



RE-RH Series

Compact Blade Terminal Power Relays



Overview

The RE-RH Series uses silver cadmium oxide contacts to help reduce voltage arcing. Available in 1 to 4 poles, the RE-RH series is known for going the distance. Options include manual check buttons and LED indicators. All models carry worldwide approvals including UL, CSA, TUV and CE. Using a standard terminal arrangement, the RH series will plug into many competitors' sockets.

Applications

- General purpose blade style relays and Din Rail sockets

Features & Benefits

- SPDT through 4PDT, 10A contacts
- Compact power type relays
- Miniature power relays with a large capacity
- 10A contact capacity
- Compact size saves space
- DIN Rail mount sockets

Model Selection

Relays

RE-RH1B-UAC24V	Relay, Blade Terminal, SPDT 24VAC coil
RE-RH1B-UDC24V	Relay, Blade Terminal, SPDT 24VDC coil
RE-RH1B-LAC24V	Relay, Blade Terminal, SPDT 24VAC coil, w/ indicator
RE-RH1B-UAC120V	Relay, Blade Terminal, SPDT 120VAC coil
RE-RH2B-UAC24V	Relay, Blade Terminal, DPDT 24VAC coil
RE-RH2B-UDC24V	Relay, Blade Terminal, DPDT 24VDC coil
RE-RH2B-UAC120V	Relay, Blade Terminal, DPDT 120VAC coil
RE-RH2B-ULAC24V	Relay, Blade Terminal, DPDT 24VAC coil, w/ indicator
RE-RH2B-ULDC24V	Relay, Blade Terminal, DPDT 24VDC coil, w/ indicator
RE-RH2B-ULAC120V	Relay, Blade Terminal, DPDT 120VAC coil, w/ indicator
RE-RH3B-UAC24V	Relay, Blade Terminal, 3PDT 24VAC coil
RE-RH3B-UDC24V	Relay, Blade Terminal, 3PDT 24VDC coil
RE-RH3B-UAC120V	Relay, Blade Terminal, 3PDT 120VAC coil
RE-RH3B-ULAC24V	Relay, Blade Terminal, 3PDT 24VAC coil, w/ indicator
RE-RH3B-ULAC120V	Relay, Blade Terminal, 3PDT 120VAC coil, w/ indicator
RE-RH3B-ULCAC120V	Relay, Blade Terminal, 3PDT 120VAC coil, w/ indicator +CHK BTN
RE-RH4B-UAC24V	Relay, Blade Terminal, 4PDT 24VAC coil
RE-RH4B-ULAC24V	Relay, Blade Terminal, 4PDT 24VAC coil, w/ indicator
RE-RH4B-UAC120V	Relay, Blade Terminal, 4PDT 120VAC coil

Bases

RE-SH1B-05	Standard DIN Rail Mount Base for RE-RH1B Relays
RE-SH2B-05	Standard DIN Rail Mount Base for RE-RH2B Relays
RE-SH3B-05	Standard DIN Rail Mount Base for RE-RH3B Relays
RE-SH4B-05	Standard DIN Rail Mount Base for RE-RH4B Relays

