Power Relays

RL Series

Designed with a 1- and 2-pole 3HP/277V AC rating in an economical and compact package, 30A RL power relays are the superior choice for HVAC panels, energy management and applications requiring higher voltage loads and inductive kickback.

Choose from panel or DIN rail mounting. Unlike the competition, when DIN rail mounted, RL relays don't require a socket or adaptor. Quick Connect terminals allow faster installation on commercial applications, while screw terminations are ideal for industrial applications.

c**RU**us ⚠ C E

• See website for details on approvals and standards.

RL Series Power Relays

High capacity power relays

Quick Connect
Flange Mount

Screw Terminal
DIN Rail Mount

Part Numbers

Flange Mount

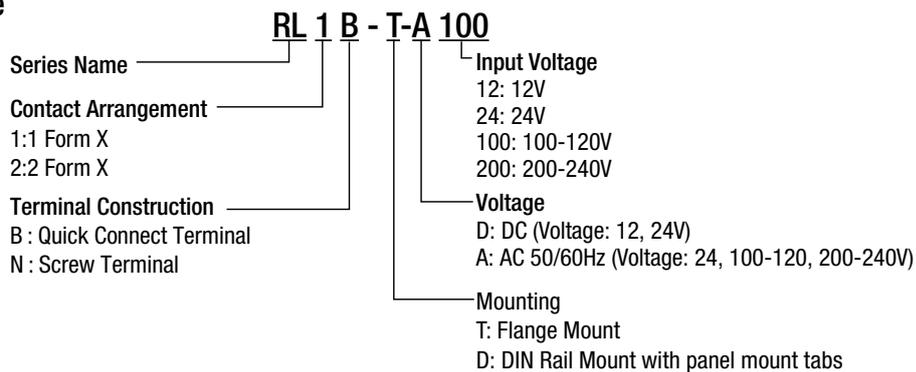| Coil voltage		Screw Terminal 1 Pole Flange Mount	Screw Terminal 2 Pole Flange Mount	Quick Connect Terminal 1 Pole Flange Mount	Quick Connect Terminal 2 Pole Flange Mount
DC	12V	RL1N-T-D12	RL2N-T-D12	RL1B-T-D12	RL2B-T-D12
	24V	RL1N-T-D24	RL2N-T-D24	RL1B-T-D24	RL2B-T-D24
AC	24V	RL1N-T-A24	RL2N-T-A24	RL1B-T-A24	RL2B-T-A24
	100V - 120V	RL1N-T-A100	RL2N-T-A100	RL1B-T-A100	RL2B-T-A100
	200V - 240V	RL1N-T-A200	RL2N-T-A200	RL1B-T-A200	RL2B-T-A200

DIN Rail Mount with Panel Mount Tabs

Coil voltage		Screw Terminal 1 Pole DIN Rail	Screw Terminal 2 Pole DIN Rail	Quick Connect Terminal 1 pole DIN Rail	Quick Connect Terminal 2 Pole DIN Rail
DC	12V	RL1N-D-D12	RL2N-D-D12	RL1B-D-D12	RL2B-D-D12
	24V	RL1N-D-D24	RL2N-D-D24	RL1B-D-D24	RL2B-D-D24
AC	24V	RL1N-D-A24	RL2N-D-A24	RL1B-D-A24	RL2B-D-A24
	100V - 120V	RL1N-D-A100	RL2N-D-A100	RL1B-D-A100	RL2B-D-A100
	200V - 240V	RL1N-D-A200	RL2N-D-A200	RL1B-D-A200	RL2B-D-A200

