



# RJ Series Slim Power Relays

## Plug-in Terminal

Shape				
	1-pole: With diode (DC coil only) (with LED indicator)		2-pole: Standard (with LED Indicator)	
Style	1-pole (SPDT)		2-pole (DPDT)	
	Part No.	Code	Part No.	Code
Standard (with LED Indicator)	RJ1S-CL-□	A12, A24, A110, A115, A120, A220, A230, A240	RJ2S-CL-□	A12, A24, A110, A115, A120, A220, A230, A240
Simple (without LED Indicator)	RJ1S-C-□	D5, D6, D12, D24, D48 D100	RJ2S-C-□	D5, D6, D12, D24, D48 D100
With diode (DC coil only) (with LED indicator) A1: -, A2: +	RJ1S-CLD-□	D5, D6, D12, D24, D48, D100	RJ2S-CLD-□	D5, D6, D12, D24, D48, D100
With diode (DC coil only) (without LED indicator) A1: -, A2: +	RJ1S-CD-□		RJ2S-CD-□	
With diode (DC coil only) (with LED indicator) A1: +, A2: -	RJ1S-CLD1-□		RJ2S-CLD1-□	
Without diode (DC coil only)	RJ1S-CD1-□		RJ2S-CD1-□	
With RC (with LED indicator)	RJ1S-CLR-□	A12, A24, A110, A115	RJ2S-CLR-□	A12, A24, A110, A115
With RC (without LED indicator)	RJ1S-CR-□	A220, A230, A240	RJ2S-CR-□	A220, A230, A240

## Coil Voltage Code \*

Code	Rated Coil Voltage
A12	12V AC
A24	24V AC
A110	110V AC
A115	115V AC
A120	120V AC
A220	220V AC
A230	230V AC
A240	240V AC
D5	5V DC
D6	6V DC
D12	12V DC
D24	24V DC
D48	48V DC
D100	100-110V DC

Note: Specify a coil voltage code in place of □ in the Part No.

## Contact Ratings

No. of Poles	Contact	Allowable Contact Power		Rated Load			Allowable Switching Current	Allowable Switching Voltage	Minimum Applicable Load (Note)
		Resistive Load	Inductive Load	Voltage	Resistive Load	Inductive Load cos $\phi = 0.3$ L/R = 7 ms			
1	NO	3000VA AC	1875VA AC	250V AC	12A	7.5A	12A	250V AC 125V DC	5V DC, 100 mA (reference value)
		360W DC	180W DC	30V DC	12A	6A			
	NC	3000VA AC	1875VA AC	250V AC	12A	7.5A			
		180W DC	90W DC	30V DC	6A	3A			
2	NO	2000VA AC	1000VA AC	250V AC	8A	4A	8A	250V AC 125V DC	5V DC, 10 mA (reference value)
		240W DC	120W DC	30V DC	8A	4A			
	NC	2000VA AC	1000VA AC	250V AC	8A	4A			
		120W DC	60W DC	30V DC	4A	2A			

Note: Measured at operating frequency of 120 operations per minute. Failure rate level P.

## Approved Ratings

Voltage	UL				CSA								VDE			
	Resistive				Resistive				Inductive				Resistive		AC-15, DC-13 (Note)	
	RJ1		RJ2		RJ1		RJ2		RJ1		RJ2		RJ1	RJ2	RJ1	RJ2
	NO	NC	NO	NC	NO	NC	NO	NC	NO	NC	NO	NC	NO	NO	NO	NO
250V AC	12A	12A	8A	8A	12A	12A	8A	8A	7.5A	7.5A	4A	4A	12A	8A	6A	3A
30V DC	12A	6A	8A	4A	12A	6A	8A	4A	6A	3A	4A	2A	12A	8A	2.5A	2A

Note: According to the utilization categories of IEC60947-5-1

- Relays
- RJ**
- RN
- RU
- RY2
- RH
- RR
- RV8H
- RF1V
- RF2
- Sockets
- SJ
- DF
- SN
- SU
- SF1V
- S
- DIN Rail Products