Product Specifications

Contact Material	Silver cadmium oxide
Contact Resistance ¹	50mΩ maximum
Maximum Applicable Load	24V DC, 30 mA; 5V DC, 100 mA (reference value)
Operating Time ²	
<input type="checkbox"/> SPDT & DPDT	20ms maximum
<input type="checkbox"/> 3PDT & 4PDT	25ms maximum
Release Time ²	
<input type="checkbox"/> SPDT & DPDT	20ms maximum
<input type="checkbox"/> 3PDT & 4PDT	25ms maximum
Power Consumption (approx.)	
<input type="checkbox"/> SPDT	AC: 1.1VA (50Hz), 1VA (60Hz) DC: 0.8W
<input type="checkbox"/> DPDT	AC: 1.4VA (50Hz), 1.2VA (60Hz) DC: 0.9W
<input type="checkbox"/> 3PDT	AC: 2VA (50Hz), 1.7VA (60Hz) DC: 1.5W
<input type="checkbox"/> 4PDT	AC: 2.5VA (50Hz), 2VA (60Hz) DC: 1.5W
Insulation Resistance	100MΩ minimum (500V DC megger)
Dialectric Strength ³	
<input type="checkbox"/> SPDT	Between live and dead parts: 2,000V AC, 1 minute Between contact and coil: 2,000V AC, 1 minute Between contacts of the same pole: 1,000V AC, 1 minute
<input type="checkbox"/> DPDT, 3PDT & 4PDT	Between live and dead parts: 2,000V AC, 1 minute Between contact and coil: 2,000V AC, 1 minute Between contacts of different poles: 2,000V AC, 1 minute Between contacts of the same pole: 1,000V AC, 1 minute
Operating Frequency	
<input type="checkbox"/> Electrical	1,800 operations/hour maximum
<input type="checkbox"/> Mechanical	18,000 operations/hour maximum
Vibration Resistance	
<input type="checkbox"/> Damage Limits	10 to 55Hz, amplitude 0.5 mm
<input type="checkbox"/> Operating Extremes	10 to 55Hz, amplitude 0.5 mm
Shock Resistance	
<input type="checkbox"/> Damage Limits	1,000m/s ² (100G)
<input type="checkbox"/> Operating Extremes	200m/s ² (20G - SPDT, DPDT) 100m/s ² (10G - 3PDT, 4PDT)
Mechanical Life	50,000,000 operations minimum
Electrical Life	
<input type="checkbox"/> DPDT	500,000 operations minimum (120V AC, 10A)
<input type="checkbox"/> SPDT, 3PDT & 4PDT	200,000 operations minimum (120V AC, 10A)
Operating Temperature ⁴	-25 to +70°C (no freezing)
Operating Humidity	45 to 85% RH (non condensing)
Weight (approx.)	
<input type="checkbox"/> SPDT	24g.
<input type="checkbox"/> DPDT	37g.
<input type="checkbox"/> 3PDT	50g.
<input type="checkbox"/> 4PDT	74g.
Approvals	UL, CSA, TÜV, and CE

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.

Socket Specifications

RE-SH1B-05

Terminal

☐ Coil _____ M3 screws

☐ Contact _____ M3.5 screws with captive wire clamp

Electrical Rating _____ 250V, 10A

Wire Size _____ Maximum up to 2-#12AWG

Torque _____ 5.5-9 in/lbs, 9-11.5 in/lbs

RE-SH2B-05, RE-SH3B-05, RE-SH4B-05

Terminal _____ M3.5 screws with captive wire clamp

Electrical Rating _____ 300V, 10A

Wire Size _____ Maximum up to 2-#12AWG

Toque _____ 9-11.5 in/lbs

Ratings

AC Coil Ratings

Voltage (V)	Rated Current (mA) $\pm 15\%$ at 20°C								Coil Resistance (Ω) $\pm 10\%$ at 20°C				Operation Characteristics (against rated values at 20°C)		
	AC 50Hz				AC 60Hz				SPDT	DPDT	3PDT	4PDT	Max. Continuous Applied Voltage	Pickup Voltage	Dropout Voltage
	SPDT	DPDT	3PDT	4PDT	SPDT	DPDT	3PDT	4PDT							
24	42	60.5	81	98	37	50	70	83	83	153	103	84.5	110%	80% max	30% max
120	8.6	9.4-10.8	16.4	19.5	7.5	8.0-9.2	14.2	16.5	16.5	—	10,800	7,360			

DC Coil Ratings

Voltage (V)	Rated Current (mA) $\pm 15\%$ at 20°C				Coil Resistance (Ω) $\pm 10\%$ at 20°C				Operation Characteristics (against rated values at 20°C)		
	SPDT	DPDT	3PDT	4PDT	SPDT	DPDT	3PDT	4PDT	Max. Continuous Applied Voltage	Pickup Voltage	Dropout Voltage
24	32	36.9	60	62	750	650	400	388	110%	80% max	30% max

Contact Ratings

Maximum Contact Capacity						
Model	Continuous Current	Available Contact Power		Rated Load		
		Resistive Load	Inductive Load	Voltage (V)	Resistive Load	Inductive Load
SPDT	10A	1540VA 300W	990VA 210W	110 AC	10A	7A
				220 AC	7A	4.5A
				30 DC	10A	7A
DPDT 3PDT 4PDT	10A	1650VA 300W	110VA 225W	110 AC	10A	7.5A
				220 AC	7.5A	5A
				30 DC	10A	7.5A