Specifications

		RL1	RL2
Number of poles		1 pole	2 poles
Contact Configuration		1X (SPST, double make)	2X (DPST, double make)
Contact material		Ag Alloy	Ag Alloy
Operating Time and Release Time		30ms max	30ms max
Degree of Protection		IP40	IP40
Dielectric strength	Between contact and coil	4,000V AC for 1 minute	4,000V AC for 1 minute
	Between pole	2,000V AC for 1 minute	2,000V AC for 1 minute
	Between contact sets	-	2,000V AC for 1 minute
Vibration Resistance	Operating extremes	Frequency 10 to 55 Hz, Amplitude 0.75mm	Frequency 10 to 55 Hz, Amplitude 0.75mm
	Damage limits	Frequency 10 to 55 Hz, Amplitude 0.75mm	Frequency 10 to 55 Hz, Amplitude 0.75mm
Shock Resistance	Operating extremes	100 m/s² (10G)	100 m/s² (10G)
	Damage limits	1,000 m/s² (100G)	1,000 m/s² (100G)
Electrical Life (rated load). Operation frequency (1800 operations per hour)	AC resistive load	200,000 operations min	200,000 operations min
	Inductive load	100,000 operations min	100,000 operations min
Mechanical Life (without load)		1,000,000 operations min	1,000,000 operations min
Operating Temperature		-25 to +55°C	-25 to +55°C
Operating Humidity		5 to 85% (without condensation)	5 to 85% (without condensation)
Weight		Between 90 and 135 grams, depending on model	Between 90 and 135 grams, depending on model

Part Number Structure

RL 1 B - T-A 100

Series Name

Contact Arrangement
1: 1 Form X
2: 2 Form X

Terminal Construction
B : Quick Connect Terminal
N : Screw Terminal

Input Voltage
12: 12V
24: 24V
100: 100-120V
200: 200-240V

Voltage
D: DC (Voltage: 12, 24V)
A: AC 50/60Hz (Voltage: 24, 100-120, 200-240V)

Mounting
T: Flange Mount
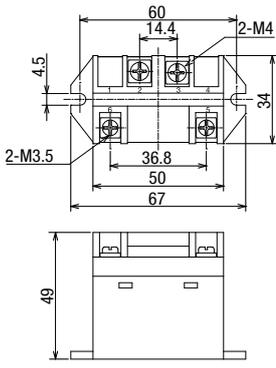D: DIN Rail Mount with panel mount tabs

Relays & Sockets

APEM

Switches & Pilot Lights

Control Boxes

Emergency Stop Switches

Enabling Switches

Safety Products

Explosion Proof

Terminal Blocks

Relays & Sockets

Circuit Protectors

Power Supplies

LED Illumination

Controllers

Operator Interfaces

Sensors

AUTO-ID

Relays

Sockets

DIN Rail Products

RJ

RU

RV8H

RL

RL Series Power Relays

Standards Compliance

Agency ratings		RL1	RL2
Standard current ratings		30 A, 277 Vac, General Use, 100,000 Cycles	25 A, 277 Vac, General Use, 100,000 cycles
HP ratings		1.5 HP, 120 Vac, 10,000 Cycles	1.5 HP, 120 Vac, 10,000 Cycles
		3 HP, 277 Vac, 30,000 Cycles	3 HP, 277 Vac, 30,000 Cycles
FLA and LRA ratings		20 FLA, 120 LRA, 120 Vac, 50/60 Hz, 30,000 Cycles	20 FLA, 120 LRA, 120 Vac, 50/60 Hz, 30,000 Cycles
		17 FLA, 102 LRA, 277 Vac, 50/60 Hz, 30,000 Cycles	17 FLA, 102 LRA, 277 Vac, 50/60 Hz, 30,000 Cycles

Coil Ratings

Rated Voltage		Coil Voltage Code	Rated Current (mA) ±10%	Coil Resistance (Ω)	Operating Characteristics at 20°C			Power Consumption
					Pickup Voltage	Dropout Voltage	Maximum Allowable Voltage	
DC	12V	D12	160	75	80% max	15% min	110%	1.9W
	24V	D24	79.0	303				1.9W

