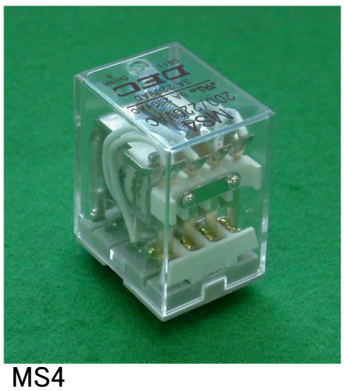
General purpose miniature power relay

RoHS compliant

MS series

Power relay series pursuing reliability and safety



MS4

■ Currently it is used for such purposes

- Ideal for FA equipment, automation equipment
- Control panel, Power supply equipment, Molding equipment, Machine tools, Welding machines, Machinery for agriculture
- Commercial equipment, Vending machines, Telecommunications equipment, Disaster prevention equipment, Copiers, Measuring instruments, Medical devices, Amusement devices
- Various household appliances

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Daiichi Electric Co., Ltd.

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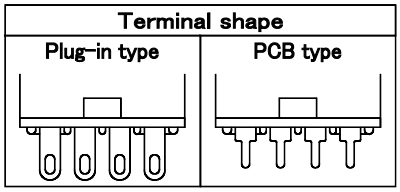
General purpose miniature power relay that can be used for a wide range of applications from control to power.

MS series

■ Features

○ General purpose miniature power relay boasting high reliability and achievement.
○ Terminal shape suitable for the application is standard (plug-in terminal and PCB terminal).
○ Small size 4c relay.
○ LED and diode built-in type are available upon request.



■ Model numbering system

MS □ □ □ - □ □ □

Rated coil voltage: Numeric part indication	AC (V): 24, 100/110, 200/220 DC (V): 24, 100/110
Coil type	A: AC D: DC
Number of contact poles	4: 4 poles
Shape indication	Nil: Plug-in type O: PCB terminal
Notes 1	L: With LED indicator
Notes 2	D: Has built-in diode to absorb release surge

■ Safety standards

	Contact rating
UL (C-UL)	5A 250VAC
Electrical Appliances and Materials Safety Act	Conformable

■ Coil ratings

Item / AC/DC / Voltage		Rated current (mA) 50Hz	Rated current (mA) 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	53.8	46	180	80% max.	30% min.	110%	0.9VA to 1.2VA
AC	100/110	11.7/12.9	10/11	3750				
AC	200/220	6.2/6.8	5.3/5.8	12 950				
DC	24	36.9		650	80% max.	10% min.	110%	0.9W
DC	100/110	9.1/10		11 000				

● 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. Also, the rated current is the value of the type without LED indicator.
2. Operate voltage and release voltage are values at coil temperature of 20℃.
3. 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℃.
4. "/" (for example, AC100/110) of the rated voltage indicates multiple ratings (AC100V 50Hz/60Hz, AC110V 50Hz/60Hz).

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■ Ratings・Performance

Specifications	Item		Performance
Contact specification	Contact configuration		4c
	Contact resistance		50mΩ max. (at DC6V 1A)
	Contact material		Ag or Ag alloy
Ratings	Rated load (resistive load)		AC220V 3A, DC24V 3A
	Max. switching capacity (resistive load)		660VA 72W
	Max. switching voltage		AC250V, DC125V
	Max. switching current		3A
Electrical capability	Insulation resistance		100MΩ min. (at DC500V)
	Dielectric strength	Between coil and contacts	AC2000V 1 min
		Between open contacts	AC1000V 1 min
		Between opposite polarity contacts	AC2000V 1 min
	Operate time (at rated voltage on, at 20℃)		20ms max. (excluding contact bounce time)
	Release time (at rated voltage off, at 20℃)		20ms max. (excluding contact bounce time)
Mechanical capability	Vibration resistance	Malfunction	10 to 55 to 10Hz (double amplitude 1.0mm)
		Destruction	10 to 55 to 10Hz (double amplitude 1.0mm)
	Shock resistance	Malfunction	100m/s^2
		Destruction	1000m/s^2
Life	Mechanical endurance (at 18 000 times/h)		10 000 000 times min.
	Electrical endurance (resistive load) (at 1800 times/h)		200 000 times min. (AC: 220V 3A)
Conditions for operation	Ambient temperature		−55℃ to +60℃ (no freezing and condensing at low temperature)
	Ambient humidity		5% to 85%RH
Mass			approx. 32g

● Notes: The above is the initial value.
In the Electrical Appliances and Materials Safety Act, don't use the voltage exceeding 150V AC.
However, this is not the case unless the Electrical Appliances and Materials Safety Act is required.