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

UL Ratings

Voltage	Resistive			General Use			Horsepower Rating		
	RE-RH1 RE-RH2	RE-RH3	RE-RH4	RE-RH1 RE-RH2	RE-RH3	RE-RH4	RE-RH1 RE-RH2	RE-RH3	RE-RH4
240V AC	10A	7.5A	7.5A	7A	6.5A	5A	1/3 HP	1/3 HP	—
120V AC	—	10A	10A	—	7.5A	7.5A	1/6 HP	1/6 HP	—
30V DC	10A	10A	—	7A	—	—	—	—	—
28V DC	—	—	10A	—	—	—	—	—	—

CSA Ratings

Voltage	Resistive				General Use				Horsepower Rating
	RE-RH1	RE-RH2	RE-RH3	RE-RH4	RE-RH1	RE-RH2	RE-RH3	RE-RH4	RE-RH1 RE-RH2 RE-RH3
240V AC	10A	10A	—	7.5A	7A	7A	7A	5A	1/3 HP
120V AC	10A	10A	10A	10A	7.5A	7.5A	—	7.5A	1/6 HP
30V DC	10A	10A	10A	10A	7A	7.5A	—	—	—

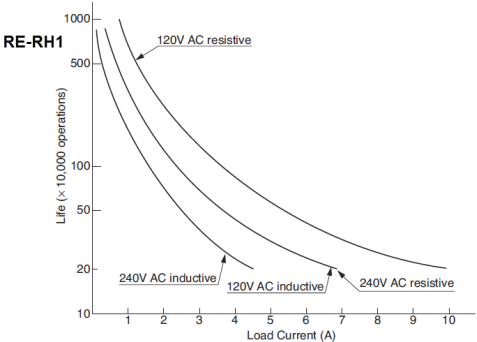
TÜV Ratings

Voltage	RE-RH1	RE-RH2	RE-RH3	RE-RH4
240V AC	10A	10A	7.5A	7.5A
30V DC	10A	10A	10A	10A

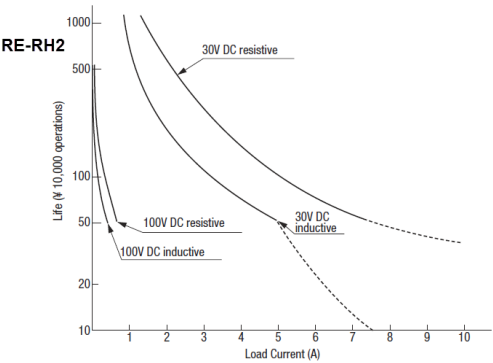
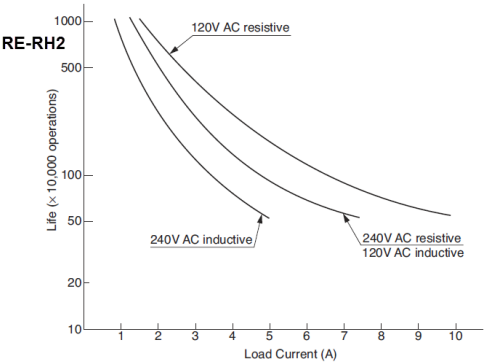
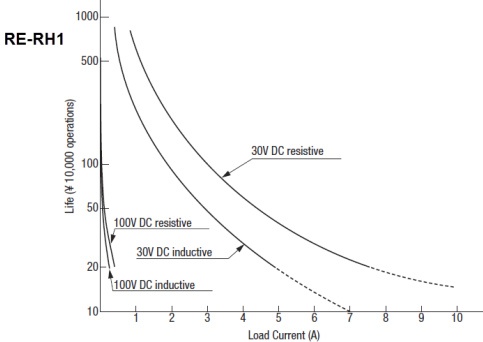
Product Characteristics (Reference Data)

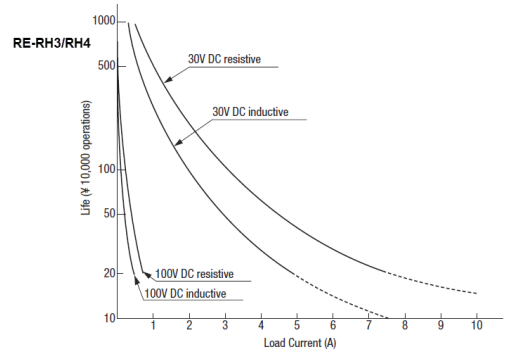
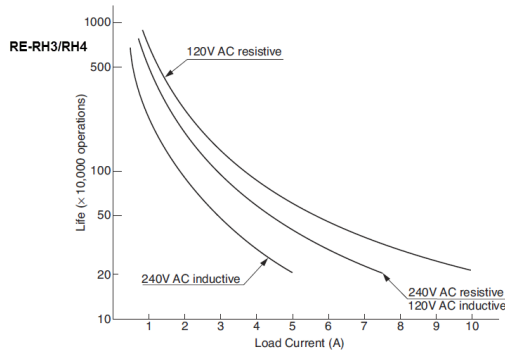
Electrical Life Curves

