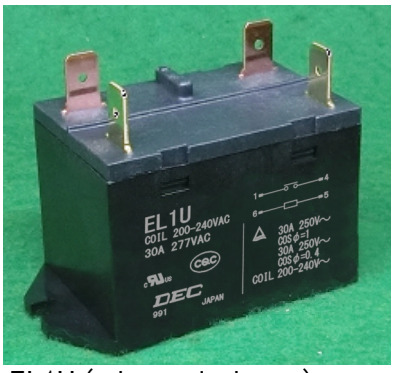
General purpose miniature power relay

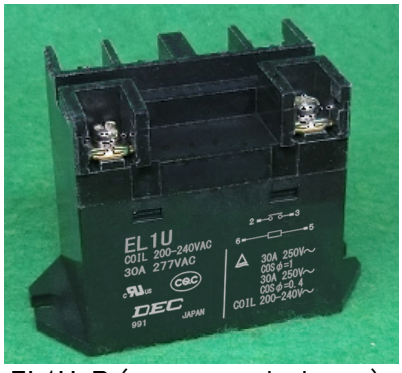
RoHS compliant

EL series

Power relay series pursuing reliability and safety

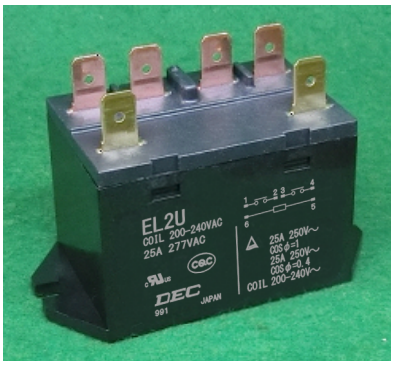


EL1U (tab terminal type)

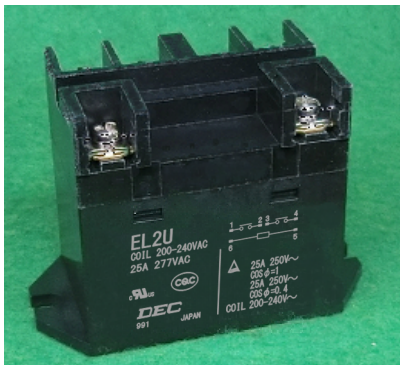


EL1U-B (screw terminal type)

EL1U (PCB terminal type)



EL2U (tab terminal type)



EL2U-B (screw terminal type)

EL2U (PCB terminal type)

■ Currently it is used for such purposes

- Packaged air conditioners, Large air conditioners such as commercial air conditioners, Refrigerated display cabinets
- Electric water heaters, Hot water supply equipment such as Eco Cute, Photovoltaic power generation control device
- Power supply for commercial equipment, Power supply for electric tools, Measuring instruments, Medical devices, Disaster prevention equipment
- Machine tools, Molding equipment, Welding machines, Packing machines, Food processing machines, Machinery for agriculture
- Uninterruptible Power Systems (UPS), Copiers power supply, Vending machines, Lighting control panel
- Various large household appliances, Large refrigerator, Large microwave ovens, Bathroom drier

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General purpose miniature power relay that can be used for a wide range of applications from control to power.

EL series

■ Features

- ○ It has been designed for controlling of high capacity use.
  1a contact 30A, 2a contact 25A.
- ○ Quick-connect, screw, and PCB terminals available.
- ○ AC/DC coil is prepared. No contact chattering for momentary voltage drops up to 50% of rated voltage.
- ○ AC-activated coil is wide range specification of AC 100V to 120V or AC 200V to 240V.
- ○ Primary-secondary insulation distance is 8mm and the contact spacing is 3mm or more, it is a safety design with excellent insulation performance
  "UL 94V-0" molding material is adopted for all insulating materials.

■ Model numbering system

EL □ □ □ — □ □ — □

Rated coil voltage: Numeric part indication	AC (V): 24, 100/120, 200/240 DC (V): 12, 24
Coil type	A: AC D: DC
Number of contact poles	1: 1 pole 2: 2 poles
Shape indication	F: Flange-mounting type (#250 tab terminals) BF: Flange-mounting type (screw terminals) O: PCB terminals
Contact configuration	(M): Make contacts
Notes	C: Has built-in capacitor type (noise reduction products generated from relays: 20dB or less at noise level 500kHz or more)