### Coil Ratings

Rated Voltage	Coil Voltage Code	Without LED Indicator			With LED Indicator			Operating Characteristics (against rated values at 20°C)			Power Consumption	
		Rated Current (mA) ±15% (at 20°C)		Coil Resistance (Ω) ±10% (at 20°C)	Rated Current (mA) ±15% (at 20°C)		Coil Resistance (Ω) ±10% (at 20°C)	Minimum Pickup Voltage	Dropout Voltage	Maximum Allowable Voltage (Note)		
		50 Hz	60 Hz		50 Hz	60 Hz						
AC 50/60 Hz	12V AC	A12	87.3	75.0	62.5	91.1	78.8	62.5	80% maximum	30% minimum	140%	Approx. 0.9 VA (60Hz)
	24V AC	A24	43.9	37.5	243	47.5	41.1	243				
	110V AC	A110	9.6	8.2	5270	9.5	8.1	5270				
	115V AC	A115	9.1	7.8	6030	9.0	7.7	6030				
	120V AC	A120	8.8	7.5	6400	8.7	7.4	6400				
	220V AC	A220	4.8	4.1	21530	4.8	4.1	21530				
	230V AC	A230	4.6	3.9	24100	4.6	3.9	24100				
	240V AC	A240	4.3	3.7	25570	4.3	3.7	25570				
DC	5V	D5	106		47.2	110		47.2	70% maximum	10% minimum	170%	Approx. 0.53W
	6V	D6	88.3		67.9	92.2		67.9				
	12V	D12	44.2		271	48.0		271				
	24V	D24	22.1		1080	25.7		1080				
	48V	D48	11.0		4340	10.7		4340				
	100-110V	D100	5.3-5.8		18870	5.2-5.7		18870				

Note: Maximum allowable voltage is the maximum voltage that can be applied to relay coils.

### Specifications

Model	RJ1S		RJ2S	
Number of Poles	1-pole		2-pole	
Contact Configuration	SPDT		DPDT	
Contact Material	Silver-nickel alloy			
Degree of Protection	IP40			
Contact Resistance (initial value) (*1)	50 mΩ maximum			
Operate Time (*2)	15 ms maximum			
Release Time (*2)	10 ms maximum (with diode/with RC: 20 ms maximum)			
Dielectric Strength	Between contact and coil	5000V AC, 1 minute		5000V AC, 1 minute
	Between contacts of the same pole	1000V AC, 1 minute		1000V AC, 1 minute
	Between contacts of different poles	—		3000V AC, 1 minute
Vibration Resistance	Operating extremes	10 to 55 Hz, amplitude 0.75 mm		
	Damage limits	10 to 55 Hz, amplitude 0.75 mm		
Shock Resistance	Operating extremes	NO contact: 200 m/s <sup>2</sup> , NC contact: 100 m/s <sup>2</sup>		
	Damage limits	1000 m/s <sup>2</sup>		
Electrical Life (rated load)	AC load: 200,000 operations minimum (operation frequency 1800 operations per hour) DC load: 100,000 operations minimum (operation frequency 1800 operations per hour)			
Mechanical Life (no load)	AC coil: 30,000,000 operations minimum (operation frequency 18,000 operations per hour) DC coil: 50,000,000 operations minimum (operation frequency 18,000 operations per hour)			
Operating Temperature (*3)	-40 to +70°C (no freezing)			
Operating Humidity	5 to 85% RH (no condensation)			
Weight (approx.)	19g			

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 bounce time.

\*3) 100% rated voltage.

### Applicable Socket

Terminal	Part No.		Page
	RJ1S (1-pole)	RJ2S (2-pole)	
Standard Screw Terminal	SJ1S-05B	SJ2S-05B	82
Finger-safe Screw Terminal	SJ1S-07L	SJ2S-07L	

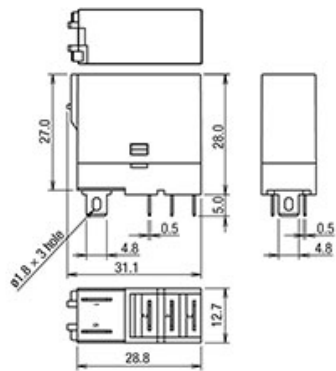
### Relay Coil Tape Color

Coil Voltage	Coil Color
12V AC	Yellow
24V AC	White
110V AC	Clear
115V	Yellow
120V AC	Blue
220V AC	Black
230V AC	Yellow
240V AC	Red
5V DC	Yellow
6V DC	Yellow
12V DC	Yellow
24V DC	Green
48V DC	Yellow
100-110V DC	Yellow