AC Load

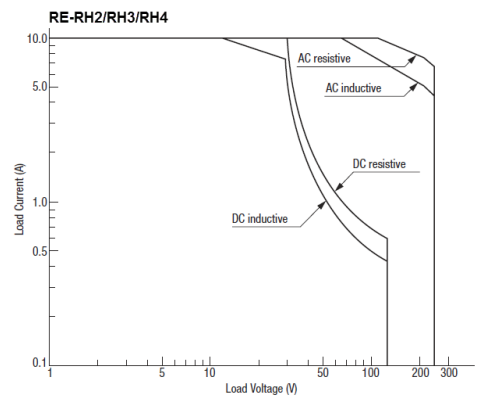
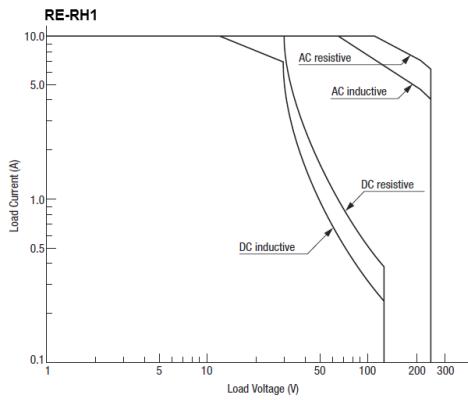


DC Load

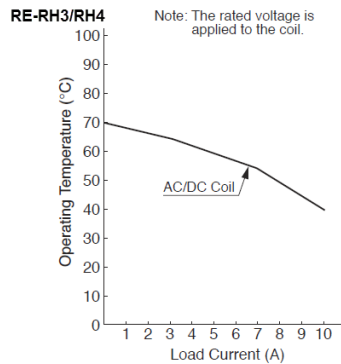
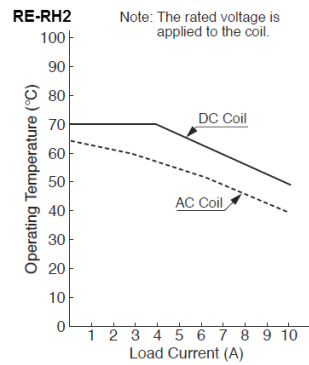
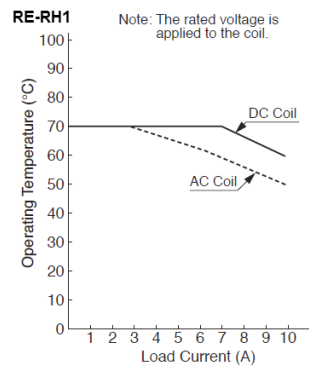




Maximum Switching Capacity

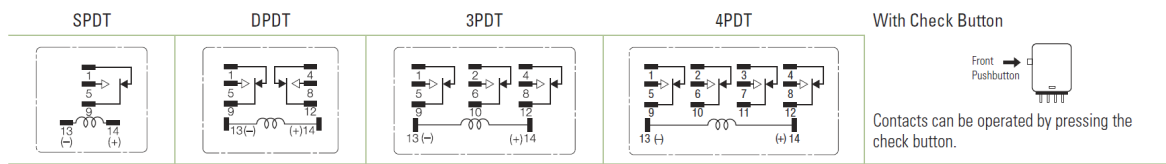


Continuous Load Current vs. Operating Temperature Curve (Basic Type / With Check Button / Top Bracket Mounting Type)

