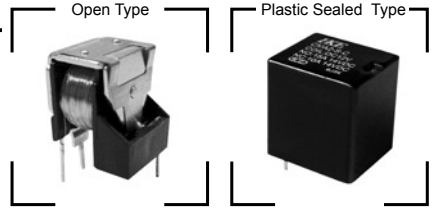


### ■ Features

- Miniature automotive relay  
Available in both open frame and plastic sealed package  
Sealed: 17.3×14.8×19.5(mm)  
Open: 15.7×12.7×17.7(mm)
- Numerous contact arrangements
- High switching capacity 20A



## ORDERING INFORMATION

**CMA2** - **S** - **DC12V** - **A**

Model	Enclosure	Coil Voltage	Contact Form
	S - Plastic Sealed Type Blank - Open Type	DC3V, DC5V, DC6V, DC9V, DC12V, DC24V	A - 1 Form A C - 1 Form C U - Double make V - Double break W - Double break, Double make

## SPECIFICATION

### CONTACT DATA

Contact Form	1 Form A, 1 Form C, Double make, Double break, Double break - Double make	
Contact Material	Ag Alloy	
Contact Rating	Refer to table1	
Contact Resistance	Max. 100mΩ (6VDC 1A)	
Load	Max. Switching Voltage	75VDC
	Max. Switching Current	Refer to table1
	Max. Switching Power	280W
Life	Electrical	100,000 operations
	Mechanical	10,000,000 operations

### COIL DATA

Nominal Coil Power	1100mW
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### GENERAL DATA

Insulation Resistance		Min. 100MΩ 500VDC
Dielectric Strength	Between open contacts	500VAC, 1min
	Between coil and contacts	1,000VAC, 1min
Operate Time		Max. 3ms
Release Time		Max. 1.5ms
Operating Temperature		-40°C to +85°C
Humidity		35~95%RH, +40°C
Shock Resistance	Endurance	1,000m/s <sup>2</sup>
	Misoperation	100m/s <sup>2</sup>
Vibration Resistance	Endurance	10~55Hz, 1.5mm double amplitude
	Misoperation	10~55Hz, 1.5mm double amplitude
Weight	Plastic Sealed Type: Approximately 12.0g	
	Open Type: Approximately 8.0g	

Note: Data shown are of initial value

Table 1 (Maximum Switching Current (14VDC Switching Voltage))

Load	1 Form A	1 Form C		Double break, Double make		Double make	Double break
		NO	NC	NO	NC		
Contact Rating Current	15A	15A	10A	2x7A	2x5A	2x10A	2x7A
Max. Make Current	60A	60A	12A	2x30A	2x5A	2x40A	2x8A
Max. Break Current	20A	20A	10A	2x15A	2x5A	2x20A	2x7A

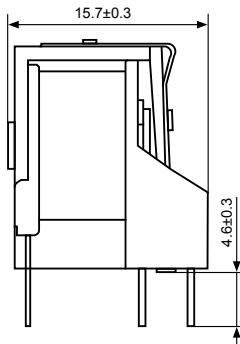
**COIL DATA**

Ambient Temperature: 23°C

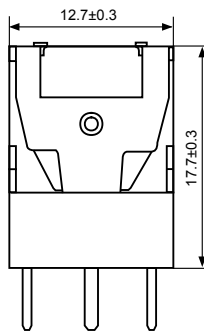
Model	Nominal Voltage VDC	Coil Resistance $\Omega$ +/- 10%	Operate Voltage $\leq$ VDC	Release Voltage $\geq$ VDC	Coil Power mW
CMA2-(S)-DC3V	3	8.2	2.1	0.3	1100
CMA2-(S)-DC5V	5	22.7	3.5	0.5	
CMA2-(S)-DC6V	6	32.7	4.2	0.6	
CMA2-(S)-DC9V	9	73.6	6.3	0.9	
CMA2-(S)-DC12V	12	130.9	8.4	1.2	
CMA2-(S)-DC24V	24	523.6	16.8	2.4	

**OUTLINE, WIRING DIAGRAM, MOUNTING HOLE LAYOUT (UNIT: mm)**

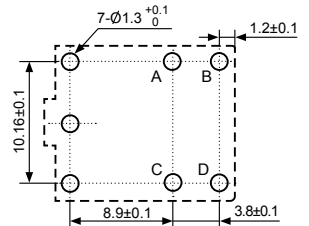
Open Type



Outline

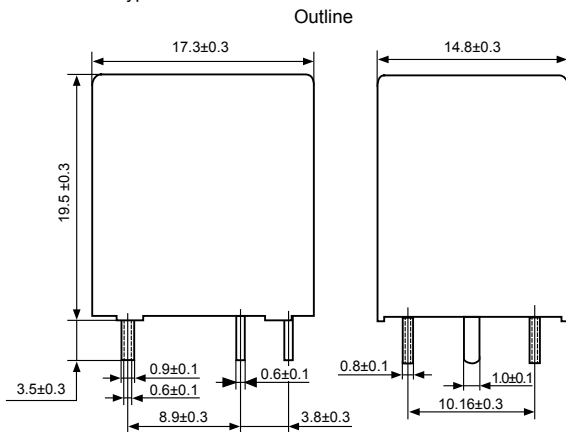


Mounting Hole Layout (Bottom View)



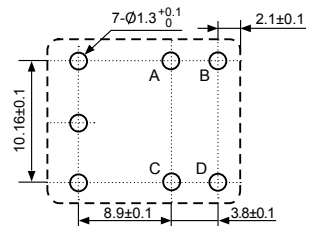
- Remark: Form A: Without A, B, D holes
- Form C: Without A, B holes
- Form U: Without B, D holes
- Form V: Without A, C holes
- Form W: With A, B, C, D holes

Plastic Sealed Type



Outline

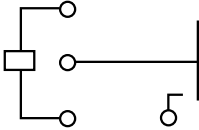
Mounting Hole Layout (Bottom View)



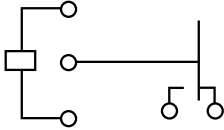
- Remark: Form A: Without A, B, D holes
- Form C: Without A, B holes
- Form U: Without B, D holes
- Form V: Without A, C holes
- Form W: With A, B, C, D holes

OUTLINE, WIRING DIAGRAM, MOUNTING HOLE LAYOUT (UNIT: mm)

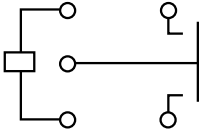
Wiring Diagram  
(Bottom View)



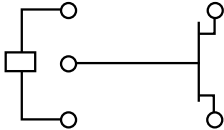
A



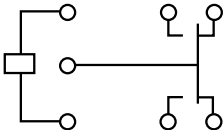
C



U



V



W