■ Safety standards

	Contact rating	
	EL1U	EL2U
UL (C-UL)	30A 277V AC (General use)	25A 277V AC (General use)
TUV	30A ($\cos\phi$=1, $\cos\phi$=0.4) 250V AC	25A ($\cos\phi$=1, $\cos\phi$=0.4) 250V AC 20A ($\cos\phi$=1) 480V AC
VDE	30A ($\cos\phi$=1, $\cos\phi$=0.4) 250V AC	25A ($\cos\phi$=1, $\cos\phi$=0.4) 250V AC
CQC	30A 277V AC	25A 277V AC

Electrical Appliances and Materials Safety Act	Conformable

■ Coil ratings

AC/DC \ Item: Voltage	Rated current (mA) (AC: 50Hz/60Hz)	Coil resistance (Ω)	Operate voltage (V) Ratio to rated voltage	Release voltage (V) Ratio to rated voltage	Maximum voltage (V) Ratio to rated voltage	Power consumption
AC 24	71.0		80% max.	15% min.	110%	1.7VA to 2.5VA
AC 100/120	17.0～20.4					
AC 200/240	8.5～10.2					
DC 12	160	75	80% max.	10% min.	110%	1.9W
DC 24	79	303				

● Notes:
1. Rated current and coil resistance are values at coil temperature of 20℃, with tolerance of +15%/-20% for AC rated current. Tolerance is ±10% for DC coil resistance.
2. Maximum voltage is the maximum value of the allowable voltage fluctuation range of the relay coil operating power supply with the ambient temperature at 20℃.
3. In the rated voltage of AC, "/" (for example, 100/120) is a range rating and can be used in this range of voltage. The current values in the table are shown as typical values at 100V and 200V.

General purpose miniature power relay that can be used for a wide range of applications from control to power.

EL series

■ Ratings・Performance

Specifications	Item			Performance	
				EL1U	EL2U
Contact specification	Contact configuration			1a	2a
	Contact resistance			50mΩ max. (at DC6V 1A)	
	Contact material			Ag alloy	
Ratings	Rated load (resistive load)			AC250V 30A	AC250V 25A
	Max. switching capacity (resistive load)			7500VA	6250VA
	Max. switching voltage			AC277V/DC30V	
	Max. switching current			30A	25A
Electrical capability	Insulation resistance			100MΩ min. (at DC500V)	
	Dielectric strength	Between coil and contacts		AC4000V 1 min	
		Between open contacts		AC2000V 1 min	
		Between opposite polarity contacts		—	AC2000V 1 min
	Impulse withstand voltage (between coil and contacts)			10 000V min. (1.2×50μs)	
	Operate time (at rated voltage on, at 20℃)			30ms max. (excluding contact bounce time)	
	Release time (at rated voltage off, at 20℃)			30ms max. (excluding contact bounce time)	
Mechanical capability	Vibration resistance	Malfunction		10 to 55 to 10Hz (double amplitude 1.5mm)	
		Destruction		10 to 55 to 10Hz (double amplitude 1.5mm)	
	Shock resistance	Malfunction		100m/s^2	
		Destruction		1000m/s^2	
Life	Mechanical endurance (at 180 times/min)			1 000 000 times min.	
	Electrical endurance (at 20 times/min)		Resistive load	100 000 times min. (AC250V 30A)	100 000 times min. (AC250V 25A)
			Inductive load (cosϕ=0.4)		
Conditions for operation	Ambient temperature			−25℃ to +60℃ (no freezing and condensing at low temperature)	
	Ambient humidity			5% to 85%RH	
Mass				Standard type: 90g to 93g Screw terminal type: 128g to 133g	Standard type: 93g to 95g Screw terminal type: 133g to 135g

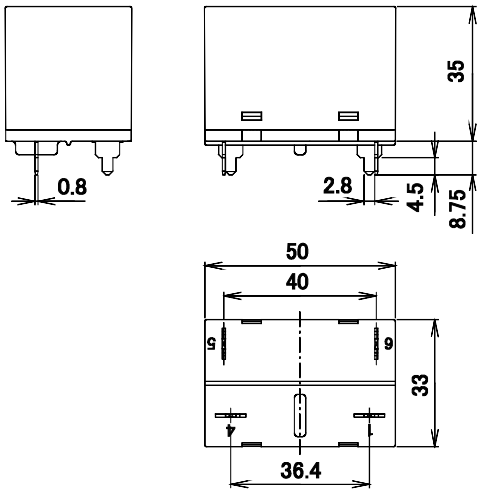
● Notes: The above is the initial value.

General purpose miniature power relay that can be used for a wide range of applications from control to power.