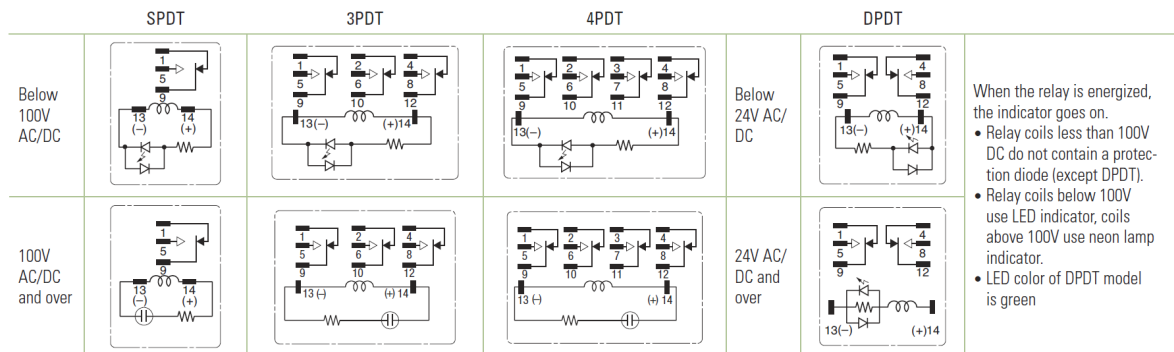


Internal Connection (View from Bottom)

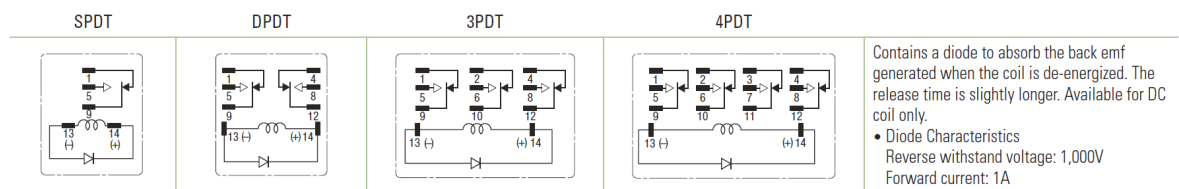
Basic Type



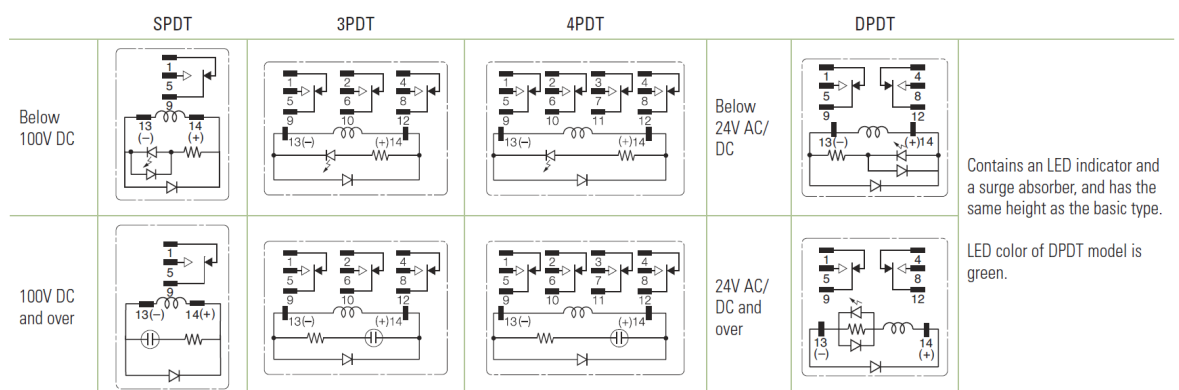
With Indicator (-L Type)



With Diode (-D Type)