Rated Voltage		Coil Voltage Code	Rated Current (mA) +15% -25%		Coil Resistance (Ω)	Operating Characteristics at 20°C			Power Consumption
			50Hz	60Hz		Pickup Voltage	Dropout Voltage	Maximum Allowable Voltage	
AC (50-60Hz)	24V	A24	71.0	69.5	-	80% max	10% min	110%	1.7-2.5VA
	100V - 120V	A100	17.0	16.6	-				1.7-2.5VA
	200V - 240V	A200	8.5	8.1	-				1.7-2.5VA

Contact Ratings

		RL1	RL2
Allowable Contact Power	Resistive load	7500VA	6250VA
Rated Load	Resitive load	250VAC 30A, 30VDC 30A	250VAC 25A, 30VDC 25A
Allowable Switching Current		30A	25A
Allowable Switching Voltage		277VAC	

Electrical Life curves

Maximum Switching Current

For more information, visit http://asia.idec.com
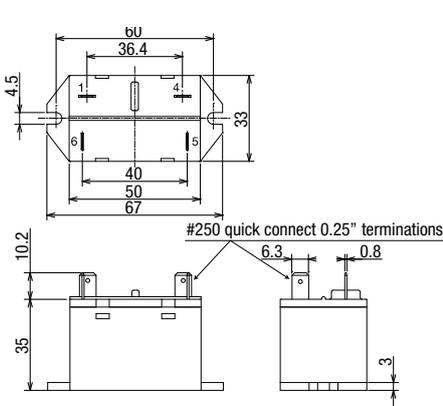
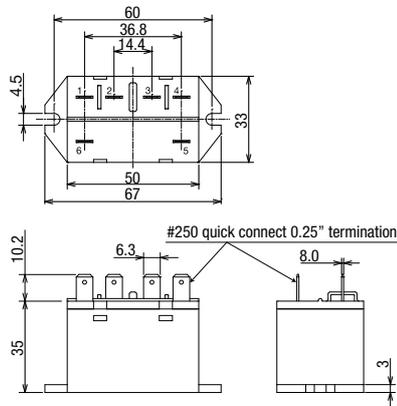## Dimensions

RL1N-T Screw Terminal 1 Pole Flange Mount
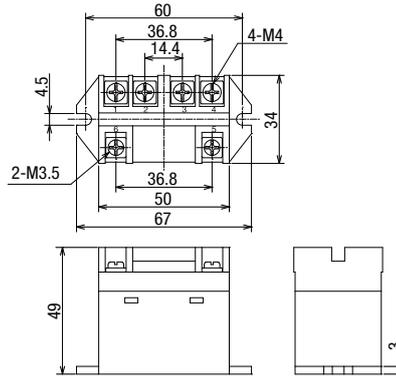
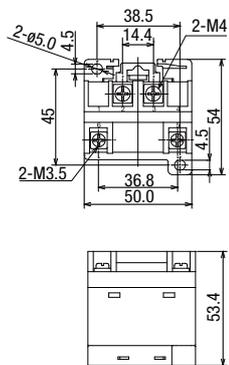Recommended tightening torque: Coil terminals (M3.5): 0.7 - 0.9 N·m, Contact terminals (M4): 1.0 - 1.4 N·m
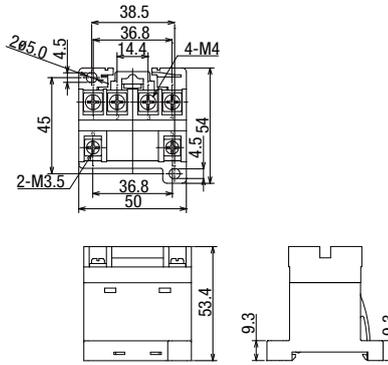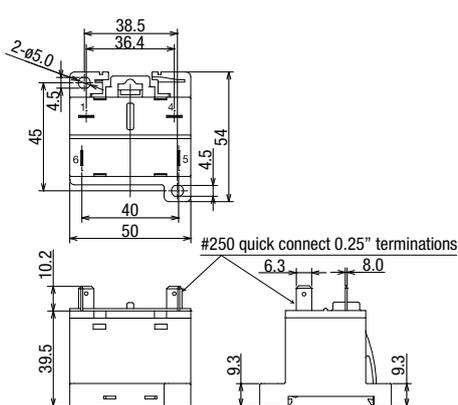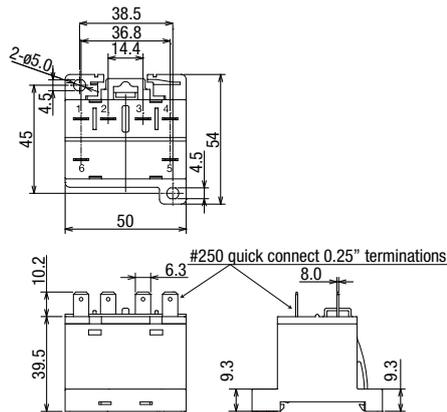
RL2N-T Screw Terminal 2 Pole Flange Mount