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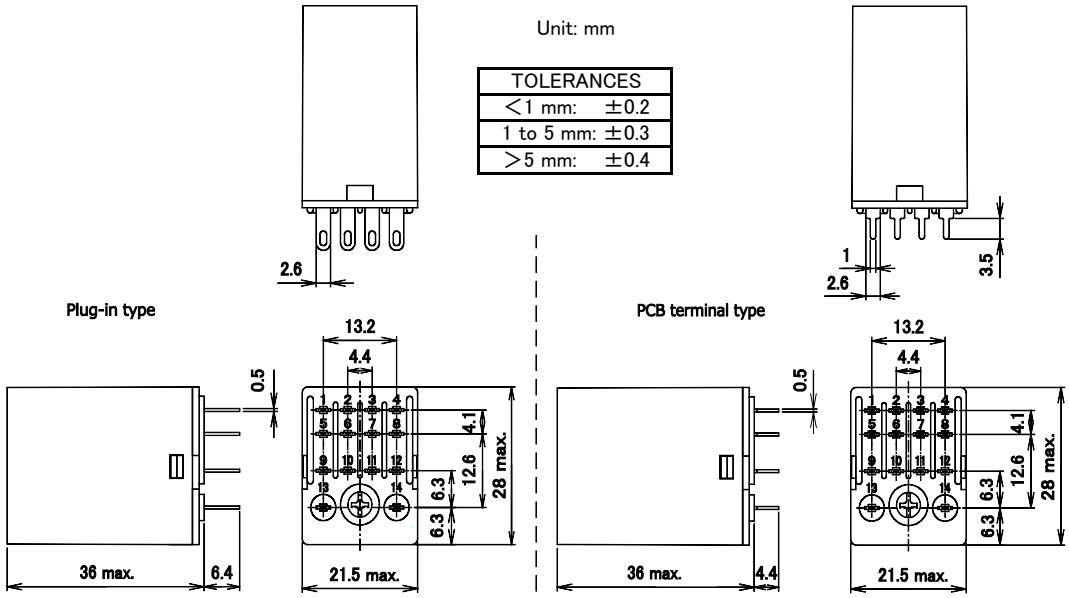
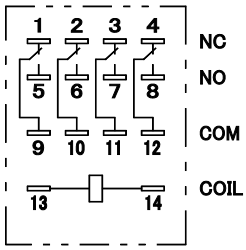
■ Dimensions

Unit: mm

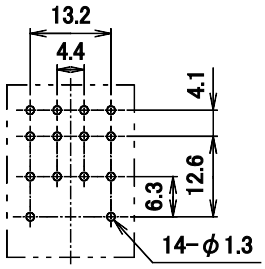
TOLERANCES
＜1 mm: ±0.2
1 to 5 mm: ±0.3
＞5 mm: ±0.4



■ Schematics



■ PCB mounting holes (tolerances±0.1)

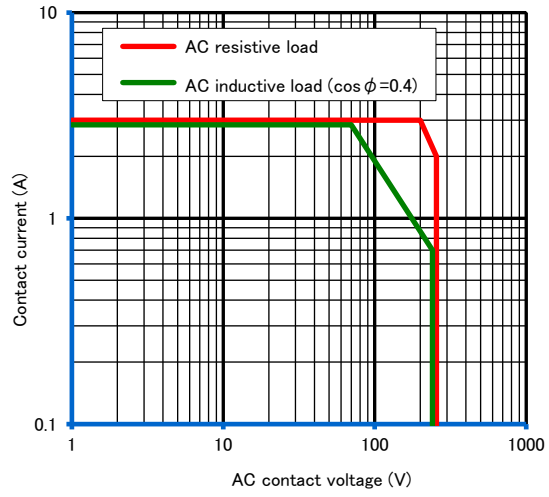


Unit: mm

Reference data

■ Maximum switching capacity

MS4



● Please understand that specifications may be changed without notice due to product improvement etc. ● Dimensions and specifications indicate only major points. Please contact our sales representatives for details.

DEC is a professional manufacturer of relays

DEC Daiichi Electric Co., Ltd.

Head office 2-2, Noge 3-chome, Setagaya-ku, Tokyo 158-0092, Japan
Phone +81-3-3703-5421
Facsimile +81-3-3703-5426
U R L https://www.j-dec.co.jp E-Mail: sales@j-dec.co.jp

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