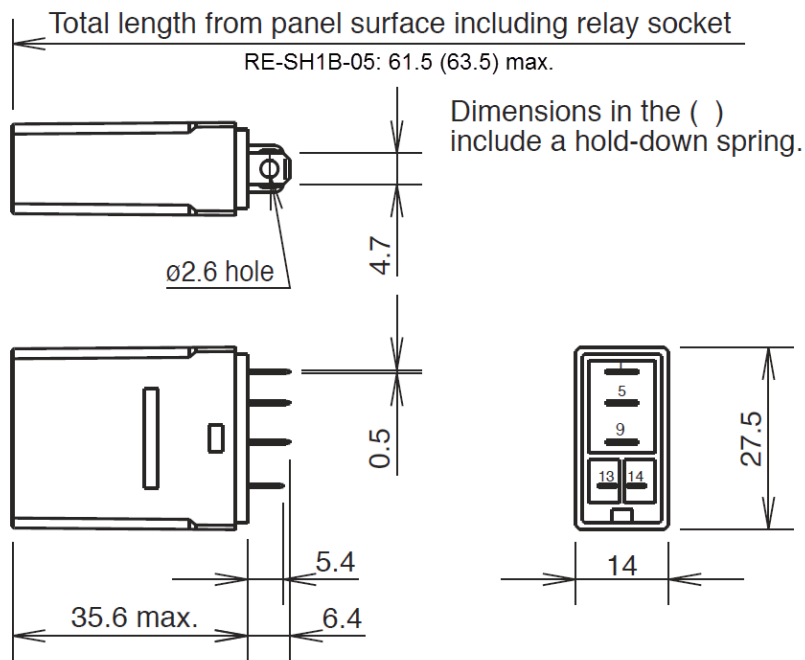


With Indicator LED & Diode (_LD type; call for quote)

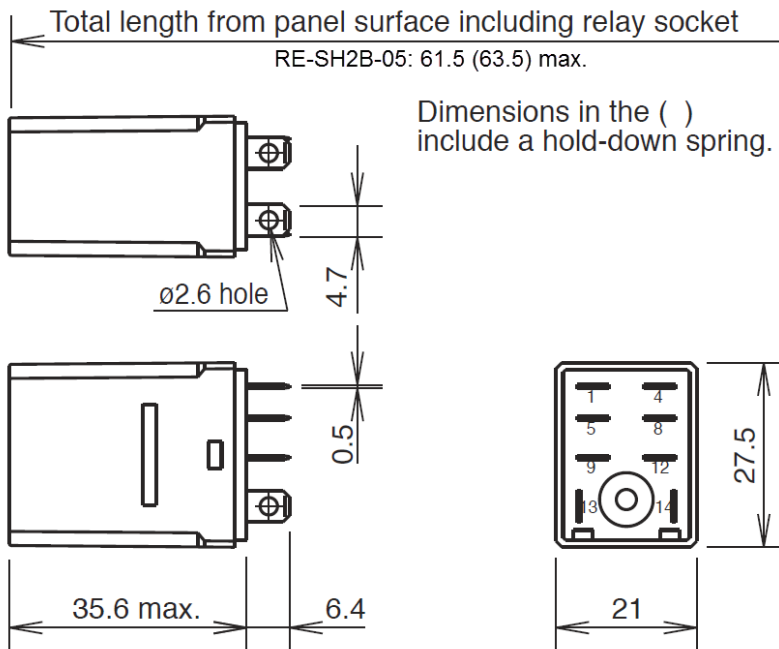


Dimensions (mm)

