-UL

(Photo: RM2V-U)



Top Bracket Mounting (Solder Terminal)

RM2S-UT



All dimensions in mm.