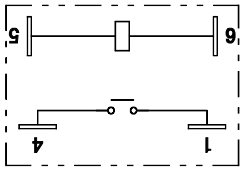
EL series

EL1U-O
(1 pole PCB terminal type)

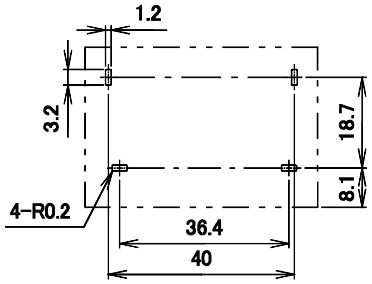
■ Dimensions



■ Schematics



■ PCB mounting holes (tolerances±0.1)

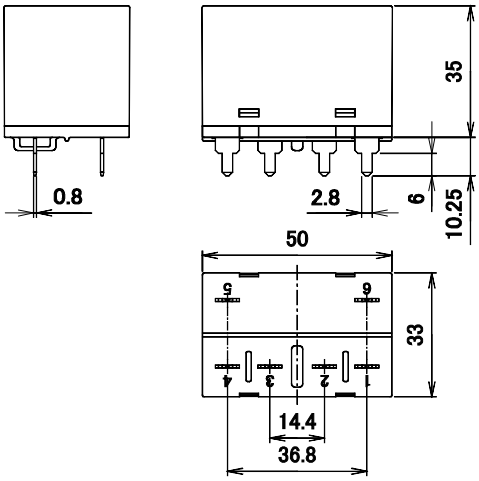


Unit: mm

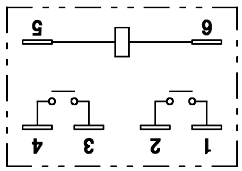
TOLERANCES
＜5mm: ±0.2
≧5mm: ±0.3

EL2U-O
(2 poles PCB terminal type)

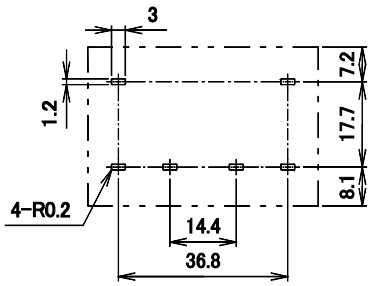
■ Dimensions



■ Schematics



■ PCB mounting holes (tolerances±0.1)

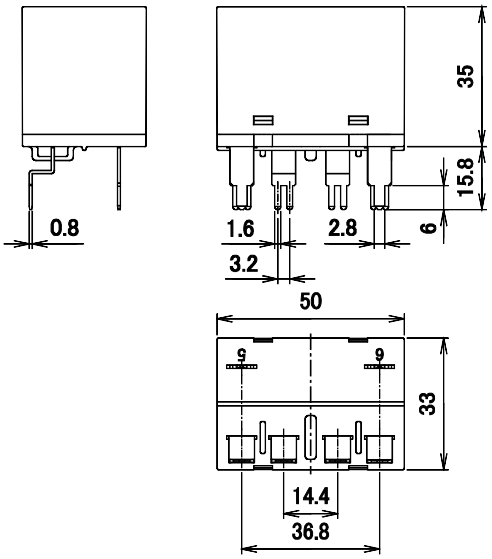


Unit: mm

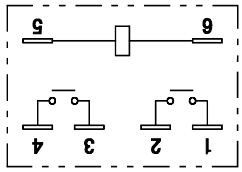
TOLERANCES
＜5mm: ±0.2
≧5mm: ±0.3

EL2U-O
(2 poles PCB terminal,
high capacity type)

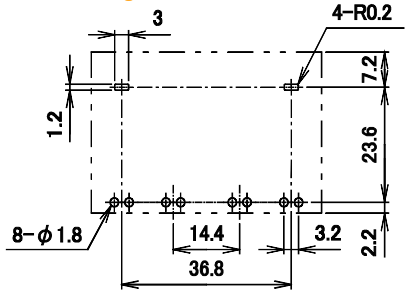
■ Dimensions



■ Schematics



■ PCB mounting holes (reference)



Unit: mm

TOLERANCES
＜5mm: ±0.2
≧5mm: ±0.3

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General purpose miniature power relay that can be used for a wide range of applications from control to power.