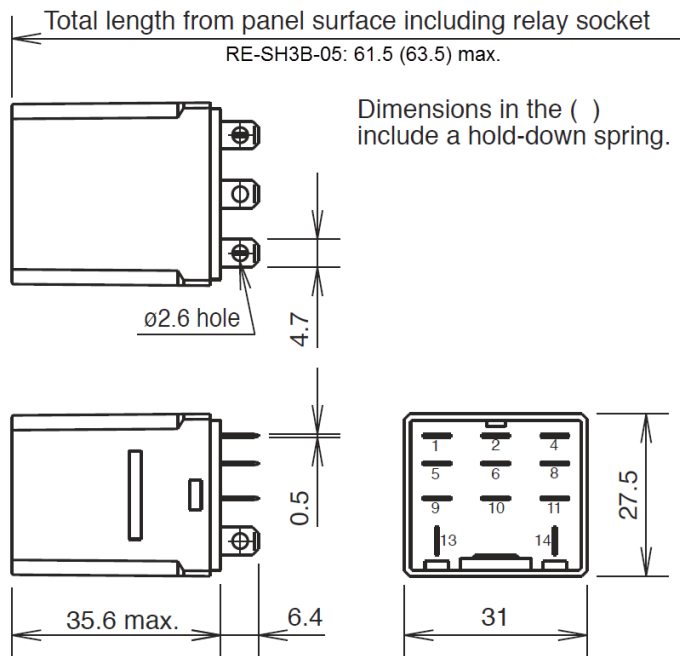
RE-RH1B-U/RE-RH1B-UL



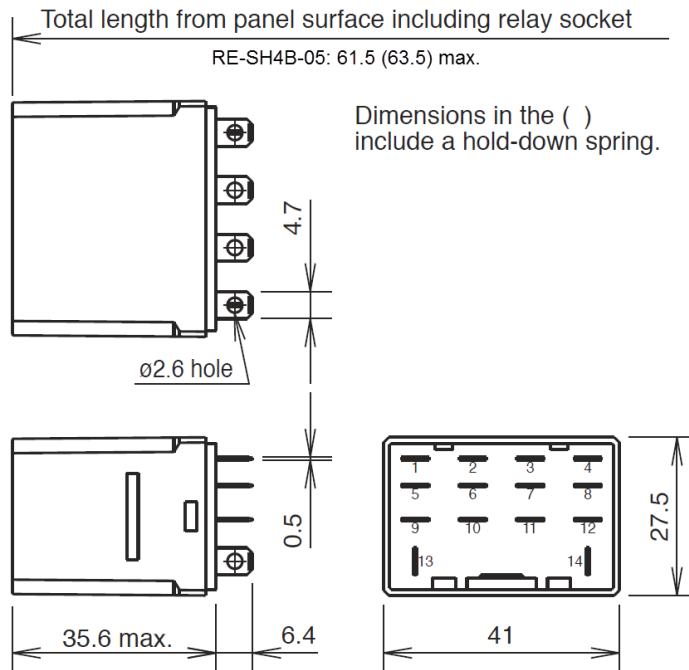
RE-RH2B-U/RE-RH2B-UL



RE-RH3B-U/RE-RH3B-UL

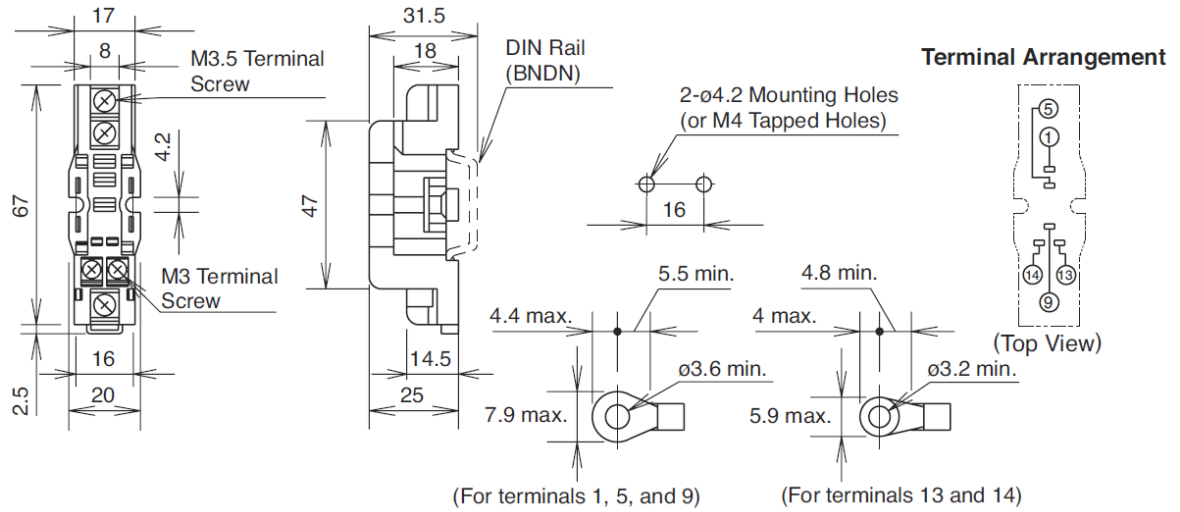


RE-RH4B-U/RE-RH4B-UL

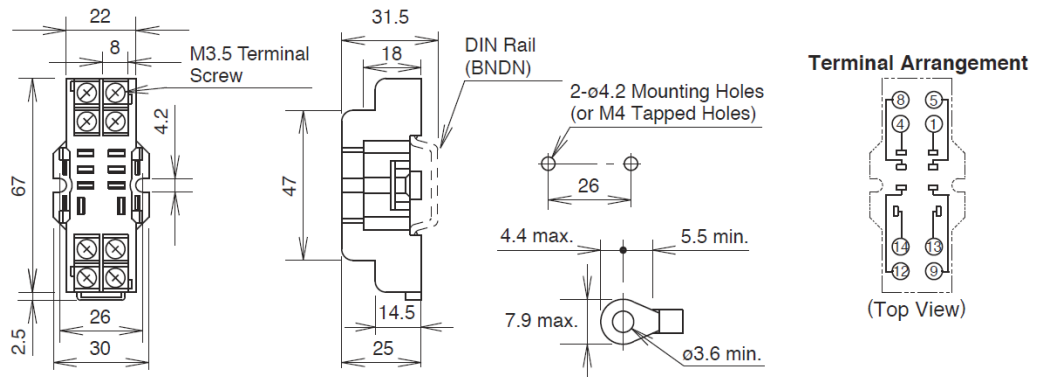