RL1B-T Quick Connect Terminal 1 Pole Flange Mount

#250 quick connect 0.25" terminations

RL2B-T Quick Connect Terminal 2 Pole Flange Mount

#250 quick connect 0.25" terminations

RL1N-D Screw Terminal 1 Pole DIN Rail Mount

Recommended tightening torque: Coil terminals (M3.5): 0.7 - 0.9 N·m, Contact terminals (M4): 1.0 - 1.4 N·m

RL2N-D Screw Terminal 2 Pole DIN Rail Mount

RL1B-D Quick Connect Terminal 1 Pole DIN Rail Mount

#250 quick connect 0.25" terminations

RL2B-D Quick Connect Terminal 2 Pole DIN Rail Mount

#250 quick connect 0.25" terminations

All dimensions in mm.

RL Series Power Relays

Terminal Arrangements (Top View)

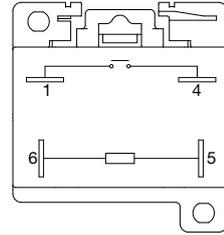### Screw Terminal
1 Pole Flange Mount
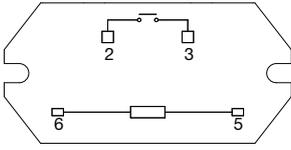
Quick Connect Terminal
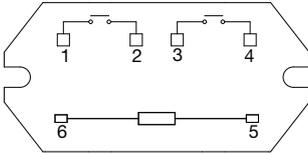### 1 Pole Flange Mount
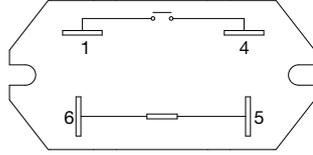
Screw Terminal
1 Pole DIN Rail Mount
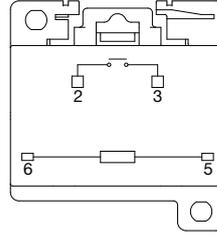
Quick Connect Terminal
1 Pole DIN Rail Mount

Screw Terminal
2 Pole Flange Mount

Quick Connect Terminal
2 Pole Flange Mount
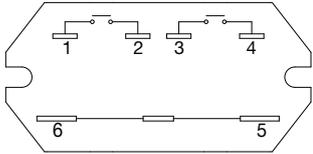
Screw Terminal
2 Pole DIN Rail Mount
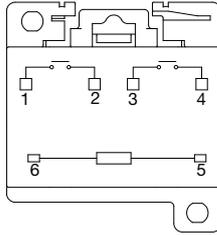
Quick Connect Terminal
2 Pole DIN Rail Mount
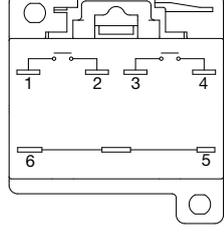
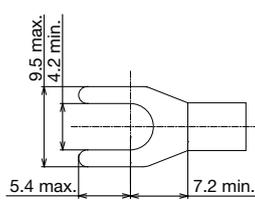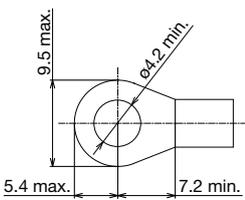## Mounting Hole Dimensions