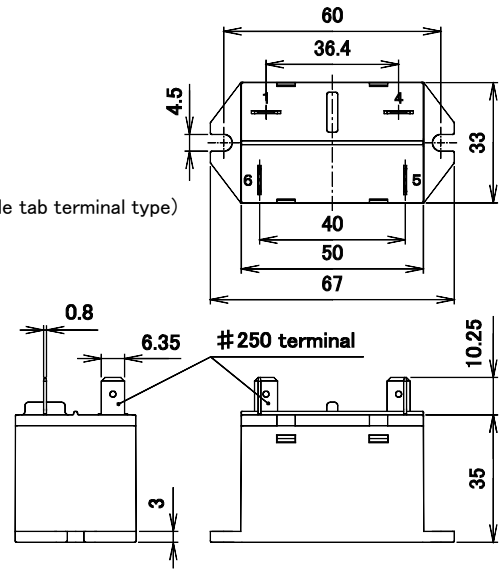
EL series

Dimensions

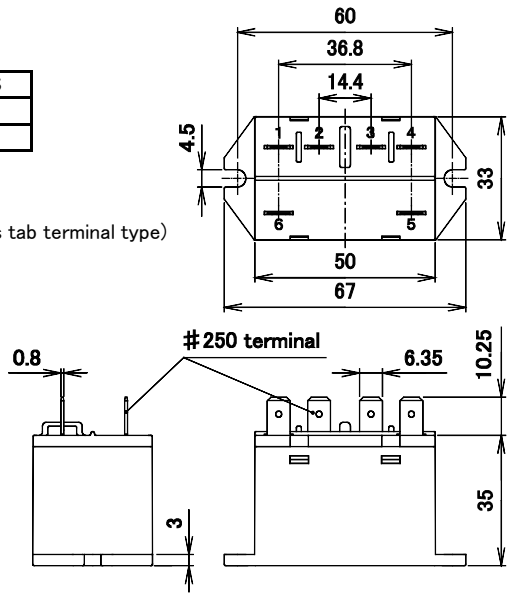
Unit: mm

TOLERANCES
＜5mm: ±0.2
≧5mm: ±0.3

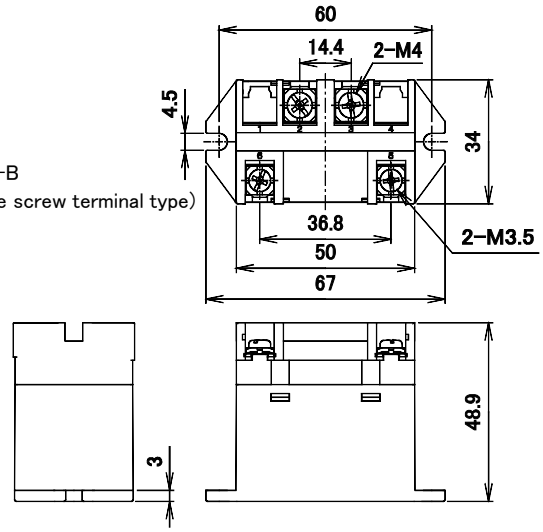
EL1U
(1 pole tab terminal type)



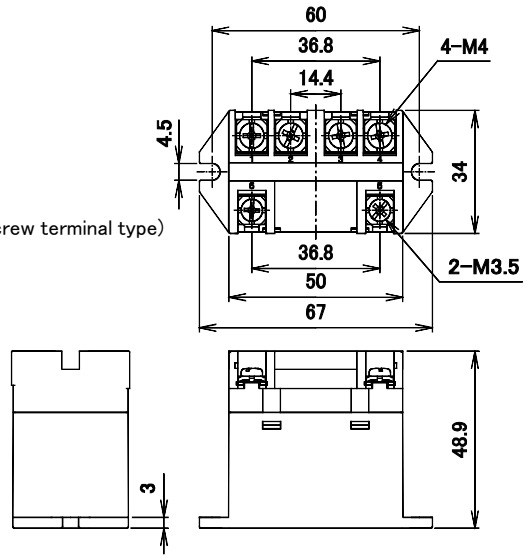
EL2U
(2 poles tab terminal type)



EL1U-B
(1 pole screw terminal type)

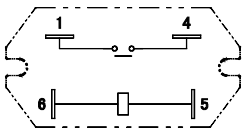


EL2U-B
(2 poles screw terminal type)

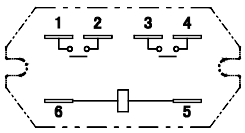


Schematics

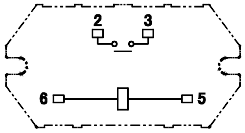
EL1U
(1 pole tab terminal type)



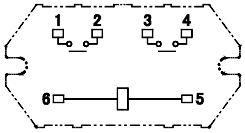
EL2U
(2 poles tab terminal type)



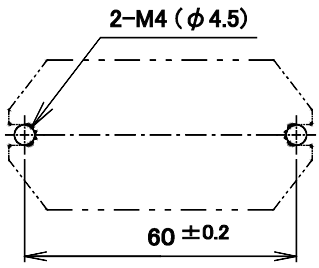
EL1U-B
(1 pole screw terminal type)