Standard DIN Rail Mount Sockets

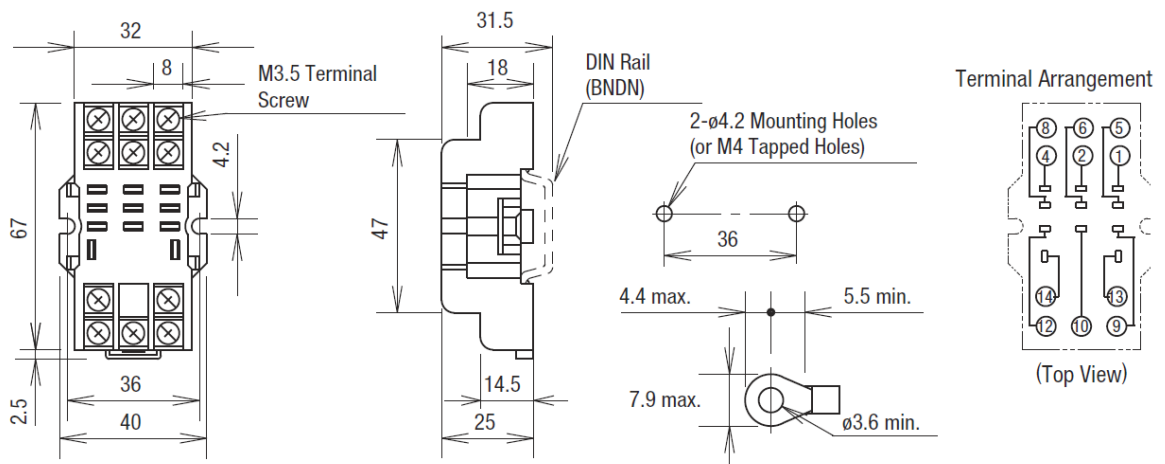
RE-SH1B-05



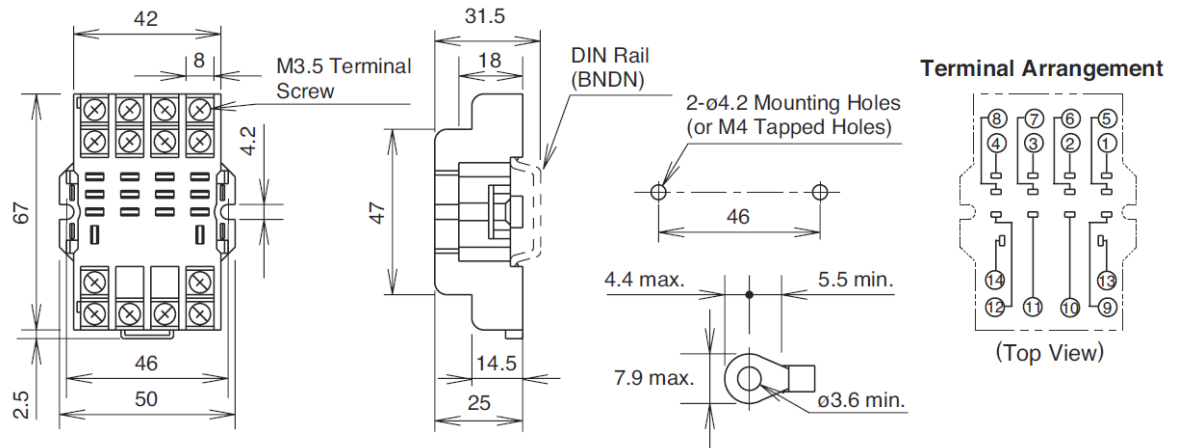
RE-SH2B-05



RE-SH3B-05



RE-SH4B-05



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