Flange Mount

2-M4 or ø4.5 mounting holes

$60^{\pm0.2}$

DIN Rail Mount with Panel Mount Tabs
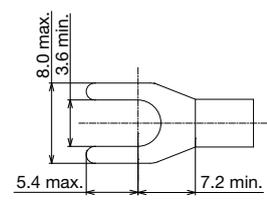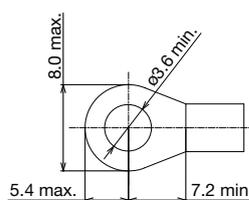

2-M4 or ø4.5 mounting holes

$45^{\pm0.1}$

$38.5^{\pm0.2}$
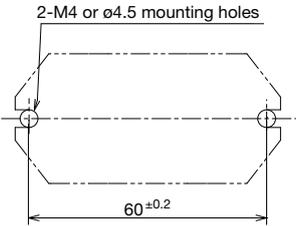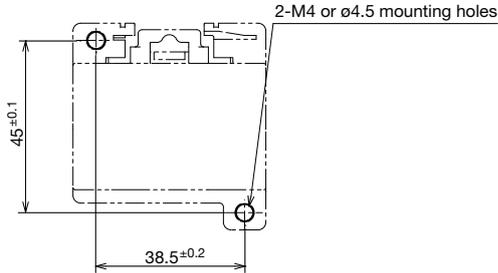
Recommended tightening torque: 0.6 - 0.9 N·m

Recommended ring or fork terminations for screw terminals

Contact Terminals

9.5 max.　ø4.2 min.

5.4 max.　7.2 min.

9.5 max.　4.2 min.

5.4 max.　7.2 min.

Coil Terminals

8.0 max.　ø3.6 min.

5.4 max.　7.2 min.

8.0 max.　3.6 min.

5.4 max.　7.2 min.

For more information, visit http://asia.idec.com

Accessories

Description	Color	Part Number
Finger-safe terminal cover	Clear	RL9Z-C

Applicable for screw terminal models only

Item	Part No.	Ordering Part No.	Package Quantity	Remarks
DIN Rail (1000mm×35mm)	BAA1000	BAA1000PN10	10	Aluminum Approx. 200g
	BAP1000	BAP1000PN10		Steel Approx. 320g
End Clip	BNL6	BNL6PN10	10	Metal (zinc-plated steel) Approx. 15g

See H-071 for details on DIN rail products.

⚠ Safety Precautions

Turn off the power to the relay before starting installation, removal, wiring, maintenance, and inspection of the relays. Failure to turn power off may cause electrical shock or fire hazard.
Observe specifications and rated values, otherwise electrical shock or fire hazard may be caused.

Use wires of the proper size to meet the voltage and current requirements. Tighten the terminal screws on the relay socket to the proper tightening torque.
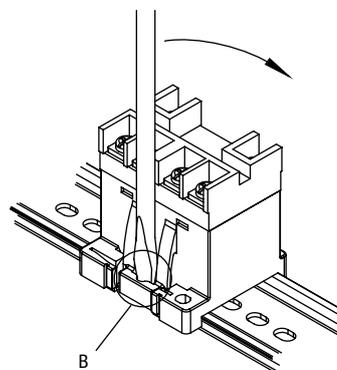
Instructions

DIN Rail Mount

Mount A to the DIN rail as shown below and push-in in the direction of the arrow.
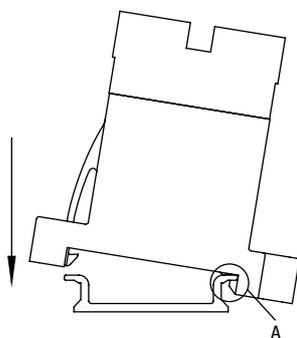
Removing from DIN rail

Insert the flat screw driver to B on the relay, pull in the direction of the arrow, and remove the relay from the DIN rail .