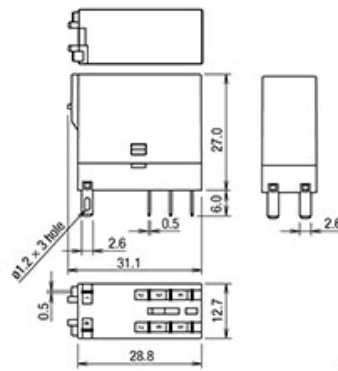
Relays
RJ
RN
RU
RY2
RH
RR
RV8H
RF1V
RF2
Sockets
SJ
DF
SN
SU
SF1V
S
DIN Rail Products

Dimensions

RJ1S

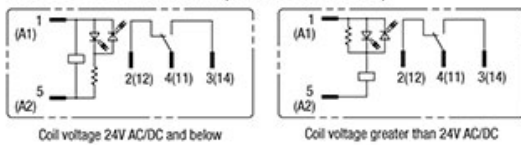


RJ2S-CL

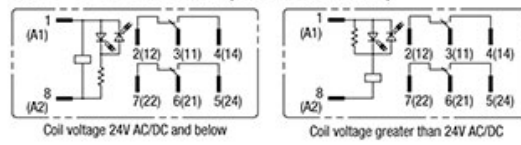


All dimensions in mm.

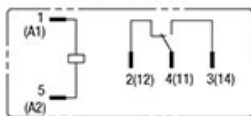
RJ1S-CL-□ Standard (w/LED Indicator)



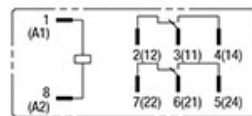
RJ2S-CL-□ Standard (w/LED Indicator)



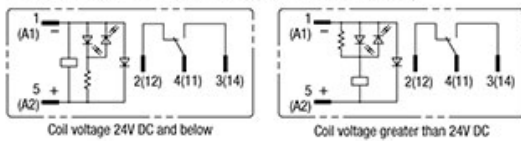
RJ1S-C-□ Simple



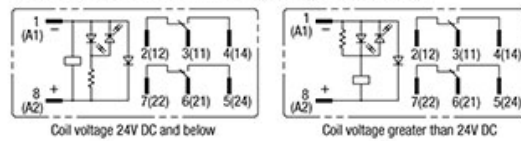
RJ2S-C-□ Simple



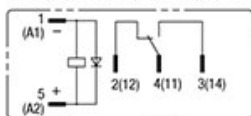
RJ1S-CLD-□ With Diode (w/LED Indicator)



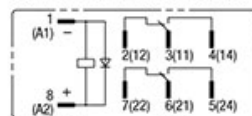
RJ2S-CLD-□ With Diode (w/LED Indicator)



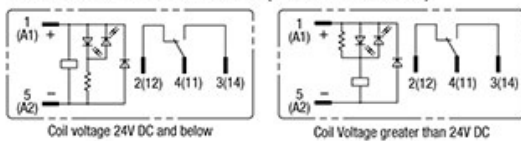
RJ1S-CD-□ With Diode



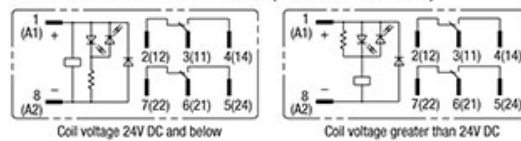
RJ2S-CD-□ With Diode



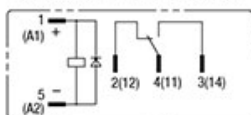
RJ1S-CLD1-□ With Diode (w/LED Indicator)



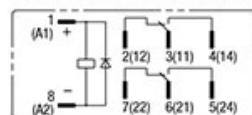
RJ2S-CLD1-□ With Diode (w/LED Indicator)



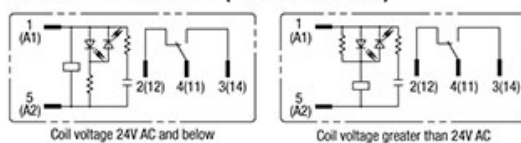
RJ1S-CD1-□ With Diode



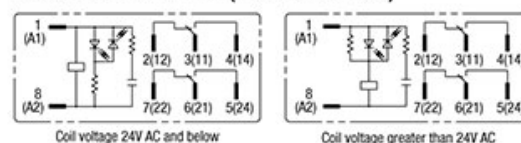
RJ2S-CD1-□ With Diode



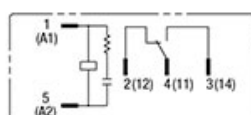
RJ1S-CLR-□ With RC (w/LED Indicator)



RJ2S-CLR-□ With RC (w/LED Indicator)



RJ1S-CR-□ With RC



RJ2S-CR-□ With RC