EL2U-B
(2 poles screw terminal type)



Mounting holes (common for flange type)



Unit: mm

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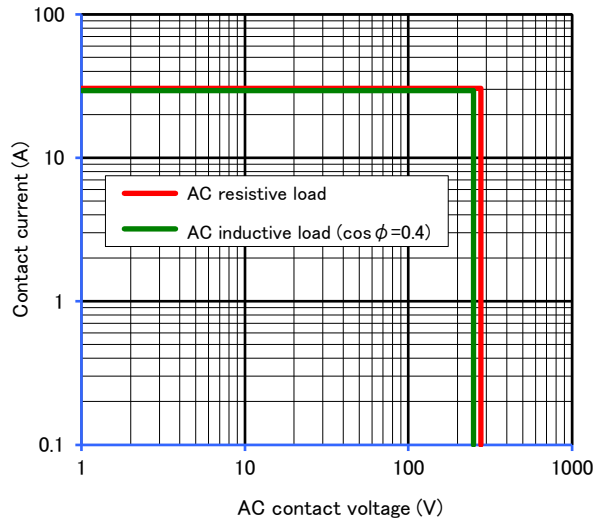
EL series

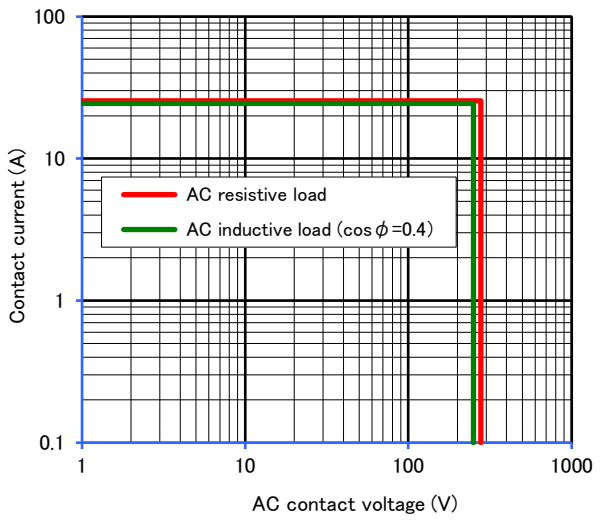
Reference data

■ Maximum switching capacity

EL1U/EL1U-B

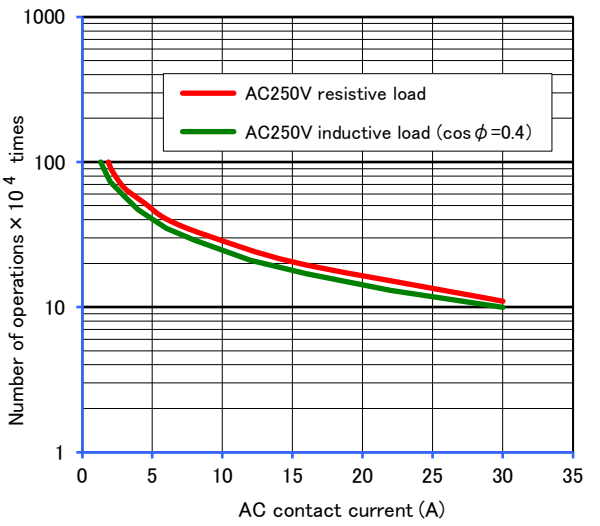


EL2U/EL2U-B

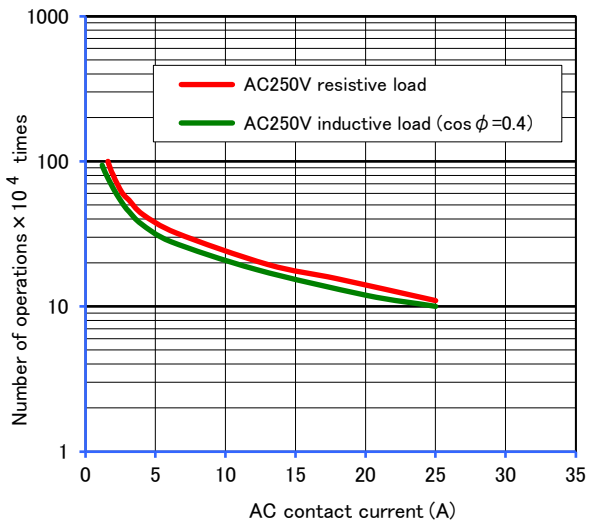


■ Durability curve

EL1U/EL1U-B



EL2U/EL2U-B



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Agency

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